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THE

GARDENERS' CHRONICLE

A Weekly Illustrated Journal

OF

HORTICULTURE AND ALLIED SUBJECTS.

(ESTABLISHED IN 1841.)

VOL. XX.—THIRD SERIES.

JULY TO DECEMBER, 1896.

LONDON:
41, WELLINGTON STREET, COVENT GARDEN, W.C.
1896.

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Per
G 166
July-Dec.
1896

BRADBURY, AGNEW, AND CO. LIMD., PRINTERS,
LONDON AND TONBRIDGE.

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The Gardeners' Chronicle

ESTABLISHED 1841. No. 2897.

No. 497.—Vol. XX. { Third Series. } SATURDAY, JULY 4, 1896. [Regt as a Newspaper. { PRICE 3d. Post-free, 3½d.

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R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

BEGONIAS of the newest and most superb type, including many rare varieties, Double and Single, for Conservatory or Bedding. See B. R. Davis' Descriptive CATALOGUE, free. A handsome coloured plate of Six Double Varieties and a Treatise on Cultivation, free for 1s.
B. R. DAVIS, Yeovil Nurseries, Yeovil, Somerset.

PRIMULAS! PRIMULAS! PRIMULAS!
26th year of Distribution.
Williams' Superb Strain, 1s. 6d. per dozen; 10s. per 100.
CINERARIAS, same price; also, PRIMULA OBCONICA, 2s. 6d. per dozen; DOUBLE WHITE PRIMULAS, 6d. each.
JOHN STEVENS, The Nurseries, Coventry.

ODONTOGLOSSUM LONDESBOROUGHIANUM, O. MADRENSE, LÆLIA PEDUNCULARIS, and L. DAYANA. All fine imported plants, in grand condition, 2s. 6d., 3s. 6d., 5s., and 7s. 6d. each.
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DOBBIE'S FERTILIZING COMPOUND.—A high-class Artificial Manure for all Horticultural Purposes. Tin, about 2 lb., 1s. 3d.; 6 lb. bag, 3s.; per cwt., 25s. All Carriage Paid.
DOBBIE AND CO., The Queen's Seedsmen, ROTHESAY.

MACKENZIE AND MONCUR, Limited, Hothouse Builders and Heating Engineers, Edinburgh, London, and Glasgow. BY SPECIAL APPOINTMENT TO H.R.H. THE PRINCE OF WALES. Plans and Estimates for all kinds of Horticultural Buildings, Pavilions, Summer Houses, and Heating Apparatus, free. Splendid Illustrated CATALOGUE.
London Office: 8, CAMDEN ROAD, N.W.

HORTICULTURAL MANURE. — Chiefly composed of Blood and Bones. The best fertiliser for all purposes. Sold in tins, 1s. & 2s. 6d.; also in air-tight bags, ¼ cwt., 6s.; 1 cwt., 10s. Full directions for use sent with each tin and bag; 1 cwt. and above sent carriage paid. Cash with order.—C. BEESON, Bone Mills, St. Neot's, Hunts.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W. Telegraph Address, "Hortulanus, London." Telephone, No. 8728

SALES BY AUCTION.

Thursday Next.

IMPORTED and ESTABLISHED ORCHIDS.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C, on THURSDAY NEXT, July 9, at half-past 12 o'Clock precisely.

By order of Messrs. W. L. Lewis & Co.

An IMPORTATION of ONCIDIUM FORBESII, O. CURTUM, O. CRISPUM (sweet-scented variety), O. CONCOLOR, O. DASYTYLE (mixed), O. KRAMERI, &c. Also LÆLIA ANCEPS BARKERIANA, L. DAYANA, and L. PRÆSTANS, ODONTOGLOSSUM ROSSII MAJUS, O. LONDESBOROUGHIANUM, EPIDENDRUM CILIARE MAJUS, and SOPHRONITIS GRANDIFLORA, CATTLEYA CRISPA, C. HARRISONÆI VIOLACEA, &c.

Also an IMPORTATION of LYCASTE DEPPEII, CYPRIPEDIUMS, LÆLIA HARPOPHYLLA, ODONTOGLOSSUM CRISPUM, LÆLIA MAJALIS, &c, 100 Lots of PERISTERIA ELATA?, as received, ESTABLISHED ORCHIDS, including many rare, curious, and remarkable kinds, Hardy and Forcing BULBS, STOVE and GREENHOUSE PLANTS, &c.

On view morning of Sale, and Catalogues had.

Friday Next, July 10.

IMPORTANT SALE OF

1,200,000 PALM SEEDS,

Just to hand, in grand condition, comprising—

15,000 ARECA BAUERII.
20,000 COCOS WEDELLIANA
358,000 KENTIA BELMOREIANA.
609,500 ,, FORSTERIANA.
3,000 ,, MACARTHURII.
2,400 ,, CANTERBURYANA.

Also, another consignment, including—
100,000 PHŒNIX SANDERIANA,

The favourable Palm of Palm-growers, and the finest for decoration. This is only the second time that seed has been imported of it for many years. This and P. Rœbelenii are the two most handsome Phœnix.

25,000 PHŒNIX RUPICOLA.
30,000 PRITCHARDIA PACIFICA.
15,000 LIVISTONA SUBGLOBOSA.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, July 10, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next, July 10.

30 lots of extra special varieties of LÆLIAS, ODONTOGLOSSUMS, and CATTLEYAS, by order of D. B. Crawshay, Esq., of Rosefield, Sevenoaks; importations of CATTLEYA DOWIANA, SOPHRONITIS GRANDIFLORA, ONCIDIUM KRAMERI, LÆLIA PRÆSTANS (true), from Messrs. W. L. Lewis & Co.

UROPEDIUM LINDENII, CATTLEYA MOSSIÆ, semi-established; ODONTOGLOSSUM RAMOSISSIMUM, and O. SCHILLERIANA from Mr. P. McArthur; and Established Orchids from other sources.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY NEXT, July 10, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

ORCHIDS! ORCHIDS!

LOVERS OF SPECIAL

AND

RARE DENDROBIUMS

AND OTHER

CHOICE ORCHIDS,

Should not fail to see the Catalogue making the

SPECIAL OFFER

OF A

LARGE PRIVATE COLLECTION

ON SALE BY PRIVATE TREATY,
NEXT WEEK, BY

JOHN COWAN & CO., Ltd.,

THE VINEYARD and NURSERIES,

GARSTON, near LIVERPOOL.

Catalogues, POST FREE *on application.*

FOR DISPOSAL, a good NURSERY and JOBBING BUSINESS.—Lease twelve years. Goodwill and Fixtures, &c. Cob, Harness, Two Carts. Full particulars on application. — Swiss Nursery, Perry Vale, Forest Hill, London. S.E.

HADLEIGH, SUFFOLK. — TO BE DISPOSED OF, the Lease, Goodwill, Stock in Trade, and Glass Erections, &c., of above NURSERY, comprising about 1¼ acres of Land, convenient DWELLING HOUSE, Packing and Potting Sheds, SEED SHOP, and Fittings. Lease about nineteen years unexpired. Rent £27. No other Nursery within several miles. Price £150. Apply to—
WILLIAM BADMAN, Cemetery Nursery, Gravesend.

To Nurserymen and Florists commencing Business.

HAMPTON-ON-THAMES, on the Marling Park Estate, free from London fogs, a deep rich loam, the favourite neighbourhood for Growers, FREEHOLD LAND for SALE on easy system of Purchase, or to be LET on Lease.
For full particulars, apply to Mr. FREDK. G. HUGHES (Surveyor), the Estate Office, Hampton-on-Thames.

TO LET.—In the North of England, near large country town, and only 1 mile from station on Midland line, a productive PRIVATE KITCHEN GARDEN of about 2½ acres. Excellent range of Glass, Vineries, Peach-house, Stove Melon-house, Forcing-pit, Greenhouse, &c., and whole Garden in first-rate order. Owner would buy certain amount of produce weekly besides hiring Plants, &c., when required. Address, by letter only to—
B. M., 4, Mount Street, London, W.

MUSHROOM FARM TO LET.—3½ acres. Mushroom House, 270 feet by 80 feet; Office, Sorting and Weighing-house, extensive and well ventilated Compost, Shed, and Tool-house. Every facility for raising large crops under cover. Eight room Dwelling-house, Stables, and Coach-house, Fowl-house and Runs. Orchard and two large gardens well stocked with Fruit. Rent £75.—JOHN RAWLINGS, Rawesville, Richmond Road, Kingston-on-Thames.

TO LET, a SMALL MARKET NURSERY, about 800 feet run of Span-roof Houses, suitable for Cucumber Growing, &c., and about 2 Acres of Land, with good Dwelling-house and other Buildings. — For particulars apply to A. ROFE, Queen's Road, Crowborough, Sussex.

Fifty Nurseries, Market Gardens, Florist and Seed BUSINESSES to be DISPOSED OF.

MESSRS. PROTHEROE AND MORRIS' HORTICULTURAL REGISTER contains full particulars of the above, and can be obtained, gratis, at
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1000 CUCUMBER PLANTS for Sale.—Covent Garden Favourite, strong plants.—Apply, E. F. SMITH, Fruit-grower, Isleworth.

CELERY PLANTS.—Strong transplanted plants of "Covent Garden Red" and "Standard Bearer," 1s. per 100, 5s. per 1000.
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SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free.
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BOUVARDIAS in great variety, 2s. per doz.

BEGONIAS.—The finest strains obtainable. Singles, 2s. per dozen; Doubles, 3s. 6d. per dozen.

GLOXINIAS.—Hethersett noted strains, and Emperor Frederick.
All packed on rail for cash with order.
JAMES GREEN, Reliance Nurseries, March.

FERNS AND DECORATIVE PLANTS!—(TRADE):—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 12s. 100; ditto, large, in 48's, 10 best selling sorts, 6s. doz.; strong seedlings, 6s. 100, 50s. 1000; Adiantum cuneatum, in 48's, for cutting, 6s. and 8s. doz.; ditto, for making large plants quickly, 16s. and 20s. 100; Cyperus, Aralias, Grevilleas, Spiræa, Rhodanthe, & Geraniums, in 48's, 6s. doz.; Marguerites, Heliotropes, Mignonette, Fuchsias, Ivy Geraniums, in bloom, in 48's, 8s. doz.; Ficus, Palms, Dracænas, Crassulas, Pelargoniums, & Hydrangeas, in bloom, in 48's, 12s. doz.; Lists free. Packed free. Cash with order.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W

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AND
CHRYSANTHEMUM ALBUMS.

I have a few of these valuable works left, and will send a copy of each, post-free, 2s., or separately. The Guide, 8 stamps, the Album, 18 stamps.
Both are invaluable to Chrysanthemum Growers.
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PRICE LISTS of HYACINTHS, TULIPS, &c.,
FREE on APPLICATION, for SEEDSMEN and FLORISTS.
APPLY TO—
S. A. VAN KONIJNENBURG & CO.,
NOORDWIJK, HOLLAND.

EXHIBITIONS.

SALTERHEBBLE and DISTRICT ROSE SHOW.—THURSDAY, July 16. Schedules may be had of JNO. E. BROOKS, Sec., 4, Savile Park Street, Halifax.

THE GREAT

ANNUAL FLORAL FÊTE

HELD IN

THE PUBLIC PARK, WOLVERHAMPTON,

July 7, 8, and 9, 1896.

INCREASED MONEY PRIZES.

GOLD, SILVER, and BRONZE MEDALS, and CERTIFICATES awarded also.

HANDSOME SILVER CHALLENGE CUP, value £30, to which special attention is called to Nurserymen & Florists.

Entries close: { Plant Classes, June 30; Cut Flowers, Fruit, and Vegetables, July 4.

Entry Forms and particulars apply to—
Mr. W. A. GREEN, Horticultural Secretary.

EDINBURGH SCHOOL OF RURAL ECONOMY.
SESSION, 1896-97.

BOARD OF MANAGEMENT appointed by the University Court, the Highland & Agricultural Society, the Town Council of Edinburgh, and Contributing County Councils. Chairman—The Right Hon. J. P. B. Robertson, Lord Justice-General.

COURSES OF INSTRUCTION are provided both in DAY and EVENING CLASSES for FARMERS, GARDENERS, FORESTERS, and others interested in Rural Economy.

The SESSION begins in OCTOBER and ends in MARCH. Fees Specially Moderate. The Syllabus may be had from the SECRETARY of the University Court, Edinburgh; or, from the SECRETARY, 3, George IV. Bridge, Edinburgh.

To Gardeners and Art Florists.
Re A. B. BOOTY, in Bankruptcy.

THE OFFICIAL RECEIVER herein is prepared to enter into negotiations for the SALE, by Valuation, of the whole of the STOCK-IN-TRADE, consisting of Palms, Ferns, Flowering, and other Plants, Seeds, &c., and a Choice Assortment of Porcelain and Fancy Articles (cost £410 18s. 9d.); also the useful and well-appointed Fixtures, Trade Plant, &c. (cost £234 6s.)

The Purchaser to have the option of taking the Book Debts, which are all owing by respectable people, and are estimated to produce £110 4s. 1d., if he desires to do so.

The Shop is in James Street (the principal street), in Harrogate, and the Nursery is in East Parade, about half a mile distant.

So far as the Official Receiver is able to form an opinion, a good high-class business has been done for a number of years past, but Mr. Booty has not had sufficient capital to work it. There is a large and most respectable business connection, and there appears to be no reason why a profitable trade should not be done by energy and a little free capital.

The Official Receiver is carrying on the business, and will be glad to answer any enquiries made to him up to Saturday, July 11, 1896, if not previously disposed of.

E. T. WILKINSON, Official Receiver in Bankruptcy,
28, Stonegate, York.—Dated June 27, 1896.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

GEO. MARRIOTT, of Upper Edmonton, will be happy to EXECUTE COMMISSIONS for ORCHIDS, &c., for Gentlemen unable to attend the Sales, and having had many years' experience his judgment may be relied upon.

Choice Vegetable Seeds.
FOR AUTUMN SOWING.

H. AND F. SHARPE will be pleased to give Special Quotations for their fine Selected Stocks of CABBAGE, TURNIP, LETTUCE, ONION, RADISH, and other SEEDS suitable for AUTUMN SOWING, which will be found very advantageous to Purchasers. Also fine samples of WHITE MUSTARD, and Sowing RAPESEED, at moderate prices.
SEED GROWING ESTABLISHMENT, WISBECH.

SPECIAL OFFER.

Ferns in variety, our selection, in small pots, for sale or to pot on; Maidenhairs, in about 5-inch pots; Dahlias, out of single pots; Pelargoniums: Show and Regal, in small pots. Fuchsias; Cannas; Ivy: Gold, Sil Green, in variety, &c., &c.
Palms: Kentias for Table Plants, &c.
SHUTTLEWORTH, Limited, Fleet, Hants.

PAULS' ROSES.

WM. PAUL AND SON invite inspection of their ROSES NOW COMING INTO BLOOM. There may be seen at these Nurseries all the most desirable old and new Roses, including many sorts of their own raising, which are not yet to be seen elsewhere. The flowering will continue throughout the summer and autumn. The Hardy Pictorial Trees and Shrubs, Climbing and Herbaceous Plants, Fruit Trees, &c., in great variety, are now in fine condition.
PAULS' NURSERIES, WALTHAM CROSS.
South entrance, four minutes' walk from Waltham Cross Station, G.E.R.; West entrance, three minutes' walk from Theobald's Grove Station, G.E.R.

PELARGONIUMS.—GARAWAY & Co. offer good plants, in 5-inch pots, of the best market and decorative varieties, at 15s. per dozen.
GARAWAY AND CO., Clifton, Bristol.

MUNGO CHAPMAN, late of Easter Duddingston Lodge, Mid-Lothian, begs to intimate to his friends and acquaintances that he retires from his present situation on the 20th of the present month. He has arranged to reside at St. Ninians, near Stirling, where he intends to commence the Cultivation and Sale of Hardy Plants on his own account.

With the experience gained during twenty-four years in the management of one of the most choice private collections of plants to be found in the British Isles—that of the late Charles Jenner, Esq.—Mr. Chapman can confidently undertake to supply what is select and true to name of the most suitable plants for Borders and Rock-work.

He hopes to be able soon to issue a Plant Catalogue, from which customers may make their own selection. In the interval, he will be fully employed in getting up Stock.

May 19, 1896.

TENTS! TENTS!! TENTS!!!—I have purchased 5000 ARMY TENTS (40 ft. circumference), scarcely used. Complete with poles, pegs, and lines. Cost £6 each. Will send any number, carriage paid, for 28s. each; inferior qualities, 22s. and 24s. each. Cash with order; can be sent on approval. Specially adaptable for sporting and pleasure purposes. TWO JUST SUPPLIED TO BUCKINGHAM PALACE. The following unsolicited testimonial is one out of many hundreds weekly:—

"April 29, 1896. Dear Sir,—Accept my thanks for the tents, safely received to-day. I am very pleased with them.
"F. H. HILL, Duddingston Park, Portobello, Midlothian."

MARQUEES for Flower Shows, Sports, &c.—Made of best Tent Canvas, 30 feet by 16 feet, with Poles, Pegs, Runners, Lines, Mallets, and Bags, all complete, ready for use, cash £14, cost £36.

ANDREW POTTER, Melbourne Works, Wolverhampton.

GLASS! GLASS! CHEAP GLASS!
4ths, 15 oz., in 50-feet boxes,
Sizes from 10×8 up to 14×10, at 4s. 6d. per box.
4ths, 21 oz., in 100-feet boxes,
Sizes, 10×8 and 12×8, at 8s. per box.
3rds, 21 oz., in 200-feet boxes,
Sizes, 9×7 up to 14×10, at 18s. per box.
Ex wharf, London. All other sizes equally cheap.
Full detailed list of stock sizes sent free on application to
THE CHEAP WOOD COMPANY.
72, BISHOPSGATE STREET WITHIN, LONDON, E.C.

FOWLER'S LAWN SAND.—For destroying Daisies and other Weeds on Lawns, &c., at the same time acting as a fertiliser, and improving the growth and colour of the grass. Price in tins, 1s., 2s. 6d., and 5s.; kegs, 8s. 6d., 16s., and 30s. Sold by all Seedsmen.
CORRY AND CO., Ltd., London, E.C.

THOMSON'S VINE AND PLANT MANURE.

The very best for all purposes.

The result of many years' experience. Largely used both at home and abroad.

Agent for London:—J. GEORGE, 14, Redgrave Road, Putney, S.W.
Agent for Channel Islands:—J. H. PARSONS, Market Place, Guernsey.
Sole Makers:—WM. THOMSON AND SONS, LTD., Tweed Vineyard, Clovenfords, N.B.

Price Lists and Testimonials on application.
Analysis sent with orders of ¼-cwt. and upwards.
SOLD BY ALL SEEDSMEN.

BEESON'S MANURE, SHEFFIELD.—For Vines, Plants, and Vegetables. Sold with a Guaranteed Analysis. Has stood the test of the principal growers for over 20 years, and is admitted to be the Best for all Horticultural Purposes. In boxes, 1s. and 2s. 6d.; bags, 50 lb., 8s.; 1 cwt., 15s. May be obtained through any Seedsman; or, direct (bags only), carriage paid, and liberal discount for cash with trial order, from W. H. BEESON, SHEFFIELD. Pure Crushed Bones, all sizes, and other Fertilisers at market prices.

Under the Sanction of the Permanent Nitrate Committee.
TO GARDENERS (Amateur and Professional).
COMPETITORS at HORTICULTURAL SHOWS, and OTHERS.
NITRATE OF SODA, the indispensable nitrogenous fertiliser, may now be had of Seedsmen in Town or Country. Warranted of standard purity.
Price in tins, containing 4 lb., with full directions for use, ONE SHILLING.

GISHURST COMPOUND, used since 1859 for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water; 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in lather from cake, for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1s., 3s., and 10s. 6d.

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6d. and 1s., from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

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Certain cure for Blight, and all Insect Pests, without injury to plants. Once tried, always used.
Sample Tin, 2 lb., free by Post, on receipt of P.O. for 2s. 10d.
Price LIST and testimonials on application.
The STOTT FERTILISER & INSECTICIDE CO.,
BARTON HOUSE, MANCHESTER.

HUGHES' VAPOUR ROLL FUMIGATOR

FOR GREENHOUSES.
One is sufficient for **1300** cubic feet.
REDUCED PRICES—9s. per dozen; refills for three tins 2s. per packet.
THE BEST and CHEAPEST IN THE MARKET.
E. G. HUGHES, Victoria Street, MANCHESTER.
SOLD BY ALL SEEDSMEN.

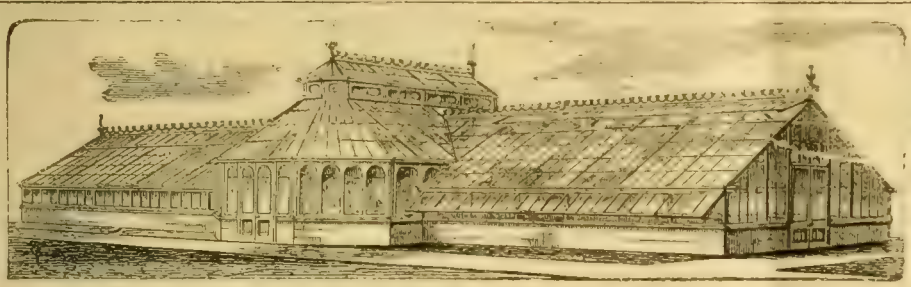
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PRIZE MEDAL
WEED DESTROYER.
PRICES ON APPLICATION.
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ORCHID PEAT.—Dry and prepared, 5s. 3d. per bag, on rail; 15s. per cubic yard, in 12-yard trucks. BROWN FIBROUS PEAT, 3s. 3d. per bag; 10s. per cubic yard.
WALKER AND CO., Poole, Dorset.

EPPS'S A1 PEAT
(SELECTED specially for ORCHIDS),
Also for Stove & Greenhouse Plants, Hardwood Ferns and Rhododendron do. (Trade supplied).
LOAM, SAND, LEAF MOULD, C. N. FIBRE, CHARCOAL, SPHAGNUM MOSS, &c. PEAT sent to all parts of the world at Special Through Rates. Large or small quantities.
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RATS, MICE, MOLES, and BEETLES
GREEDILY EAT
HARRISON'S "RELIABLE" RAT POISON.
Cats and Dogs will not touch it. Vermin dry up and leave NO smell. Price, 1s. 2d., 2s. 3d., 3s. 6d., postage 2d., from—
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Five 1st Prize Medals recently awarded in open competition.



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ROYAL HORTICULTURAL WORKS, MIDDLETON, MANCHESTER.

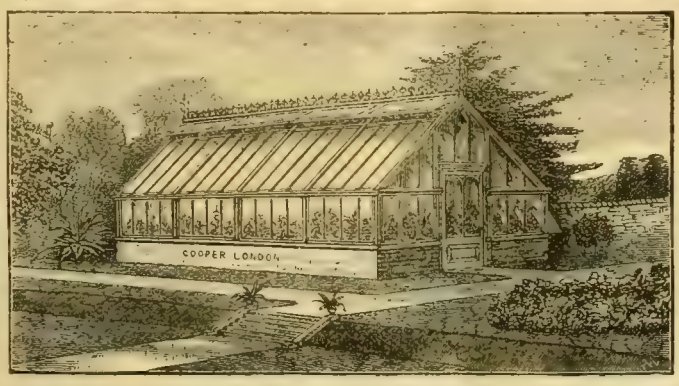
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THE ORIGINAL INVENTORS OF CHEAP GREENHOUSES, NURSERIES—HANWORTH and FELTHAM. THE LARGEST STEAM HORTICULTURAL WORKS IN THE WORLD. INSPECTION INVITED

1000 Houses in Stock to Select from.
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GENUINE BARGAIN.
PERFECTLY NEW.

5 CUCUMBER or TOMATO-HOUSES,

each 100 feet long, 12 feet wide, 7 feet 6 in. to ridge, 3 feet to eaves. Can be built in one block, or separately. Made of good sound, well seasoned materials. Framework of Ends, 3½ × 2; Ridges, 4 × 1½; Bars, 3 in.; Ventilators, 7 in.; Glass, 21 oz. Painted one coat. All carefully packed on rail.

These were made to order for a Customer who cannot now erect them, owing to some dispute with his landlord. Usual price, £150.

As the room is required at once, will accept the low sum of £100 to immediate purchaser.

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It combines efficiency with appearance, convenience with economy, and its effects are lasting, while it is easily removed when necessary with hot water. It can be supplied either pale green or grey.

The public are warned against spurious imitations which are offered them, through the success obtained for many years by Elliott's "Summer Cloud" Shading, and they should see that in ordering they get the "Summer Cloud," which is the only original and bonâ fide article, with the Trade Mark on each packet.

Sold in pkts., 1*s.* each, and in bags, 7 lb., 10*s.* 6*d.*; 14 lb. 20*s.*

To be had of the SEED and NURSERY TRADE generally.
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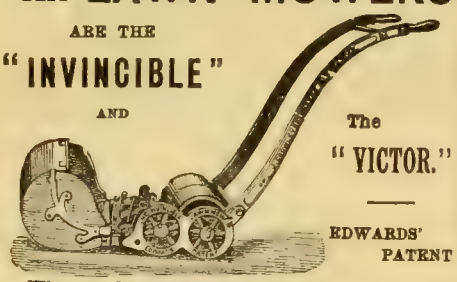
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Winner of the Gold Medal at the National Lawn Mower Contest.

A Customer writes:—"Dear Sirs,—I am pleased to say that the 24-inch works as well as ever it did. As you know, it was bought in 1874—that's a long time for a machine. I am open to back it now against any machine in the county, long or short, wet or dry, against any other machine of different makers."

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JOHN CROWLEY & CO., Limited,
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HORTICULTURAL GLASS.

A Large Stock always on Hand.

Special quotations for quantities.

WHITE LEAD, OILS, AND COLOURS

At lowest possible prices.

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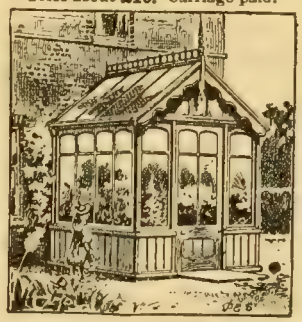
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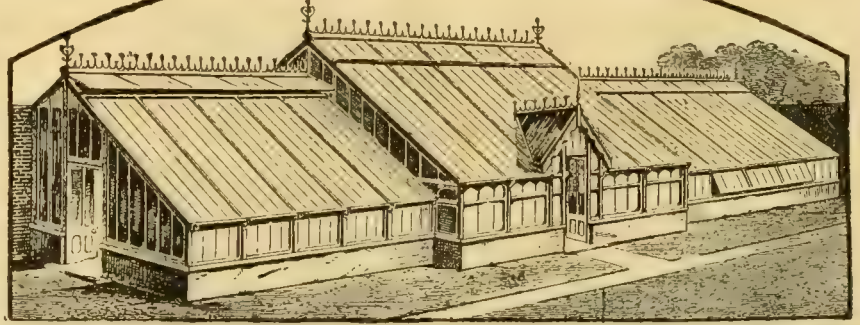
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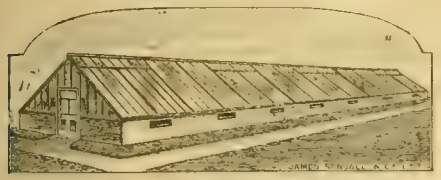
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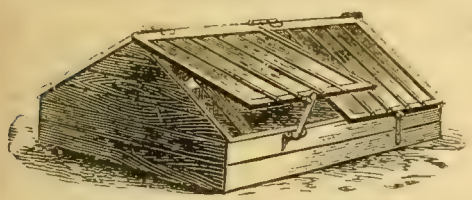
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THE

Gardeners' Chronicle.

SATURDAY, JULY 4, 1896.

OLD AND NEW STRAWBERRIES.

TO-DAY, June 30, and on several other occasions, I had the pleasure of visiting the small garden at Warriston Park, Edinburgh, of Mr. John Carmichael, late of Sandringham, and well known as a fruit-grower and judge throughout the United Kingdom. Years ago, Mr. Carmichael was a leading grower and exhibitor of Heaths, Azaleas, and other hard-wooded plants, and a most successful raiser of hybrid Azaleas and other plants. In his well-earned leisure, he has now taken up the equally useful work of weeding out our long list of old varieties of Strawberries, and of adding some desirable novelties to our rather limited assortment of late varieties. With this end in view, he has crossed the variety Waterloo with Latest of All, Frogmore Late Pine and British Queen, and he has succeeded in raising among others of great promise, the following:—Princess of Wales, William Carmichael, Richard Gilbert of Burghley, named after one of the best Strawberry growers in his day in the kingdom. The Princess of Wales and Richard Gilbert were from Waterloo by Latest of All, William Carmichael, W. × with Frogmore Late Pine, and the Prince of Wales, which is a full fortnight later than either of these; Waterloo × with British Queen. The Prince of Wales variety promises to be later in fruiting than Latest of All. And all these new varieties possess the merit of vigorous growth, fertility, size of fruit, and good colour and flavour.

Few persons have more experience among Strawberries and other fruit than Mr. Carmichael, who has handed me for the use of this journal a list of twenty-five varieties recently proved by himself, weeded down to six, as worth growing. The figures are mere numerals, and not meant to measure relative merit. There are two or three names in the list that may surprise a good many Strawberry growers—these are John Ruskin, Garibaldi, and Vicomtesse Héricart du Thury—the first is, however, one of the finest Strawberries grown, treated as an annual. Neither of the two last ones, nor V. du Thury, is small and weedy as grown by Mr. Carmichael in his garden at Warriston Park, Edinburgh. Both the varieties here are true to name, and quite distinct; they were sent out in the same year as Garibaldi by Dickson & Co., Edinburgh, and the Vicomtesse H. de Thury by Vilmorin of Paris; and I have never seen the latter so fine as here, carrying an immense crop, the size, flavour, colour, all that can be desired. But it is more than time

to make way for Mr. Carmichael's most interesting estimate of the merits of old and new Strawberries :—

"List of Varieties.

1. Scarlet Queen, Laxton's.
2. Noble, Laxton's.
3. Competitor, Laxton's, inferior.
4. Sir Joseph Paxton.
5. James Veitch.
6. La Grosse Sucrée.
7. Jubilee, Laxton's, inferior.
8. Duke of Edinburgh.
9. Lord Lyons, Cooling's.
10. Burghley President.
11. John Ruskin, ought to be grown as an annual.
12. A. F. Barron, Laxton's, inferior.
13. Latest of All.
14. Lord Suffield.
15. Gunton Park.
16. Empress of India, British Queen.
17. Garibaldi.
18. Vicomtesse Héricart du Thury.
19. General Machone.
20. Frogmore Late Pine.
21. Oxonian or Eleanor.
22. Kitley's Goliah.
23. Waterloo.
24. Keen's Seedling.
25. Royal Sovereign, Laxton's.

"I have discarded all of the above twenty-five varieties, except the following six :—

1. Scarlet Queen, Laxton's.
2. John Ruskin.
3. Garibaldi.
4. Vicomtesse Héricart du Thury.
5. Royal Sovereign.
6. Waterloo.

"Garibaldi is, with few exceptions, the only variety grown by the market-gardeners in the neighbourhood of Edinburgh, but it is too small for the London market. Sir J. Paxton is the one grown, but it will now be superseded by Royal Sovereign. Garibaldi was sent out some thirty years ago by Messrs. Dickson & Co., Waterloo Place, Edinburgh. The same year Vicomtesse Héricart du Thury was sent out by Messrs. Vilmorin of Paris. They are considered synonymous by many, but they are quite distinct, and both excellent preserving varieties of Strawberries, and very productive and good in flavour. Garibaldi is a week earlier, dwarfer in foliage than Vicomtesse H. du Thury. When living at Dunmore (previous to my going to Sandringham), Mr. Mathieson (now of Meicklour) was then gardener there, and he observed in Vilmorin's Catalogue Vicomtesse H. du Thury advertised for the first time. He ordered five plants at 4 francs each. I got my stock direct from him, and he agrees with me that it is distinct from Garibaldi.

"Waterloo being the best late sort here in 1892, I crossed a single bloom with the old British Queen with a view to get the Queen flavour into Waterloo, and the colour of Waterloo into the Queen. I sowed the seed when ripe, and planted them out in 1893 ; in 1894 a few of them fruited. I succeeded in getting just what I wanted; in one of them in particular I have got the Queen shape and foliage, and the fruit nearly as deep in colour as the female parent Waterloo. The flavour is delicious, and it comes in to succeed the early sorts. In 1893 I crossed another bloom of Waterloo with Latest of All, and have got one fine one, which Mr. Cannell calls a gem; it fruited in 1895. In 1894 I made another cross with Waterloo and Frogmore Late Pine, which fruited in 1895. I got a few runners of it, and planted them out in August, and this year they are very prolific, fine-coloured, and delicious in flavour. I believe it will be a grand one for forcing judging from the mass of flower which it produced, and I hope to be able to exhibit them at the Drill Hall should they come in right for the meetings." *D. T. Fish.*

WITHIN THE FOUR MILES RADIUS.

Not all of our readers can fully appreciate the significance, from a horticultural point of view, of the expression, "within the four miles radius of Charing Cross." Very many of them can, however, and are aware of the difficulties under which the culture of plants and fruits, within doors and out-of-doors, is pursued in suburban gardens, in the London district, where fogs, smoke, and partial darkness are more familiar than friendly visitants. Gardeners, as a rule, though, soon find out from experience what plants absolutely refuse to be happy in such close association with Westminster, and they have a black list as a consequence.



Fig. 1. — CATTLEYA SKINNERI.

As grown in a suburban garden.)

Fortunately, most of the species of Orchids generally (and erroneously) believed to be uncommonly difficult of cultivation, are more tolerant of a town atmosphere than numerous plants of a less aristocratic reputation. In fig. 1 is given a representation of a plant of Cattleya Skinneri, which has been grown in the gardens of A. D. Keinwort, Esq., on Grove Hill, Denmark Hill, S.E. During the latter part of May it bore ninety-six fully expanded blossoms at one time. As will be seen from the figure, these were on strong spikes, some of which produced nine blossoms, and all were well above the foliage. The plant has been grown from one of a pair of small pieces received from Central America about ten years ago. It is in an 18-inch pan, and has not been removed from this during the last six years. With its twenty leads and an abundance of flowers, it is a satisfactory specimen, and has been grown in a stove with other plants in a garden where Orchids are by no means a specialty.

On a recent visit to Mr. Keinwort's garden it became evident that many other subjects were successfully cultivated there. Particularly is this the case in regard to the Peaches and Nectarines. There is a good lean-to Peach-house about 150 feet long, in several divisions, and the crops of fruit upon all the trees would have been praiseworthy if they had been cultivated in the heart of the country. The trees, also, though near upon thirty years old, are in excellent condition, and are furnished with plenty of young and strong growths. Mr. Harman, the gardener, is never troubled with bud-dropping, as he does no very hard forcing.

There are several vineries, where good average crops of Grapes are obtained, but some of the Vines should be replaced by young canes. Mr. Harman favours the practice of affording slight shade to the Muscats if bright sun should follow a few dull days during the flowering stage. Though this may be thought unnecessary by some of us, it does no harm, for the bunches were very even, and the berries had set well. A few other houses accommodate plants of a miscellaneous character.

The vegetable garden is well cultivated, and the "bolting of Cabbages" has not been so prevalent here this season as at many other places.

Altogether, the site of the establishment is only 6 acres. The house stands on a high elevation, and the ground slopes from the back very steeply, and we were surprised to see the lawn during the drought so green as it was. From the back of the house there are excellent views ; on the one hand may be seen the Crystal Palace, and on the other is a capital view over Honor Oak. It would be well to further improve the view of the Palace by the removal of a few trees, but retaining those in the centre for the sake of variety. The house and garden is a type of thousands that during the last half-century have been called into existence on every side of the metropolis.

Dresden Exhibition.—We are indebted to Mr. J. T. Seidel for a fine series of photographs taken at the late Dresden International Exhibition. The Azaleas are particularly fine.

THE SPARROW AND SOME OTHER BIRDS.

Every now and again we growers of seeds, grain, fruit, and flowers, are treated with much stale and decidedly wrong statements as regards birds, but more particularly the sparrow. It has been shown again and again how very untrustworthy these bold assertions are, and yet we are quietly told that we practical naturalists, agriculturists, gardeners, &c., do not know anything about the habits of birds, and are totally ignorant of their uses; but it has not been yet advanced that we know nothing of the dire havoc that many cause, besides the annoyance and positive loss, pecuniary and otherwise. I am led to write on the question yet once again, in consequence of an article which appeared in this paper June 6, 1896, p. 711. The writer begins by an attack on a Sussex sparrow club, which he says killed 5,922 sparrows and tomtits (?). And then he states that the caterpillars on the Apple trees, &c., would probably (why probably?) not have existed if the sparrows had not been destroyed. It is a very great pity that persons will continue to write on this subject without studying sparrow life practically, and not come forward with bald unsupported assertions that generally rest on such as "it has been observed"—they do not state who observed—that the sparrow "feeds its young at the rate of thirty-six times in an hour for fourteen hours a day, and carries caterpillars and grubs by thousands in a week for some months of the year." Very well. All my life (and I am now in my seventy-third year of age), I say, all my life I have been a close observer of Nature, and perhaps of the sparrow as much as of any bird. If the sparrow feeds its young fourteen hours a day, it would begin possibly at 5 A.M., and finish at 7 P.M. Now, as a rule, like most grain-eating birds, it is not an early riser, nor have I ever known it to begin to feed its young until some time after 6 A.M., and seldom or ever has it continued feeding the whole day, but has rested at intervals, and generally ceased before 6 P.M., not making anything like twelve hours a day. Again, the sparrow is, as can be seen by the formation of its beak, a grain-eating bird, and not a feeder on insects, excepting at certain times. As to the young, they are generally fed on aphis for the first few days, then several kinds of insects, then grain or seeds in a green state is mixed in with some kinds of caterpillars, also young buds, Peas, &c. The writer goes on to say, they not only destroy also the grubs of the Cabbage-butterfly, but the "flying insect itself." Now, unfortunately for me, my garden swarms with sparrows, and yet last year my Cabbages were more like cabbage-nets than these much-approved vegetables, and although I was "on the watch," I never saw any sparrow-hawk at the butterflies or the daddy-longlegs (Tipulas), but I do not deny that they occasionally do this, for I have seen them; but to put it down as one of their good qualities is like calling a man generous who now and then gives a penny to a crossing-sweeper. I am fully aware of the great damage the tipula grub does to the pastures, but the starling is the bird that feeds its young on them, not the sparrow. I have watched by the nest of a starling, and have counted that they brought to it from my pastures over eighty tipula grubs in one hour in the early morning. The sparrow, as far as my observation takes me, does not feed on the caterpillar that eats out the bloom of the Apple. The tits are the most valuable: I have noted them through "a glass," especially the blue-tits destroying the ova on the trees, and from me they have "a hearty welcome." True it is the blue-tit does spoil a few Pears at the ripening time, but he has well earned the privilege. The writer then goes on to quote Miss Carrington. Here is more assertion, and as such I leave it. Then the writer branches off from the sparrow, and speaks of Mr. Witherspoon liking all small birds in his garden. Just so. So do I, excepting the sparrow and the bullfinch, and of them I would have—none. Then, again, he says, "Farmers and fruit-growers who slaughter and encourage the slaughter of birds are indeed warring against their best interests."

That may be the writer's opinion, but the farmers are not such ignorant people; they know quite as well as he does, and I believe a great deal better, what is useful and what is prejudicial. I was reading a book I have, published in 1610. Even then the sparrow was denounced, and in my younger days there were many sparrow clubs, and they were needful, as they are now. I am a lover of all wild life, and birds in particular, but I look on the sparrow in my garden as "a curse." I am told of its many virtues, but I fail to find them; they eat "they say" all kinds of caterpillars. Do they? My garden swarms with sparrows; last year my large Oaks had every leaf eaten off by caterpillars. They pecked out most of the bloom-buds from my Gooseberries, and so with my Red Currants; they pecked off all the bloom of my yellow Crocus as fast as they appeared, and so with the bloom of my Primroses and Polyanthuses. They ate off my Peas as fast as they came up. I netted some rows, but when they began to grow through the net they pecked out the eyes of the leaders; they ate the young Radish, the Turnips, they pecked out the young growths of my Pinks and Carnations; and when I feed my fowls, they come in "clouds" and carry off much of the food. Now, for all this, what good do they do me? I know of none. The thrushes, blackbirds, robins, white-throats, fly-catchers, &c., do me a vast amount of good, and most of them no injury; but the sparrow is a decided pest, for he also drives away hedge-sparrows, white-throats, and gets into my martins' nests. What I want to know is, why are we perpetually having the sparrow thrust upon us, and a vast amount of unsupported assertion fostered on us, besides being told we are a parcel of ignoramuses, who know nothing of that to which we have given our best attention all our lives? and town-bred, town-living town's-folk know a vast deal more of country life than we who live there.

A few years back a bird-catcher plying his calling near Lewes, Sussex, told me that he caught in a short time soon after the harvest 520 dozen of sparrows. Just think of the damage there must have been to the farmers' wheat-fields by these 6240 birds. Miss Carrington says, to quote your correspondent, that—"almost without exception, every small bird eats at least one-sixth its own weight in twenty-four hours, and this food of birds consists, or almost entirely, of the worst foes to agriculture." It is a pity that humanitarians should be so unwise—not to use a stronger term. *Harrison Weir.*



Fig. 2.—Dendrobium arachnites. Flowers orange.

DENDROBIUM ARACHNITES.

To the explorers and wayfarers in the tropics are we indebted for many pretty introductions to our gardens, and the showy little species illustrated is a case in point, the few plants which have yet appeared in gardens having been introduced mostly by persons who had gathered a few Orchids by the way. The plant here illustrated was obtained by J. Bradshaw, Esq., of The Grange, Southgate, from one such traveller, and he exhibited it on two occasions at the Royal Horticultural Society under the provisional name of D. inversum (fig. 2). Its flowers are of a rich orange-scarlet, with purplish lines, and its whole aspect pretty enough, though scarcely of the quality to bear out the rapturous language of Prof. Reichenbach in the following description in the *Gardeners' Chronicle* from dried specimens:—"Since the time when Sir W. Hooker described his unique Dendrobium amboinense, no such extraordinary and gorgeous Dendrobe has been discovered. Imagine a dwarf stem 3 inches high, with shining internodes a little thicker at their upper ends, and then add a flower with linear sepals and petals nearly 2 inches long when dried, and a long pandurate lip narrower towards its obtuse tip. All these organs appear, when dried, whitish-yellow, with a deep lilac blotch at the base of the lip. I have only a single flower, not cohering with the stem. To judge, however, by the little scars on the stem, it must be a Eudendrobium. I believe a single plant of it was found in Burmah by Mr. Boxall, who must have been filled with enthusiasm at the sight, since he dried it. One feels that the Burmese plants incline to the Malayan type, since it is impossible not to think of Renanthera flos-aëris (Arachnanthe moschifera). I was favoured with a flower and two stems by Mr. Low. Of course, I can only describe the things as they are, and am unable to say that the stems may not become longer."

Perusal of the above leads me to wish that the "describe things as they are" were more evident and the speculative and irrelevant language less profuse.

There are several species with similar flowers, in colour like those of Lælia cinnabarina, yet to be

introduced, one of which, Dendrobium Jerdonianum, is illustrated in Wight., *Icon.*, v., t. 1644.

To prevent confusion, it should be stated that the plant illustrated in *Thouars, Orch. Iles. Afr.*, t. 88, as Dendrobium arachnites is not a Dendrobium, but Aëranthus arachnites. *J. O'B.*

BELGIUM.

The June meeting at Ghent was notable for a large number of fine plants shown. The jury awarded Certificates of Merit *par acclamation* to Lælio-Cattleya Phœbe (Lælia cinnabarina × C. Mossiæ); the sepals and petals orange-yellow (a very rare colour), flower larger than that of L. cinnabarina, throat and lip bright claret colour and veined, suggesting C. Mossiæ. Cattleya Mendeli Duchess of Montrose, which, like the last exhibit, was from M. Jules Hye, is a variety with large flowers, sepals and petals very broad, colouring delicate rosy-white, lateral lobes of the white lip widely bordered with purple, anterior lobe of a still darker colour.

M. L. De Smet-Duvivier staged Lælia grandis tenebrosa var. reginæ, differing greatly from the type, which was shown at the same time, and which also won a Certificate for its splendid colouring. The reginæ has very pale brown sepals and petals, the lip the beautiful and gay tint of L. purpurata.

M. le Marquis de Wavrin showed Alocasia gandavensis, a splendid variety, somewhat of the style of A. Sanderiana, but distinguishable by the veins, which are deeply tinged with dark purplish-red.

The following obtained Certificates of Merit *à l'unanimité*:—Calamus Carola and Alberti, the former seen at the Dresden, the latter at the Ledeberg Exhibition, the two varieties are very similar, and were from Messrs. Sander & Co.

Miltonia vexillaria Hyeana has smaller flowers than the type, but they bear a deep and bright spot of purplish red in the middle of the lip. Odontoglossum mulus odoratum is notable for the size of the blooms, which are brown, the sepals and petals much spotted and speckled with yellow. These two Orchids came from M. Jules Hye.

Three varieties of Anthurium Scherzerianum won, for M. L. De Smet-Duvivier, each a Certificate; König Albert, with a large round spathe, dark carmine-red in colour; nobilis, the spathe large and round, very bright red; formosum, spathe a good size, clear carmine in tint.

M. Jules Hye showed also Miltonia vexillaria alba, all white, except that the base of the lip is lightly tinged with yellow; Cattleya Mossiæ Reineckiana, very beautiful; Odontoglossum hystrix, with a white lip, a rare variety, and a fine specimen with two stems bearing fifty fully-opened blooms; O. crispum météore, with well-rounded flowers covered with many violet dots, some larger than others, the flowers looking as if powdered with violet.

M. Charles Vuylsteke showed two fine imported Oncidiums, each plant bearing a fine raceme, one of all brown flowers, the other of brown flowers bordered with yellow, apparently of the unguiculatum group.

M. Pynaert Van Geert obtained a Certificate of Merit for Pteris Wimsetti, a Fern with a high market value in the future, the foliage elegantly dentated in a manner different to that of other Pteris cristata, the group to which it seems to belong.

Certificates for cultivation and flowering were awarded for Leptospermum scoparium and Rhyncospermum jasminoides from M. G. De Saegher, the former plant with 100 small flowers, the other specimen nearly 6 feet high by as many wide, flowering well; Miltonia vexillaria purpureum, with 100 flowers, from M. Jules Hye; Odontoglossum crispum from MM. Janssens et Cie.; and Euphorbia splendens, a very old plant, the specimen shown covered with brilliant red blossoms, from M. Bedinghaus.

The two last meetings of the Brussels Orchidéenne have been very successful. At the May exhibition Cattleya Trianæi var. Imperator took a first place; the jury considered it the most beautiful variety of C. Trianæi ever staged at the Orchidéenne. It was an exceedingly fine plant, the flower splendidly coloured, especially the lip, which was all deep purple-red as far as the bottom of the throat. It was sent from Messrs. Lucien Linden & Co., of Moortebeck, and obtained a First-class Diploma of Honour *à l'unanimité* and *par acclamation*.

M. Madoux showed a fine series of varieties of Cattleya Mossiæ, among them alba, pure white, and marmorata, handsomely marbled with dark purple; Odontoglossum Wilckeanum var.; Cypripedium tonkinense var. album, the flower waxy-white and unspotted; and Cattleya Mendeli. There were also some much-admired specimens of Odontoglossum crispum, Cypripedium, and Lælia purpurata, from M. Miteau; the same exhibitor sent Cypripedium Pauli var. eximia, with well-coloured flowers, the upper sepal well spotted with large purple marks.

There were a fine hybrid Cypripedium, a distinct variety, with the upper sepal spotted nearly all over with dark chestnut, from M. Moens; Dendrochilum lyratum, from M. Linden, the flowers suggestive of a lyre, and delicately coloured; Cattleya Mossiæ var. from M. Warocqué; Odontoglossums, from MM. de Moerloose and Dr. Capart; C. Mossiæ var. from Mr. Knight, a fine variety, the lip a beautiful orange-yellow; and many other good exhibits.

At the June meeting of the Orchidéenne, l'Horticulture Internationale (M. Linden), MM. Madoux, Van Wambeke, and M. Massange of Louvres, showed fine exhibits, each winning a First-class Diploma of Honour for his collection of Orchids. M. Madoux sent some fine specimens. His Lælio-Cattleya Clive is a beautiful hybrid, the divisions of the flower purplish-lilac, the lip as if cut from dark velvet, the flower well formed and spreading; C. Mossiæ alba is very white, the lip deeply fringed, white and citron yellow; the varieties of Odontoglossum crispum were very beautiful, one of them resembled O. c. Peetersii and Massangeana, the flower and raceme were in full beauty; others were noteworthy for the size of the flowers and of the markings. One variegated plant of Cattleya Mossiæ was remarkable as being the third time of its bearing blossoms of a like kind; the foliage is variegated. Two fine plants of Cypripedium Rothschildiaum should be mentioned: one white, the other yellow; also a fine Cattleya gigas; a Lælia tenebrosa with broad petals; Cypripedium Curtisi, very distinct in form; a pretty variety of C. Stonei, and a beautifully-coloured Phalænopsis Luddemanniana.

L'Horticulture Internationale sent a grand group of Cattleya Mossiæ and gigas, large and fine specimens, well bloomed, all good varieties, five of which were allotted a First-class Diploma of Honour. I specially admired C. M. Pacha, for form; C. M. amplissima, for the size of the lip; C. Reineckiana var. exquisita, and C. gigas var. vernalis.

In addition to Cattleyas, M. Linden staged Acanthephippium Mantinianum, a new and very curious species, and other Orchids.

M. Massange showed some Odontoglossum crispum, remarkable for the vigour of the flower racemes, the sizes of the blooms, and the pure white of many of them; six of the varieties won a First-class Certificate of Merit. Cattleya Mossiæ, from the same exhibitor, had flowers with fine, well-coloured lips. We learn that M. Massange has now in his houses no fewer than nine hundred blooming plants of Odontoglossum crispum, not counting three hundred trusses recently sent to Nice.

M. Van Wembeke's group contained many Odontoglossum crispum with pure white blooms. On one variety the lip was spotted all over with brown, save for a wide fringed margin of white. The same grower sent Masdevallia Harryana Hendersoni with forty blooms.

MM. Janssens & Cie. sent Odontoglossum crispum delicately speckled, and other varieties with large spots.

Cochlioda Noetzliana, with four charming trusses of bloom, was staged by M. Miteau.

M. Flor. Pauwels sent Aërides Fieldingi var. album, a new white-flowered variety; Masdevallia Harryana, Epidendrum macrobulbon, Lælia grandis var. tenebrosa, Odontoglossum crispum, and various other plants.

Lælio-Cattleya × Pallas, a fine hybrid between C. Dowland and L. crispa, from M. le Comte de Bousies; Cypripedium × Thoorisianum, from M. Moens (hirsutissimum × superbiens); Cattleya Mendeli, Lælia purpurata and Selenipedium, from M. de Lombaerde; Cattleya Skinneri, with broad well-coloured divisions; Lælia purpurata and Vanda tricolor were sent, as cut flowers, by Mr. Knight. *Ch. de Bosschère.*

ORCHID NOTES AND GLEANINGS.

PELORIA OF CATTLEYA MOSSIÆ.

An obliging correspondent from the Hague sends us a flower of Cattleya Mossiæ with four perianth-segments in two whorls, so that there were two sepals alternating with as many petals, the petals being lip-like in character. As usual in such cases, the column was straight, and the anther terminal, but imperfect.

Cattleya intricata, *Rchb. f.*

A specimen of this pretty, rare, and somewhat puzzling Cattleya is sent from Sunny Hill, Llandudno, by Joseph Broome, Esq., who received it from Brazil as a new hybrid of Lælio-Cattleya elegans. The original plant described by Reichenbach also came over with L.-C. elegans, but by his recording it as Cattleya, we may presume that he found no trace of Lælia in the pollinia, and those found in Mr. Broome's flower are also those of a true Cattleya. The general appearance of the flower is such as one might expect to find in a cross between Cattleya intermedia and C. amethystoglossa, but the lip bears little trace of the papillæ seen on that of the latter species. A probable explanation may be that it is a seedling reversion to Cattleya out of Lælio-Cattleya × elegans. The sepals and petals are white, suffused with pale yellowish-rose, and bearing a few purple spots. The side lobes of the lip blush-white, tipped with purple; and the anterior lobe is bright amethyst-purple.

Some very fine flowers of Cattleya Warscewiczii, C. Mossiæ, and C. Mendeli also came with those of C. intricata, C. Mendeli being very distinct in the crimson-purple colour of the lip. The varieties exhibit the variation in the species, the large light-coloured form having two broad patches of yellow on the lip, and the darker forms two small spots of pale yellow.

An Abnormal Cattleya Warscewiczii.

A singularly abnormal flower of Cattleya comes from J. Potter, Esq., Sligachan, Croydon. The two lower sepals are normal; and partly from the same plane, and partly from the inner whorl, and nearly in the same position as the upper sepal would occupy, appears a segment, consisting of sepal, petal, and labellum, and bearing on one side a petaloid blade, and on the other a similar formation, but coloured in part like the lip, while the middle portion is evidently a sepal. These two showy blades evidently account for both petals, although one petal and one sepal seem to be missing. The lip, which is very richly coloured, is perfect in form, but the column, which is flattened and curved upwards, has but the stigmatic disc, the anthers being wholly suppressed.

Dendrobium secundum,

if not a showy species, is yet a very pretty one, and a profuse flowerer. A specimen of the plant is at the present time flowering in Messrs. John Laing & Sons' nursery at Forest Hill, S.E. The flowers, which are borne in short racemes, all face one way, are of a pleasing rosy-like colour, and the front portion of the lip is of an orange colour. The sepals and petals do not expand, and the former are prolonged into a spur, which follows the lilac-coloured pedicels, giving the entire flower a remarkable appearance. The plant known in gardens as D. bursigerum seems merely to be D. secundum, whatever difference there may have been in the type specimen.

Oncidium Jonesianum var. flavens.

The pretty Oncidium Jonesianum, although, like most other species of Orchids, varying in the quality of the flowers borne in different specimens, produces few which furnish an excuse for giving it a varietal name. One of the most distinct is O. J. phœnanthum, with flowers wholly of copper-red in regard to the sepals and petals. This plant is in Sir Trevor Lawrence's collection. Equal to it in beauty is O. J. flavens, which first flowered with Mr. T. Statter, and which is now in flower in Mr. Jas. Cypher's nursery at Cheltenham. It may be considered an albino in the same sense as the term is often applied to Cypripedium Lawrenceanum Hyeanum and other species, in which all the other colours except pale green are suppressed. It is a flower with sepals and petals slightly barred with pale yellowish-green, a large lip of snowy-white, without the red marks on the crest and purple spots as seen in other varieties. *J. O'Brien.*

wonder the gardeners in those countries ask high prices for these quaint productions, and set great store by them! Few reach this country alive, and of those few it is seldom that any live long, deprived as they needs must be, of the patient, careful tending of the eastern gardener. It will be remembered by those of our readers who visited the last Temple Show that a collection of such Conifers was exhibited by Messrs. J. Veitch & Sons, of Chelsea, growing in the original oblong porcelain pots in which they were cultivated in some Japanese nursery establishment.

The dwarfing of plants by pot culture is a common practice in all countries where plants are grown under glass, as witness our Camellias, Azaleas, Oranges, Palms, Cycads, New Holland Acacias, Dracænas, Metrosideros, Callistemons, Eugenias, Melaleucas, &c., most of which rank as trees, but which are kept of moderate dimensions by pruning the roots and the branches, and cultivation in pots and tubs. Where we differ from the Jap and the Chinaman is in our not keeping these plants alive and healthy to an extreme old age, and in not giving them the true arboreal form, except in the case of Palms, Cycads, and Dracænas.



Fig. 3.—Contorted and dwarfed Conifers.

(Exhibited by Messrs. J. Veitch & Sons, at the Temple Show, 1896.)

CONTORTED CONIFEROUS TREES.

There are fashions in gardening in Asia, as well as in the western countries of the Old World, and those of China and Japan strike us westerns by their grotesqueness, formality, and the extreme of artificiality employed in the production of the desired effects. We observe these peculiarities in their efforts to introduce petty alpine effects in garden scenery, in the needless intricacies of the shore-line of a lake or streamlet of perhaps very tiny dimensions; in the pebble-laid paths made to represent the sea-shore, the gigantic stepping-stones laid across a mock rivulet, whose water is not deep enough to reach to one's ankles; and the irregular-shaped flattish pieces of rock sunk in the course of a path, where we should simply employ gravel or concrete. But for perverted ingenuity of a high order, we must turn to the specimens of contorted Conifers, of a great age in many instances, whose height and breadth may, however, be measured by inches. What ceaseless attention in the matter of pinching, stopping, training, watering, &c., must these miniature trees have cost their cultivators, how carefully must they have been watched in all those years—perhaps throughout a century, to prevent the mishap of a pot-plant getting dry at the root and perishing therefrom. No

NOTES ON VEGETABLE PRODUCTS, TAKEN FROM CONSULAR REPORTS.

Brazil.—In the State of Amazonas, the chief natural products are india-rubber, cocoa, anit (indigo), vanilla, aromatic and medicinal fruits and plants, cloves, Brazil-nuts, hides, balsam of capivi, piassava, sarsaparilla, and a great variety of excellent woods. During the first six months of 1895, Amazonas exported 5,257,089 kilos. of rubber from various districts, including 481,557 kilos. from the Brazilian side of the river Javary, the boundary line of Peru.

The natural products of Para are rubber, Rice, cocoa, coffee, mandiocca, aromatic (tonga) and edible Beans, Brazil-nuts, Maize, tobacco, honey, woods, sarsaparilla, and vegetable ivory. The natural conditions of Para are most favourable to the production of cocoa. It can be cultivated in all parts of the State, but it is especially abundant on the banks of the Rivers Amazon and Tocantins. Its cultivation presents no difficulties, but it requires to be carefully tended. It begins to yield three years after planting, and continues to bear fruit for fifty or sixty years, it being necessary merely to keep it clear of weeds and other vegetation. Two crops a year are gathered, that collected from May to July being the more abundant. The Para cocoa is preferred to all other kinds by the French chocolate-makers, to whom the entire production is shipped, with the exception of some small parcels consigned to Hamburgh and New York. The French market consumes about 6,000,000 kilos., of which Para is at present able to supply only about 3,050,000 kilos. Para cocoa is more appreciated than any other at equal prices. The skin is lighter, it is less subject to break, and the paste absorbs more readily the perfumes with which it is customary to impregnate the chocolate.

With the view of stimulating and encouraging the increase of plantations and improvement in the preparation of cocoa, the Government has reduced the export duty from 10 to 4 per cent., conceding also valuable premiums to the new planters. The lands granted to colonists in different parts of the State are all suitable for the cultivation and preparation of this valuable production, which offers a most remunerative return on the capital and labour employed. As already remarked, the plant appears to require considerable care and attention, being sensitive to the influences of temperature, and the harvests are much affected by the great river floods.

The reduction in the rate of export duty has stimulated its cultivation, but there is an insufficiency of labour. The trade could be greatly increased by improvement of the plantations already in existence; and probably fresh planting with Venezuela and Trinidad seed in dry land properly prepared in places which are not exposed to the disastrous floods, would give successful results.

Brazil-nuts are exceedingly abundant in the forests of Para and Amazonas, where all who like may go and gather them. In the interior of the woods are met districts to which no one has yet penetrated, the harvests being derived almost entirely from trees met with on the banks of the rivers. Formerly the nuts were exported in the pod, each containing eight to ten, but now they are shipped loose.

Naples: *Tobacco.*—A good deal of Tobacco is grown in Southern Italy, but the growers are very much hampered in their operations by the excise officers, who count not only every plant, but every leaf, thus

making their transactions with the growers exceedingly complicated. The present Minister of Finance has taken steps to extend the culture of Tobacco in the Nocera district, and plants from Virginia, Kentucky, Sumatra, and other places have been introduced. A school to give theoretical as well as practical instruction in the cultivation and preparation of tobacco is shortly to be established at Nocera, and it is hoped that the instruction given there may enable Italy to provide her sons (and daughters) with a less evil-smelling weed than they are compelled by their paternal government to consume at present. The request for the encouragement of Tobacco-growing has long been urged, and it is to be hoped that it will, in a measure, relieve the grave agricultural depression from which this wonderfully productive country has been so long suffering. The retail tobacconists are crying out very loudly at their diminished profits. They complain that the price at which the tobacco and cigars are fixed does not afford them a sufficient margin of profit, that snuff-taking, once so common in Italy, is a practice confined to the clergy and not universal even with them, and that the number of shops has been unduly increased, while the consumption of tobacco has been declining.

Batoum. — The industry in liquorice-root and paste is said to be in anything but a flourishing condition, for besides foreign competition and low prices, brigandage seems to be carried on to such an extent, that even a liquorice factory is sometimes placed in a state of siege, as will be seen from the following account of a determined attack made in the early part of last year on one of the factories standing within 200 yards from a railway station on the borders of the two Governments of Elizaretpol and Baku. The attack was made during the night by a strong band of brigands, who were well armed with modern rifles and other weapons. They succeeded in getting within the high walls surrounding the factory; they promptly surrounded the factory itself, where work is carried on night and day, as well as the dwelling-houses of the owner and his European *employés*, and the row of buildings in which the offices are situated. They opened a hot fire upon all these buildings simultaneously, thus preventing any intercommunication or mutual assistance. On the dogs raising an alarm, the owner of the factory went into the verandah and called one of his watchmen, when a perfect hail of bullets whistled past his head, and the watchman was shot dead on the spot. A hot fire was then opened on all the buildings, and besides this a running fire on the railway-station was kept up, and even the Batoum-Baku passenger-train, which came into the station during the attack, was fired into, without, however, any of the passengers being killed. The brigands made an entry into the office of the factory, and after three hours' work, during which they kept up a furious fusillade, succeeded in breaking open the iron safe, from which they stole about 18,000 r., and then made off, the band breaking up into small parties, one of which was intercepted next day, at a considerable distance from the scene of the attack, by a party of Cossacks, and five of the brigands were killed. Some of the Cossacks also fell in the encounter. Most of the brigands concerned in the outrage are reported to be still at large, and further murders and outrages are of frequent occurrence in the district, and the authorities are quite unable to suppress it.

Boxwood.—Referring to Boxwood, it is stated that, although all the private forests of Boxwood have been exhausted, and the Government up to the present still refuse to sell or allow Boxwood to be cut in their extensive forests throughout Aokhasia, consequently the total exports from the Caucasus have not exceeded 1200 tons; and further, this wood is fast losing its importance to the English manufacturer, owing to the fact that in recent years other hard woods have been discovered which are equally suitable for making many articles for which Boxwood was formerly used. Besides this, Boxwood from other countries also finds its way to the English market in increasing quantities.

China: Foochow.—Under the head of Oranges, it is said that the loose-skinned or Mandarin Orange grows in profusion throughout the province, and is exported hence to the other treaty ports of China. Although Oranges would not stand the voyage to Europe, yet the products of the fruit would. At Foochow there is not only an unlimited supply of Oranges, but of sugar also, and labour is about as cheap as it well can be. The institution of a distillery to make a liqueur of the nature of curaçoa, or of a factory to make marmalade and preserved Oranges, might not impossibly form a paying concern.

(To be continued.

THE REPRODUCTION OF THE ORANGE FROM SEED.

(Concluded from vol. xix., p. 785.)

Grape-fruit and Shaddock (Citrus decumana).—The fruit commonly known in the United States as the Grape-fruit, or Pomelo,* a smooth, round fruit, is always reproduced true to the seed. This is so well known to growers of this State, that they never have any hesitation to allow the trees to grow to maturity as seedlings. I have tested the fruit of many seedling trees in all portions of the State, and have almost uniformly found it of good quality. Only a very slight variation can be found commonly between the fruit of such seedlings. The Shaddock, so far as I have been able to learn from growers, also reproduces true, through the seed.

The Citron (Citrus medica).

Florida growers have had but little experience with this species, and I have been unable to learn anything regarding its reproduction through the seed. Of this species Gallesio says, "We have seen the Citron tree of the Jews (Citrus medica cedra) reproduced constantly from the seed. It has many seeds, the greater part of which always give Citron trees having constantly the same characteristics in aspect, form, and properties."

Lemon (Citrus limonum or C. medica limonum).

This species, while not extensively grown in Florida for commercial purposes, is yet cultivated to a considerable extent. Many growers may be found who have grown lemons from the seed, and, almost invariably, the testimony is that the fruit from the seedling is comparatively the same as the fruit from which the seed was taken. No other result has, so far, come to my knowledge. Of the common Lemon Gallesio says, "It is reproduced constantly from the seed, and its peculiarities are perpetuated to its descendents." When Lemons are grown in Florida for commercial purposes they are almost invariably budded to improved varieties. In Ecuador and Haifa (Asia) they are reported as commonly propagated from seeds.†

Lime (Citrus limetta or C. medica acida).

The common Lime also is reproduced constantly from the seed, commonly, if not invariably, transmitting its peculiarities to its descendants. In the extreme southern part of Florida and on the Florida Keys, thickets of seedling Limes escaped from cultivation have sprung up in waste places, and these, so far as I have been able to learn from inquiry and personal examination, invariably produce fruit of about the same character. In this section, where Limes are grown quite commonly, they are mostly propagated from the seed. Professor Lelong says: "The Lime comes true from the seed, the seed "sport" only in exceptional cases."‡

Mandarin Oranges (Citrus nobilis).

The principal varieties or sub-species of the Mandarin Oranges cultivated in Florida are those known as the China (commonly called "Mandarin"), Tangierine, King, and Satsuma. Of these the China and Tangierine varieties are not unfrequently propagated from the seed, and usually produce fruit true to the parent variety with but slight variation. In all cases, so far as I can learn, fruit of a characteristic Mandarin type is produced. Seeds of the China ("Mandarin") reproduce the China variety with slight variation, but are said by some growers not to be so desirable for market, owing to a tendency to form an elongation of the rind at the calyx, which makes them awkward to pack. They also do not average equal in flavour to the selected budded fruit. One very intelligent and critical grower tells me that seeds from the China frequently produce Tangierines. I have had no opportunity to verify this statement. Tangierine seedlings reproduce fruit the same or but slightly different from the parent. The Tangierine most commonly propagated here is a selected seedling known as the Dancy Tangierine. The Satsuma and King are also reproduced true by the seed.

Kumquat (Citrus japonica).

Two varieties of this species, one with elliptical fruit and the other with round fruit, have been introduced into Florida, and are grown to some extent. I have eaten the fruit from several seedling trees, and find it to be the same comparatively as that from the budded trees. The owner of these assured me that they produce fruit the same as that from which the seed was taken.

Trifoliate Orange (Citrus trifoliata).

This Orange, the fruit of which is not used, has not been changed materially by cultivation and selection. It invariably reproduces seedlings having the same characteristics, so far as can be observed. I have observed hundreds of seedlings from one trifoliate tree, which stands in the midst of a large Orange grove, isolated from all other trees of this species. It is surrounded by sweet Orange, sour Orange, Lemon, Grape-fruit, and Mandarin trees, all bearing, and yet every seedling observed had the characteristic foliage and twigs of the trifoliate Orange. The seedlings have not yet fruited, so I can only speak as to the foliage and twig characters; but if hybridisation had occurred in any instance, it could not be observed in these. As many of the surrounding Citrus trees are always in bloom at the time this tree blooms, there would seem to be every possible chance for hybridisation to occur.

Variegated Oranges.

While the reproduction of variegation through seeds introduces an entirely different question, it will yet be interesting in this connection to state that variegation is apparently invariably reproduced through the seed. I have twice sown a quantity of seed from fruits of variegated Oranges taken from two different trees of Citrus bigaradia, and every seedling produced, about twenty in each case, was entirely white throughout. With the utmost care I was unable to rear any of these. The majority of them formed three leaves, reaching a height of from 2 to 3 inches, but all finally died. A few formed a fourth leaf. The variegated sour Orange trees, from which the seeds were taken, had the leaves beautifully mottled with white, about half of the leaf usually being discoloured. The rind of the fruit and the branches also showed the variegation very plainly. *Herbert J. Webber, Special Agent, United States Department of Agriculture, Subtropical Laboratory, Eustis, Florida.*

* Said by Dr. Morris (*Garden and Forest*, 1896, p. 164) to be the Forbidden Fruit of the West Indies—the Citrus Paradisi malifotmis of Macfadyen's classification.

† "Fruit Culture in Foreign Countries," in Special Consular Reports, Washington, 1890.

‡ Lelong, B. M., "Propagation, Budding, Grafting, and Appliances." *Ann. Rep. Cal. State Board of Horticulture for* 1891, p. 143.

INDIAN ORCHIDS.

The fifth volume of the *Annals of the Royal Botanic Garden, Calcutta*, edited by Dr. G. King, F.R.S., contains figures and descriptions of a century of Indian Orchids, by Sir J. D. Hooker, K.C.S.I., most of which have been previously described in the *Flora of British India*. An introductory note explains that the drawings, which are reproduced by lithography, consist of a small selection from the magnificent series of Indian plant-portraits by native artists that have been accumulating in the Calcutta Botanic Garden for nearly a century—a collection commenced by Dr. Roxburgh before the end of the last century, and steadily added to down to the present day. The Orchids of this collection number about a thousand, and these were lent to Kew by the Bengal Government in order that Sir Joseph Hooker might utilise them in preparing the *Flora of British India*, and a hundred of the more interesting ones were selected for publication in the work in question. The author remarks, that excellent as the drawings are in many respects, as representatives of the plants portrayed, they err in manifesting that tendency to enlarge which is a besetting sin of Indian botanical artists, and that the analyses leave much to be desired in the

matter of proportion and accuracy, though in no case do these defects detract materially from the value of the illustrations as a means of identifying the plants represented. Exact copies of the whole Calcutta collection of drawings of Indian Orchids have been made, at the expense of the Bentham Trustees, and are now deposited at Kew.

The drawings reproduced in the work in question represent, for the most part, species of botanical interest, and are not in cultivation, though a few are more showy, and some are met with in gardens. They include eighteen species of Dendrobium, of which D. crocatum, Hook. f., belonging to the Pedilonum group, has deep orange flowers, and a very long spur; while D. Williamsoni, Rchb. f., D. aurantiacum, Rchb. f., D. palpebræ, Lindl., and a few others, are sometimes seen in gardens. Phalænopsis mishmiensis, Rchb. f., is a fine thing, with rose-coloured flowers; while Phalænopsis tetraspis, Rchb. f., P. Manni, Rchb. f., and Sarcochilus Berkeleyi, Rchb. f., are also familiar. Examples of nearly all the representative Indian genera are included, and as the drawings are partly coloured, and are accompanied by analytical drawings, they will be invaluable aids to the identification of these interesting plants.

A recent number of the *Journal of the Asiatic Society of Bengal* contains a paper by Dr. King and Mr. R. Pantling, entitled, "Some New Orchids from Sikkim." It contains thirty-three new species, which have been discovered in Sikkim during the last few years, chiefly by Mr. Pantling. There are six species of the curious genus Oberonia, and most of the species are chiefly of botanical interest. *R. A. R.*

THE CODLIN-MOTH.

(*Carpocapsa pomonella, L.*)

The Board of Agriculture has issued a seasonable leaflet on this very destructive moth, and which we are enabled to illustrate by the accompanying woodcuts.

"This is a very small moth, but its caterpillars are exceedingly destructive to the Apple crop in some seasons. They bore into the fruit, and cause it either to drop prematurely or to decay rapidly when it is stored. Sometimes Apples attacked by this insect drop off as early as the end of June, and continue to drop throughout the summer. Upon examining the Apples that have dropped, or those that show signs of decay in the Apple-house or store, it will be seen that there is a dark spot at the blossom-end of the Apple; a small orifice can also be detected there, round which there is a collection of excreta and minute morsels of Apple. If such Apples are split in halves, a passage can be seen leading to the ovaries or pip-centres, around which there is usually a mass of 'frass'; and it will generally be found that the pips, or parts of them, have been eaten. If the caterpillar is still in the Apple, it will be found near the pips, which appear to be the objects of its attack. If the caterpillar has forsaken the Apple, a hole will be found on one or other of the sides of the fruit, through which it has escaped.

Though this is called the 'Codlin' moth, it by no means confines its attacks to Codlins, but was probably so-called because Codlins and some of their varieties, the Keswick Codlin, for instance, are somewhat early, and, being large Apples, make a great show on the ground when they fall. Varieties of Apples having deep, open 'eyes,' and large dried tufts of the calyces remaining in them, like the Codlin, the King Pippin, the Blenheim Orange, Margil, and Cox's Orange Pippin, are more liable to be infested than varieties like the Golden Knob, Russet, Nonpareil, and others, the 'eyes' of which are more closed up.

This attack is not always recognised as being due to insect agency. It frequently happens that an unusual fall of Apples is said to be the 'summer drop,' attributable to want of vigour in the tree, or to the weather. No trouble is taken to examine the dropped fruit, and the caterpillars escape from it in due time, and conceal themselves, in order to pupate and produce moths for another year's attack. When infested fruit is taken into store-rooms, the caterpillars creep out, and get into chinks and crannies in the walls and floors, from which the moths come forth, and fly to the nearest Apple-trees in the following spring.

The Codlin-moth is very troublesome in France, Germany, America, Canada, Australia, and Tasmania. In the last-named country it is so destructive that the Legislature has passed an Act for its repression.

Description and Life-history.

The moth (fig. 4) is not quite three-fourths of an inch across the wings, and is about the third of an inch in length of body. The fore-wings are grey, with many wavy lines of a darker hue. At their extremities there are oval patches of a deep golden

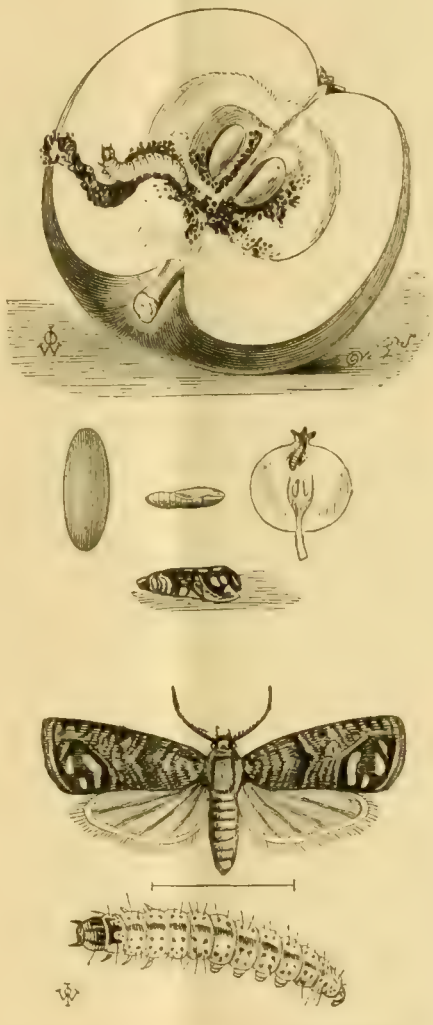


Fig. 4.—The Codlin Moth (Carpocapsa pomonella).

colour, by which this moth can be easily identified Its hinder wings are darker, having a golden tinge, and a lustrous shimmer. When the moth is at rest during the day it is an insignificant object, sitting on the trunks and branches of Apple trees, or on railings, fences, and hedges, with its wings folded in the form of a roof over its body. It appears about the end of May, and flies from place to place and from tree to tree in the twilight and at the dawn of day, and places an egg in or close to the calyces of the Apples, in the 'eye' of the fruit, where the skin is tender, and where it will be protected from the weather and other disturbing influences by the persistent calyces. The moth lays from 50 to 150 eggs. Only one egg is put on each Apple. After a period of from seven to nine days, a tiny caterpillar creeps out and bores into the Apple. It is greyish-white in colour, with a black head, three pairs of claw-feet, four pairs of sucker-feet in the middle of the body, and a pair at the end. When full-grown it is nearly three-quarters of an inch long, and shortly before it pupates its colour becomes slightly pink. From three weeks to a month is about the average duration of the active caterpillar stage. The caterpillar, having entered the Apple at the 'eye,' follows the core down to the pips, upon which it feeds, pushing back in its progress morsels of core, pulp, and excrement.

At the end of about three weeks the caterpillar is full grown; having by this time eaten the greater part of the pips, it bites a hole from the centre to the outside of the Apple, through which it makes its exit. If the Apple is on the ground it merely crawls away. Should the Apple be still upon the tree, the caterpillar lets itself down to the ground by a silken thread. When it has left the Apple it wriggles to the nearest tree and ascends it, constructing a kind of nest with little bits of bark knit together with silk, or composed of silk alone, or it simply gets into a convenient crack or crevice in the bark, and surrounds itself with a silk case, gummed over with a sticky fluid. Sometimes it conceals itself in cracks in posts and fences, or under the bark of other trees, and even under rubbish and dead leaves, and pieces of branches and twigs near the trees. The nest is oval, and about the sixteenth of an inch in height. When the caterpillar is taken into the Apple-store or Apple-house in the Apples, it comes from them in due time, and hides in the walls or in cracks in the floor.

The caterpillar does not pupate until the first approach of spring, when it spins a cocoon, and becomes a brown chrysalis.

Methods of Prevention and Remedies.

In order to prevent the caterpillars from crawling up the Apple-trees, old oil-cake bags or manure-bags should be tied tightly round the stems close to the ground early in the summer. This is practised to a large extent in America, Canada, and Tasmania. It is made compulsory by law in the last-named country, as well as in California, that Apple-trees should be treated in this way in May. These traps must be examined from time to time throughout the summer, and the caterpillars in the folds of the bags destroyed. It is better to have two bands of old bags, one a foot or so above the other, so that any caterpillars getting past the first band may be stopped by the other.

'Windfalls' or 'drops' must be cleared away as soon as possible, especially if there are any signs of caterpillars in them. These should be disposed of at once, or, if not fit for sale, given to the pigs. In orchards sheep are useful, as they generally eat the 'drops' as fast as they fall. Where cider is made, the ground where Apples have lain in heaps should be well gas-limed and dug deeply. The walls of Apple-rooms and stores where the Apples have appeared to be infested should be well lime-washed in the early spring. The floors, also, and shelves should be well scrubbed with soft soap.

Scraping the bark from infested trees is adopted in America. A cloth is spread round the tree to catch the pieces of bark, which are burnt.

After this, hot lime-wash should be well brushed in, or the trunk may be sprayed with paraffin and soft-soap solutions.

American Apple-growers spray the Apple trees directly the Apples are formed with Paris Green and London Purple solutions, mixed at the rate of 1 lb. to 180 to 200 gallons of water; or with paraffin or pertroleum emulsion, consisting of 1 part of oil to 14 parts of water, and sufficient soft-soap to make it of a proper consistency. This latter solution appears to be more suitable for this country, as there is an objection to applying poisonous compounds to fruit that is formed, and the smell of the oil would be more effective in preventing the moths from laying eggs.

In plantations where the land is cultivated, quicklime or gas-lime, or lime and soot, in the proportion of one bushel of soot to two of lime, should be dug in round the trees. Where the Apple-trees are on grass-land, the grass should be cut short, the ground well raked, and the grass and rubbish burnt."

TREES AND SHRUBS.

CYTISUS FRIVALDSKYANUS.

THIS, the latest addition to the cultivated species of Cytisus, is now grown in a few nurseries at home and on the Continent under the name of Cytisus schipkaensis. A plant of it has for some weeks past been in flower in the Arboretum nursery at Kew, and although it does not possess the attractions of many of the old and well-known species of Broom, it is quite distinct, and for certain purposes well worth cultivating. It is a dwarf shrub of somewhat spreading habit, some of the branches being almost prostrate. The leaves are trifoliolate, the sharply-pointed, oblanceolate leaflets being almost glabrous on the upper surface, and thickly clothed beneath with appressed hairs. The petioles, too, are distinctly hairy, and the stems less so. Judging by the inflorescence, this species appears to be allied to C. capitatus, for, like it, the flowers are borne in a terminal umbel. The corolla is yellowish-white, but does not open so fully as it might were it not for the large hairy calyx, which clasps it for the greater part of its length. This defect may possibly disappear as the plants get older and acquire greater vigour. The species appears to be well adapted for growing in the mass, and will probably be of value used as we use several other dwarf Brooms (like Genista pilosa, G. sagittalis, &c.), as a sort of carpeting to groups and beds of taller, more sparse-habited shrubs. It is a native of the Balkans, and was, I believe, found on the Shipka Pass, hence the name by which it has become known, but which Mr. Nicholson says must give way to the older one that heads this note. *W. J. B.*

SCOTLAND.

COMMON-SENSE TEACHING OF BOTANY.

UNDER the auspices of the Aberdeen Secondary Teachers' Association, Professor Patrick Geddes, of University College, Dundee, gave, on Saturday, the 13th ult., an outdoor demonstration of common-sense botany for children. The demonstration took place at Muchalls, a pretty little fishing village on the Kincardineshire coast, some 10 miles from Aberdeen. The afternoon was, of course, spent on the rocks, and Professor Geddes succeeded in showing how a botany class can be keenly interested, while at the same time its members are receiving a maximum of scientific information. His method is not to use the outdoor excursion as an aid to the text-book, but to use the text-book as an aid to the outdoor excursion. The pupil is encouraged to observe nature as he finds it; questions as to the reason of all phenomena brought under notice are inevitable, and the answer brings to light and impresses on the mind the ground principles of the science. Professor Geddes is full of enthusiasm for the work. At his bidding the large company wandered over the rocks for several hours, listening to, and guessing at, the reason of numerous natural appearances, with the result that they became so engrossed in the subject that time was not left to finish the whole of the afternoon's programme. The company took tea in Muchalls Hotel. Professor Pirie, of Aberdeen University, presided, and Herr Hein conveyed the thanks of the branch to Professor Geddes for the charming afternoon he had enabled them to spend. The party returned to Aberdeen in the evening, highly delighted with the excursion.

FRUIT AND FLOWERING TREES.

I have recently visited several extensive gardens in different parts of Scotland, and this is the result of my observations: that while the Apples, which had the benefit of the recent providential rains, promise both here and elsewhere to bear abundant crops, other fruits, especially the Cherries and Pears, have suffered much. In my own garden, perhaps the only exception is the May Duke Cherry, which had the advantage of blossoming somewhat later than such varieties as Werder's Early Black, the Early Rivers, and the Black Eagle, which either take a long time to establish, or when grown as pyramids are not very reliable. These have not in any case been tenacious of their fruit, though perhaps this fact is largely attributable, as I have indicated, to adverse atmospheric influences. Their example has been followed by the Pitmaston Duchess and Doyenné du Comice Pears, which, while exhibiting towards the end of April a marvellous wealth of blossom, are almost destitute of fruit. The Early Crawford Pear, which Dr. Hogg thinks greatly superior to the French Citron des Carmes, and which is grown very extensively in Scotland, is somewhat more successful, but it has been longer established than several of its contemporaries of greater reputation. The Apples, however, are splendidly promising, and that is, under the circumstances, an abiding consolation. The Plum-trees have also magnificent crops, especially the Czar, the Early Rivers, and Denniston's superb Green Gage, though their foliage, having been in many instances affected injuriously by the long-continued drought, is almost insufficient, unless on sheltered walls, to fulfil the wise purpose for which it is intended—that of protecting the fruit during the period of growth from the somewhat exacting radiance of the sun. An Almond-tree, 13 feet high, transplanted from a Hertfordshire nursery to my garden in the end of March, has already developed fruit as large as an ordinary-sized Damson, but having been sent with wet soil placed around the roots, it suffered no retrogression. In any case, it has not taken long to get into perfect correspondence with its environments, and its gratifying success seems clearly to indicate that Amygdalus communis, as the variety I possess is botanically named, will not only flower luxuriantly in the south of Scotland, but also successfully develop its fruit.

I have recently had Magnolia Watsoni in bloom. The flowers are very large, of a beautiful creamy-white complexion, and exceedingly fragrant. This variety would be worth growing if only for the sake of its foliage, which is highly artistic. Does Magnolia Watsoni flower much in England? I never see it mentioned in the horticultural journals, while there are occasional descriptions of the floral impressiveness of other varieties, such as M. conspicua and M. grandiflora, which, notwithstanding the multitude of flowers which they produce, are less commanding in effect. *David R. Williamson.*

THE WEEK'S WORK.

THE FLOWER GARDEN.

By HEDLEY WARREN, *Gardener, Aston Clinton, Tring.*

GENERAL WORK.—In districts where but little rain has fallen, it may be necessary to well water those parts of the lawn which have become browned by the recent drought, especially narrow verges of grass, or those parts on the lawn where the turf was re-laid during the past season. Grass-lawns should not be mown too closely, until signs of quick growth takes place. Gravel-paths and roads should be well watered and rolled where the materials have become loose, and attention given in keeping them free from weeds.

FLOWER-BEDS, ETC.—If the surfaces have been caked by frequent waterings, lightly stir them with a hoe. Beds filled with Begonias should be slightly shaded during the hottest part of the day until the plants are established, as the foliage is liable to blister. Aloysia citriodora is already showing signs of the drought, and is being attacked by red-spider, to which it is very susceptible. The plants should be well syringed with an insecticide, and afterwards receive a good drenching of water. Garden-vases and window-boxes require to be kept in the best possible order, and all decaying foliage and flower-stems must be promptly removed. Where the boxes or vases have become full of roots, give a good dressing of artificial manure.

STOCKS. — Sowings of the perennial varieties should now be made, in order to have plants in good condition to stand the winter. The seed should be sown either broadcast or in shallow drills, on a well-drained border. A damp or too rich a soil must be avoided, and every care taken to ensure a hardy growth before winter commences, unless the plants can be wintered in cold frames or pits. As soon as the seedlings are large enough to handle, transplant them, and give each plenty of room for making growth. At the end of September or beginning of October, if the plants appear to be making too succulent a growth, a check should be given by lifting them with a trowel and again replacing them.

SWEET WILLIAMS.—These are now at their best, and by some are esteemed great favourites. A sowing of seeds may now be made, it being advisable to sow annually, if a good supply of young plants is to be kept up. Sow in the open border, and when the seedlings are large enough to handle transplant them about 6 inches apart each way. They may then remain undisturbed until the following spring, and then be removed to their permanent quarters early in the season. A packet of seed will produce a multitude of colours, but the auricula-eyed and Sutton's Harlequin are amongst some of the best varieties that can be grown.

CANTERBURY BELLS.—A large bed of these, now in flower, reminds one that attention to those plants already raised this season will be necessary, if a similar display is desired next season. Seedlings already pricked off into boxes or pans should be potted into 3-inch pots, and grown on in a cold frame for another month or six weeks, when they should be planted out in their permanent quarters; the soil in which they are finally planted out should not be too rich, it being preferable to give them a mulching of manure during the early spring.

THE HARDY FRUIT GARDEN.

By G. WOODGATE, *Gardener, Rolleston Hall, Burton-on-Trent.*

RASPBERRIES.—Remove all suckers from between the rows of canes, and examine the young growths; if more of these were left at the first thinning than will be required, reduce them further by removing the weakest. Run a piece of tar cord along each side of the rows to support the young canes, and to prevent their being damaged during the gathering of the fruit. As the fruit commences to ripen, nets should be placed over the area, and supported by string or wire at a sufficient height above the fruiting-canes, that the fruit may be conveniently picked without removing the nets.

RED AND WHITE CURRANTS. — Remove the points of the leading shoots upon these bushes, and prune the side-growths back to about 2 inches. These will also require protection from birds, and if the trees are planted in rows, a good plan is to fix a thin lath over the centre of the rows to keep the nets from damaging the top of the trees. Where the fruit on a few special trees is required to be kept for a longer period, pieces of wire-netting, 4 feet high, 1 inch mesh, placed round each tree, keeping it just clear of the fruit, and covering over the top with a small piece of fish-netting, will keep it quite secure from birds as long as it will hang on the trees. Black Currants will not require any pruning at this season, but the fruit must be protected, as advised for the red and white varieties.

GENERAL WORK.—The foliage of Pears and Cherries was severely attacked last summer with the larvæ of the sawfly, Selandria atra, but perhaps more generally known under the name of the slug-worm, being easily recognised by its black, slimy appearance. By frequently examining the trees its presence may soon be ascertained, and remedies must then be applied for its destruction. Fresh-slacked lime, finely sifted, and dusted evenly over the foliage, will invariably check its career, but a second application may be necessary. Cherry trees so attacked which are carrying a crop of fruit, should have the lime well washed off with clean water directly afterwards. All early varieties of Apples and Pears, not finally thinned should be attended to at once. These early sorts, being naturally small fruited, if not well thinned, a great part of the crop will be useless either for dessert or kitchen purposes, besides which such a crop will materially weaken the trees.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Burford, Dorking.*

CYPRIPEDIUMS.—The dwarf-growing C. niveum, C. concolor, C. bellatulum, and C. Godefroyæ are types from which several beautiful and valuable hybrids have originated. All of them luxuriate in a warm, moist stove or East Indian-house, where fresh air may circulate freely around them; they require but little shade at any time. They should be planted in pots or shallow pans, in a compost consisting of good turfy loam and fibrous peat, intermixed with lumps of sandstone or limestone-rock. Tufa-rock, in many cases, produces very satisfactory results. These plants grow naturally on rocks, and the conditions existing in Nature should be repeated as far as practicable. Their flowering season is now past, and the present is a good time to repot them. It is very essential that the fresh material be made thoroughly firm about the roots, as these have a decided tendency to cling and ramble among hard substances. All of the above species require plenty of water during the summer months, but in winter it should be applied very carefully, as the thick fleshy leaves are inclined to become spotted and diseased if over-dosed with moisture. Instead of watering them in the usual way with a can, it is preferable to stand them in a pail of water, just covering the rim of the pot, and allowing them to remain for several minutes, to ensure a thorough soaking; thus water will be prevented from lodging in the growths or axils of the

leaves. Thrips are exceedingly fond of the young foliage, and must be sought after frequently. It is always necessary to caution beginners in Orchid culture when sponging the leaves not to raise them more than is really necessary, or they will crack and cause great disfigurement to the plants.

CALANTHES.—The deciduous Calanthes of the Veitchii and vestita section are now growing vigorously, and well-rooted plants will require abundance of water at the roots; but more care will be necessary as regards those plants that are not yet well-established, or disease will result. It is a good plan to look over the plants occasionally, and place together all those that have filled their pots with roots, so that they may be treated to alternate waterings of weak liquid cow-manure. This will conduce to the formation of stout bulbs and strong flower-spikes. Previous to using the manure-water, it should be strained through a very fine sieve or piece of muslin, so as to remove all particles of solid matter, which, if not separated from the liquid, would, after a few applications, stop up the pores of the compost. Do not allow the stimulant to be too strong at first; about one part to three parts of water will be sufficient for the first few waterings, afterwards increasing it to about one-half of each. At this time many young roots will appear on the surface of the compost, and if a thin layer of lumpy fibrous loam be placed lightly over them, they will quickly root into it, and the strength of the growths will be increased. Keep the plants as near to the roof-glass as convenient.

PLATYCLINIS (DENDROCHILUM) GLUMACEA.—Now that growth is completed, it is advisable to remove this plant to the Cattleya or intermediate-house, and to afford less water to the roots. The plant will be greatly benefited by a long season of rest. An occasional syringing and sponging of the leaves will help to keep them free from red-spider. P. filiformis is now in full growth and showing its flower-spikes, and will require liberal treatment in every respect.

FRUITS UNDER GLASS.

By W. POPE, *Gardener, Highclere Castle, Newbury.*

MELONS.—There should be no delay in getting all the Melon plants that are to provide the late supplies planted, a moist, genial top-heat, and a bottom-heat of about 90° being afforded, so that the plants may start away quickly and strongly. Attend to the stopping, thinning, and tying of the shoots; syringe the foliage on bright days, except at such times as the fruit is being set, or when it is getting ripe, at which times a drier air should be maintained in the Melon-house or frames. Plants which have just finished off a crop of fruit may be retained for fruiting again if the foliage is healthy, and there is no disease of the stem. It is an advantage to fruit these plants, as ripe fruit can be obtained early from them, and the flavour is generally superior to those from fresh plants. The foliage where decayed should be removed, and lateral growths encouraged; the surface soil should be loosened, and a part of it removed, a top-dressing of fresh loam being then applied, and the whole soaked with tepid water. When the new shoots have started, liquid-manure may be freely given, and the plant treated as usual.

CUCUMBERS.—Seeds should be sown now for furnishing plants to supply Cucumbers during the autumn months. Attend well to plants now in full bearing, thinning-out exhausted growths, and laying-in young bearing wood; top-dress the soil frequently with fresh, lumpy loam, and give abundant supplies of liquid-manure, varying this kind of stimulation by occasionally top-dressing with Clay's or Thomson's fertiliser.

MANURE.—Young plants coming into bearing must not be checked in growth by being too heavily cropped, or it will be difficult to keep up a continuous supply of fruits. The Melon, when it is sufficiently ripe, should not be allowed to remain on the bine, but should be cut with a piece of the stem attached, and stored in a cool place, with the end of the stem immersed in a vessel of water; with this kind of treatment Melons keep in good condition for several days.

STRAWBERRIES FOR FORCING.—The present time should be utilised in securing early and strong runners for next season's forcing. The runners found on young plants are usually the best, and the layering should be performed before the rootlets have taken hold of the soil. With proper attention in the matter of watering, the roots will soon fill the pots; the plants may then be detached from the parents, and placed in a shady place for a few days preparatory to re-potting them into fruiting-pots of 5 inches in diameter for early varieties, 6 and 7 inches for late ones. Quite new well-drained pots should be used, and the potting firmly done with a potting-stick, care being taken not to bury the crowns in the compost, but to leave them level with the surface. Stand the plants on a bed of cinders in an open sunny situation, with sufficient space between each plant to allow of the circulation of the air amongst them. Sprinkle the foliage for a few days till established, keeping them well supplied with water after fresh roots are made, and removing runners as they appear.

PLANTS UNDER GLASS.

By JNO. MCINTYRE, *Gardener, Woodside, Darlington.*

CELOSIAS. — Pot-bound plants may be afforded a shift into larger pots previous to removing the plants to the conservatory or greenhouse. Celosias are the better for being grown in comparatively small pots, and 32's are sufficiently large for general purposes, as pots of smaller size scarcely afford enough nourishment for the plants, and the foliage then suffers.

TUBEROUS BEGONIAS.—If the plants have been raised from seed, select those that have the finest flowers for pot-culture, using the remainder for bedding-out purposes, and as all will now be more or less coming into flower, there will be no difficulty in making the selection. A final shift may be afforded those plants which are to be grown in flower-pots, the size of the pots being determined by the size the plants are intended to become. I seldom afford a larger shift than a 7-inch pot, and the bulk of my plants are cultivated in 5 to 6-inch pots.

PELARGONIUMS being among the principal flowering plants for the summer season, will require close attention and the application of liquid-manure all through the flowering season, and if farmyard or stable-drainage may not be used on account of the stench arising from it, Peruvian guano may be used instead, putting just enough into the can to colour the water slightly at each watering. By this means zonal Pelargoniums may be kept gay for a long time. Immediately the petals of a flower fall, the seed-vessel or ovary should be nipped off. This caution also holds good for Fuchsias and other plants. Specimen Pelargoniums for exhibition now at or near their best, will require a cool, span-roofed, airy house, so as to induce the production of flowers equally all over them, whereas in lean-to houses they incline to take a one-sided form unless the plants are frequently turned round. The watering of these plants must be carefully done, never allowing a plant to get dry at the root—in fact, an examination is required several times daily. As a stimulus to growth, sheep's manure used as a liquid is one of the best, and it may be afforded at each alternate watering.

FUCHSIAS, if they are wanted to flower throughout the summer, should now have filled their pots with roots, and will need abundance of water. Three times a week farm-yard liquid or guano-water should be afforded such plants, and they should not be permitted to become dry at the roots, or flowering will cease at once. The latest batch of Fuchsias should receive their final shift at about this date, the pots made use of being of 8, 9, and 10-inches according to the size of the plants. Put a generous addition of Thomson's Vine or other enduring kind of manure with the soil, and give the shoots their last stopping. The Fuchsia always does best if grown in a house that is kept rather close, and free from draughts.

THE KITCHEN GARDEN.

By C. HERRIN, *Gardener, Dropmore, Maidenhead.*

TURNIPS.—I usually make a good sowing of Turnips at this time on a piece of land that is cleared of the early Cauliflowers, in the open quarters of the garden. The ground should be deeply hoed with a draw-hoe, and a good sprinkling of soot and wood-ashes applied, which must be well worked in with a wooden rake, and at the same time all rubbish raked off. Sow the seeds in shallow drills at 12 to 15 inches apart, and if very dry, water these before sowing. The yellow-fleshed variety, "All the Year Round," is a capital one to stand throughout the winter; it takes rather longer than most Turnips to attain a usable size, but the present will be found a suitable time to sow a good breadth for winter use. Veitch's Red Globe, Snowball, or similar varieties may be sown now for autumn use.

EARLY CELERY.—The plants which were put out earliest will require to be cleared of weeds, and any suckers or partially-decayed leaves should be removed. The surface soil in the trenches may also be slightly stirred between the plants. If a little finely-broken-up old Mushroom-bed manure can be spared, this will be found an excellent mulch to spread over the trench an inch or so deep, and earthing-up may be deferred until a stronger growth has been made. Water must be applied copiously in the event of the continuance of dry weather. The foliage should be carefully watched for evidence of the Celery-fly, and the portions containing the maggot should be picked off and burnt. Dressings with insecticides are useless, but further attacks of the fly may be partially checked if the tops are occasionally sprinkled slightly with soot when the leaves are damp with dew.

BORECOLE.—Advantage must be taken of any dull or showery days for planting out Borecole in quantity. Although little rain has fallen in this district since the 10th ult., advantage has been taken of several partially dull days to get good breadths planted of curled and other Kales, autumn Broccoli, and Savoys. Before drawing the plants from the nursery or seed-beds, a good watering should be given to thoroughly moisten the soil. Drills should be drawn out previously, at 2 feet or more apart, according to the variety; planting may also be done among short-topped early Potatos, where the rows are 30 inches apart. One good watering, at least, will be necessary to settle the soil well around the roots.

OUTDOOR TOMATOS. — These have generally made a good start, and where planted against walls or fences may now be nailed in position, time having been allowed for any slight settlement since planting. A stout 6-feet stake should also be placed to each of those growing in the open border, and the main stem be tied upright to them. Keep all side-growths pinched out from these and others on walls, the most satisfactory practice being to train them in the shape of a simple upright cordon.

THE APIARY.

By EXPERT.

SWARMING AND THE STORING OF HONEY.—Having completed a ten days' tour for a County Council in the south of England, I was surprised to find in a good many instances that the bees had swarmed, and left crates of half-filled sections, which means in a great many districts that only one crate of sections will be properly filled instead of two, and, in some places three. This might have been avoided by taking proper care to prevent swarming; and this could have been done in most cases by giving more room, and allowing extra ventilation and cutting out queen cells. If the bees persist in swarming after these precautions have been taken, the queen should be taken from them and returned to the parent stock, as the honey season is drawing to a close, and the bees having very little to collect from, excepting the flowers of the Lime which are just coming into full bloom; they should be kept at work while there is the least chance of honey gathering.

SECTIONS will not be so plentiful this year, as numerous bee-keepers have gone in for extracted honey, because they find in many places there is a better sale for run-honey, so that those who are fortunate enough to have a good number of well-filled sections should be able to command a good price for them, if they are not placed on the market too quickly, which is a great mistake, particularly in a district where a lot of bees are kept. A word about using super-clearers: be careful that the spring in the clearer works properly, otherwise the bees cannot escape; and see it is not propolised. Should this be the case, place it in a little hot water for a few moments, which will soon take away any sticky substance that may be adhering to it. The present is a good time for those who wish to increase their stocks to look around and get the promise of bees from the cottagers, who would sooner have their bees driven and taken away rather than destroy them—a very cruel practice, when one takes into consideration the hard work the bees have done.

FOUL BROOD.—Take care in increasing your stock that no disease of this nature exists, and always take the precaution of keeping a little napthaline in the hives; and should you notice any disease in the combs, destroy the bees—it is not worth the risk to keep them, particularly if you have a large number of hives.

SECTIONS THE RIGHT WAY UP.—On taking off sections and storing away, be careful to keep the section the same way up as they were taken from the crate, otherwise the honey will frequently run out, and a few leaky sections will spoil a good number of others, and this loss may be avoided by taking care.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the **PUBLISHER.**

Letters for Publication, *as well as specimens and plants for naming, should be addressed to the* **EDITOR, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

APPOINTMENTS FOR THE ENSUING WEEK.

SATURDAY,	JULY 4	National Rose Society's Exhibition at the Crystal Palace. Isle of Wight Horticultural Association Meeting. Société Franç. d'Hort Meeting.
SUNDAY,	JULY 5	Royal Horticultural and Agricultural of Ghent Show.
TUESDAY,	JULY 7	Wolverhampton Floral Fête (three days).
WEDNESDAY,	JULY 8	Newcastle-on-Tyne Summer Show. Rose and Horticultural Shows at Hitchin, Lee, Redhill, Canterbury, Tunbridge Wells, and Wimbledon. Royal Botanic Society Promenade.
THURSDAY,	JULY 9	Rose and Horticultural Shows at Worksop, Helensburgh, Woodbridge, and Aylesbury. Canterbury Hospital Fête and Flower Show.

SALES.

FRIDAY,	JULY 10	Orchids and Palm Seeds at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK—63° 2.

Agricultural Statistics.

THE Department of Agriculture has recently issued its Year-Book under the title of *Agricultural Returns for Great Britain*. In this are shown the acreage and produce of crops, price of corn, and number of live-stock, and other agricultural statistics for the United Kingdom, British Possessions, and foreign countries for 1895. Very much of the contents of this volume has already appeared in the *Trade and Navigation Returns*, issued each month by the Board of Trade, and noticed by us on each occasion in a very abbreviated but withal comprehensive form. There is an enormous mass of figures within the covers of the book, which will be found of great interest to agriculturists in view of the heavy competition to which the industry is subjected from almost every quarter of the globe. Outside of all this interesting matter there are some items which concern the readers of this journal, and one of the first in the volume refers to the acreage of orchards and market gardens respectively as returned on the 4th of June in the year 1895 and 1894, in each county of Great Britain, &c., of which the following table gives a sufficient outline:—

Country.	Orchards.		Market Gardens.	
	1895.	1894.	1895.	1894.
	Acres.	Acres.	Acres.	Acres.
England	212,963	208,821	85,298	81,057
Wales	3,564	3,509	1,395	1,367
Scotland	1,901	1,857	6,044	5,786
Great Britain ...	218,428	214,187	92,837	88,210
Isle of Man ...	79	35	208	190
Jersey	1,020	981	97	103
Guernsey, &c. ...	237	258	50	82

The following summary is self explanatory:

Acreage of Woods and Plantations, and of Nursery Grounds.

Country.	Woods and Plantations.	Nursery Grounds.
	Acres.	Acres.
England	1,665,741	11,634
Wales	181,610	264
Scotland	878,765	1,392
Total for Great Britain ...	2,726,116	13,290

Concerning Potatos, there has been an extension of 7 per cent. in the acreage under this crop, bringing the total up to 541,000 acres. The report says, it is not without interest to observe, in the light of the low values ultimately realised for the product of this crop, that (according to the collectors' reports) alike in Kent, Cambridge, Bedford, and Lincoln, as well as in Cheshire and the West Riding of Yorkshire, the larger area planted in 1895 was ascribed mainly to the good prices that had been realised for the preceding crop. The extension of 1895 was, however, no doubt, in part at least, a recovery from the unusually small area planted in 1894.

Respecting Hops and small fruits, the area under the former last year was 59,000, a slight reduction of one per cent., and this in Kent. The cultivation of small fruits appears to be extending in Great Britain, the 68,400 acres of 1894 having become 74,500 in 1895. The figure now reached is more than double that recorded in 1888. Kent still devotes the largest area to small fruits, returning no fewer than 22,000 acres, or nearly one-third of the total, Middlesex and Worcestershire follow in size of area, but in these counties only between 3,000 and 4000 acres of small fruits have as yet been returned.

There has been a lament through the great diminution of the acreage in Wheat, but Barley, Oats, and various other crops are extending their areas, and small fruits evince a tendency to bulk more largely in the agricultural yearly balance-sheet. A much better system of gathering and distributing the produce generally is sadly wanted. County Societies, and District and Parish Councils should endeavour to secure a better share of profits for the producer than he now obtains.

Nepenthes.

M. JULES RUDOLPH has lately issued a cultural monograph on the species of Nepenthes. It has been premiated by the National Horticultural Society of France, and is now published separately by M. OCTAVE DOIN. A list of the species and hybrids is given, with details as to their culture, details which are likely to be very serviceable to cultivators. A few slips may, however, be pointed out; for instance, Mr. DOMINY was never connected with Glasnevin, and, of course, never raised any hybrid Nepenthes there. No mention is made, so far as we see, of Sir JOSEPH HOOKER'S finely illustrated monograph of the genus in the *Transactions of the Linnean Society*; nor of Mr. BURBIDGE'S remarks on this genus, nor on the species collected by him in Borneo.

M. RUDOLPH alludes to a curious degeneration of the hybrid N. Mastersianus ×, which we have not heard of in this country. The plant is propagated by cuttings or by layers, and is, according to M. RUDOLPH, so subject to degeneration, that only those who are the fortunate possessors of plants raised from the original seed can rely on the perpetuation of the special characters of the plant in all their beauty. This is an extraordinary statement, and quite contrary to the usual experience of gardeners with other plants. One does not see why Nepenthes should prove any exception to the rule. In any case, further evidence is required before we can accept such a statement as established.

As to the digestive power of the juices of Nepenthes, it is known that Professor VINES many years ago extracted a peptic ferment from Nepenthes. The fact confirmed by GORUP-BESANEZ, and others, has been disputed by DUCHARTRE and RAPHAEL, who attributed the dissolution of the nitrogenous matters introduced into the pitcher to the putrefactive action of bacteria. If so, of what use can the complicated arrangement of traps and secreting glands be?

From this point of view it is interesting to cite what Professor VINES says in the current number of the *Annals of Botany*, a publication just issued, and which therefore Mr. RUDOLPH cannot have seen. Professor VINES there says (p. 292) that he has repeated the experiments he made in 1876; and "that, so far as the work has been carried out at present, the results completely accord with those at which I arrived twenty years ago."

RHODODENDRON SMIRNOWII. — This is undoubtedly one of the most interesting species of Rhododendron which has been added to our collections of these plants in recent years (see fig. 5). It is a native of the Caucasus, and seeds of it were sent to Kew from the St. Petersburg Botanic Garden in 1886. The plants thus obtained flowered for the first time in May, 1893, and have flowered with increasing freedom each year since. The species is in many respects quite distinct from any other Rhododendron in cultivation, except its near ally and neighbour, R. Ungerni, which was found at the same time. Considering the size of the leaves, flowers, and inflorescence, it is remarkable for its dwarfness. Some of the plants at Kew, although ten years old, are still only 6 or 8 inches high, and not one is more than 18 inches in height. There are, of course, plenty of species of Rhododendron which at that or even greater age would be no taller than these, but none, so far as we know, producing trusses that in size and beauty compare favourably with many named garden varieties. This character suggests the possibility of obtaining by hybridisation a new breed of Rhododendrons of a more dwarf and compact habit than any of the garden varieties, and yet equalling them in the beauty of the flowers. Several crosses have, as we learn, been made at Kew between R. Smirnowii (as the seed-bearer) and the finer garden varieties, and some distinct-looking young plants have been obtained. The leaves of R. Smirnowi are narrow-oblong or obovate, blunt at the apex, the largest being 5 inches long by 2 inches wide. When young the lower surface is covered with a white, felt-like covering which with age becomes pale brown. The upper side, too, is covered with a similar substance, but it is easily rubbed off, and the surface soon becomes glabrous. The leaf resembles more closely that of

the Himalayan R. niveum than any other in cultivation. The flowers are borne in large, rounded trusses, the corolla being of a bright, rosy purple, and from 2 to 3 inches in diameter. The species is perfectly hardy. Our illustration is from a plant that flowered at Kew.

Royal Horticultural Society.—A special meeting of the Fruit and Vegetable Committee was held in the Chiswick Gardens, on June 29. Present: Mr. J. Wright, chairman; the Rev. W. Wilks, Secretary; Messrs. Balderson, J. Smith, J. Willard, W. Farr, A. Dean, G. Sage, J. R. Laing, and J. T. Miles. A large number of mid-season and late Peas, generally in excellent condition, were seen. These included some older varieties for comparison of newer ones. The following were selected for the award of three marks, the lack of the full quorum of eleven members preventing the awarding of Merit Certificates: Sutton's Prizewinner, a very fine dwarf Marrow, and Eureka, 3 feet, having good sugary flavour; also Carter's Michaelmas, 3½ feet, a capital late variety, and excellent cropper. Hero of Trowbridge, 4 feet, good. Boston Unequalled (Johnson), a very fine 3½ feet variety. Lord Granby, of medium height; Ne Plus Ultra, Lord Mayor, 5 feet high, having superior quality. The Gladstone, 3 feet, carrying long curved handsome and well-filled pods; and Vilmorin's Tall Butter-Sugar Pea, a free cropper, pods of the ordinary size of shelling Peas. Pods of this latter were cooked whole and pronounced excellent.

Turnips next claimed attention, the later sorts of a very extensive collection being now mostly ready. Of these, three marks were awarded to Jersey Lily (excellent for summer growth), Veitch's Red Globe, Sutton's Early Snowball, Cattell's Silver Ball, the Flat Forcing, and Green-top Stone. It was desired that seeds of all the later or winter varieties be shown again in August. Also that the Early Long-pointed be recommended at the next Drill Hall meeting for an Award of Merit.



Fig. 5.—Rhododendron smirnowii: flowers rosy-purple, leaves downy on the under surface. (see p. 14.)

The Royal Gardeners' Orphan Fund.—The monthly meeting of the executive committee was held on the 26th ult. at the Horticultural Club, Hotel Windsor, W. Marshall, Esq., presiding. A letter was read from Mr. Robert Tait of Manchester, announcing that an entertainment proposed to have been given by the Manchester Gardeners' Association on behalf of the Fund had been abandoned

consequent upon the death of Mr. BRUCE FINDLAY, but stating that a sum of £50 would be forwarded in lieu thereof. A report of the annual dinner was made by the Secretary, Mr. A. F. BARRON, who further announced that the subscription-list was expected to reach a sum of £900. Orders were given for the payment of the quarter's allowances to children, amounting to £217 11s., and to discharge other accounts. The usual vote of thanks was passed to the chairman for presiding.

THE NATIONAL PINK SOCIETY (MIDLAND SECTION).—Mr. C. F. THURSTAN, the Hon. Sec. of this Society, has just issued an intimation to the effect that no exhibition will be held this season in connection with the Wolverhampton Floral Fête on July 7, owing to the bloom being over, as a consequence of the warm, dry spring. For a few years past, Pinks have formed a part of the diversified display made at Wolverhampton on the occasion of the July exhibition, and many will regret the absence of this fragrant flower for the reason above stated. The Pinks were in flower in the South much earlier than usual, and at a time when it was very hot and dry, consequently the duration of the bloom was a very short one.

A FARM-SCHOOL FOR BEDFORDSHIRE.—On Tuesday morning the Bedfordshire County Council accepted the invitation of the Duke of BEDFORD to inspect his experimental fruit-farm, and also the farm-school which the County Council, by his Grace's liberality, has been enabled to establish at Ridgmount in that county. His Grace has placed at the disposal of the Technical Instruction Committee of the County Council a farm of 275 acres, 149 being arable land, and the rest grass; and also erected the necessary lecture-rooms, dormitories, and other buildings, for the accommodation of twenty boys, who are granted free scholarships by the County Council, entitling them to two years' board, residence, and instruction in the science and practice of farming at the school. The two principal officers are a house-master and farm manager, who hold high qualifications for their positions. Every branch of farm and garden practice is taught by precept and with models and specimens in the school, and by actual work on the farm, in the dairy, the poultry-yard, the garden, and the farmstead generally. The premises are completely equipped with the newest implements, and well stocked, while various crops are cultivated. The proximity of the fruit farm and the Woburn experimental station also present opportunities of giving instruction. The boys are the sons of agricultural labourers or small farmers. Inaugural speeches were delivered on Tuesday, with Mr. H. BLUNDELL (chairman of the instruction committee) presiding, supported by the County Council, and Mr. THEODORE HARRIS, who has taken a deep interest in the scheme. The institution is modelled on the lines of similar school-farms on the Continent, which were carefully inspected and reported upon by the organising secretary of technical instruction three years ago. The Duke of BEDFORD was heartily thanked for his generosity in assisting to establish an institution which is believed to be unique in this country. *The Times*, *July* 1.

SOCIETY OF ARTS.—The Council have awarded the Society's Silver Medal to the following correspondents of this journal who have read papers during the Session 1895-96. At the ordinary meetings:—To Dr. D. MORRIS, C.M.G., M.A., for his paper on "Bahamas Sisal Industry;" to EDWARD W. BADGER, for his paper on "Fruit and Vegetable Drying;" to G. SCOTT ELLIOT, for his paper on "The Commercial Prospects of English East Africa and British Central Africa."

"A TRAVELLER'S NOTES."—Many of our readers will remember the series of letters from Mr. J. H. VEITCH which appeared in our columns in 1891-94. They gave the details of a more widely extended and continuous tour than is furnished by the annals of horticulture. Mr. VEITCH's object was specially horticultural; he desired to see the conditions under which the plants cultivated here grow naturally, and he was anxious to visit all the gardens, public and private, scientific, or commercial, that came in his way. How faithfully he carried out his object, with what careful attention to detail he made his notes, his letters gave ample testimony. These notes have now been collected in the form of a handsome quarto volume, richly illustrated with photographic and other illustrations, many of them taken by the author. In this manner the general features of the vegetation and of the gardens of Ceylon, North-west India, Bengal, Malaya, Java, Hong-Kong, Canton, Japan, Corea, Queensland, West Australia, South Australia, Victoria, New South Wales, and New Zealand, are passed in review. The photogravures are excellent. A word of praise must be given to the printer for his share of the work. A route-map and a good index complete a work which is not only of present interest, but which will be of value for reference to future generations. The book is for private circulation only.

INTERNATIONAL AGRICULTURAL CONGRESS, BUDA PEST.—A Congress will be held in Buda Pest from September 17 to 20, 1896, with the sole object of enquiring into the causes of the agricultural depression, and as to the means of remedying it. The discussions will be held in the three following categories:—I. Production; II. Commerce and Traffic; and III. Customs and Credit.

EDINBURGH SCHOOL OF RURAL ECONOMY.—A copy of the Syllabus of the Edinburgh School of Rural Economy for the Session 1896-97 has now reached us. These classes, which are under the care of an influential board of management, appointed jointly by the University of Edinburgh, the Highland and Agricultural Society, the Edinburgh Town Council, and the County Council of Mid-Lothian, have met with great success, and have been highly appreciated, over 200 students having attended them last year. The courses of instruction arranged for the Session 1896-97 are similar to those of last year. Their main features are:—1. A Two Years' Curriculum of Day Classes in Agriculture and allied sciences; 2. A Course of Day Lectures on Forestry in the University; 3. An extensive series of Evening Classes on Agriculture and allied sciences, embracing Horticulture and Forestry; and 4. The usual Summer Vacation Classes for Schoolmasters, which have been well attended. The day classes extend over two Sessions, each beginning in October and ending in March. It is expected that those entering for these classes will have previously completed a good general school training. The work of the First Session, embracing Mensuration, Mechanics, Elementary Physics and Chemistry, Botany, Book-keeping, Drawing, and Handicraft, practically completes the preliminary education of the student, and gives him an adequate knowledge of the elements of the sciences that have a direct bearing on agriculture. At the same time his interest in the practical aspect of his work is maintained by such class exercises as those in measuring buildings and fields, in making drawings of these to scale, in woodwork, and in the application of physics in agriculture. The subjects of study in the second session are Agriculture; Agricultural Chemistry, Botany, Zoology, and Entomolgy; Veterinary Science and Forestry. The complete course thus aims at fitting a young man to enter with intelligence into his work as a farmer, a gardener, or a forester. It should enable him to understand the greater part of the work that he will see in practice, and to study for himself any special subject that he may afterwards find to be of importance to him. A student who has satisfactorily completed the two years' course of study, and who has had the required experience of practical work on the farm or in the forest, should find himself sufficiently prepared for the Examination for the Diploma of the Highland and Agricultural Society. Numerous and varied evening classes are provided for those who are otherwise engaged during the day. A specially moderate scale of fees has been arranged. This will be indicated by the fact that the inclusive fee for the first year's entire course in agriculture is five guineas. Copies of the Syllabus are to be had from the Secretary of the University Court, Edinburgh, or from the Secretary, 3, George IV. Bridge Edinburgh.

THE READING AND DISTRICT GARDENERS MUTUAL IMPROVEMENT ASSOCIATION.—A party of about one hundred members assembled on Thursday evening to inspect the trials of culinary Peas, Sweet Peas, Potatos, &c., at Messrs. SUTTONS' grounds. The party being a large one was divided, one portion going to view the culinary Peas first, the other to inspect the Sweet Pea trials. The trials of culinary Peas is a very extensive one, and number 590 in 334 varieties. It being early in the season, only the first and second earlies were seen at their best. The Peas are cultivated under ordinary conditions; they had not been afforded any artificial watering, and old varieties are found growing alongside of the newest, thus affording an excellent opportunity for comparisons. Sutton's Seedling and Excelsior are large podded, first early, wrinkled Peas; and the variety Bountiful, was spoken highly of for early supplies by those of the visitors who had grown it. Among late Peas, two or three of the Duke of Albany type, attracted attention. The Sweet Peas consisted of 125 trials, all represented by different names, and filled 350 rows of 16 feet in length.

PROPOSED BOTANICAL MUSEUM FOR ABERDEEN.—The Aberdeen Burgh Committee, at its meeting on Friday afternoon, 26th ult., had under consideration a letter from Professor J. W. H. TRAIL, Aberdeen University, containing a proposal for the establishment of a museum as an aid to teachers who endeavour to give their pupils instruction in nature; knowledge such as it ought to be, and not merely from books, and from which the teachers could borrow. Such a museum could be formed for a comparatively very small sum. Dr. TRAIL intimated that he would gladly advise and assist, if the committee sanctioned the proposal to begin such a collection. Dr. TRAIL appended a list of the specimens required. In contending for his proposal at the meeting, Dr. TRAIL maintained that such an institution would give pupils intending to go to the University, a grounding which would be very useful. An informal discussion ensued, and although favourably viewed, the matter was deferred.

ACORUS CALAMUS.—This fragrant Aroid is not uncommon along the banks of the Thames and of the canals in certain parts of Middlesex, so that no suspicion of its not being truly a native is entertained by many. PARKINSON, however, *Theatre of Plants*, p. 140, says:—"These Reeds are strangers, not growing with us, we having no further knowledge of them." With reference to this plant, the following incident may be mentioned:—Many years ago a Kentish farmer had occasion to consult a London physician. The doctor, amongst other things, prescribed some preparation of Acorus calamus. On the farmer asking how and where he could procure the drug, the physician said, "You go and ask Mr. M—— of Canterbury, and he will tell you." The farmer did so; received precise indications as to where the plant might be found, when the farmer replied, "Why, the house you mention near the pool where the plant grows is the house wherein I live!"

"THE STURTEVANT PRELINNEAN LIBRARY OF THE MISSOURI BOTANICAL GARDEN."—This is a catalogue (reprinted in *brochure* form from the seventh Annual Report of the Missouri Botanical Garden) of such volumes, published previous to the year 1753, as were given to the garden by Dr. E. LEWIS STURTEVANT in 1892. The books are, of course, all devoted to botanical and horticultural subjects, and include an extraordinarily rich collection of herbals, natural histories, and medical botanies in many languages, the whole forming an interesting and valuable collection upon the acquisition of which the garden is to be congratulated.

"THE SOURCES OF PLANT-FOOD."—This little book contains a paper read before the Manchester Horticultural Improvement Society by E. GRIFFITHS HUGHES. The scope of it may be gathered from the sub-title, which mentions that the book includes "detailed analyses and experiments showing the dominant mineral elements which govern the growth of plants, and the development of fruit, flowers, and vegetables." It is further intended as a guide for amateur and practical gardeners, to enable them to understand more thoroughly the theory and practice of fruit and flower cultivation. Some of the pages of this treatise are devoted to a paper upon plant-cleaning, the subject being, of course, insect pests and diseases, and how best to combat them.

"CARNATION CULTURE FOR AMATEURS."—An illustrated handbook bearing the above title has lately been issued by Mr. B. C. RAVENSCROFT (publisher, L. UPCOTT GILL, 170, Strand). The little volume contains instructions for growing Carnations of all classes in the open ground and in pots, with somewhat scanty notes on insect foes and diseases. Various illustrations elucidate the book, which may be commended to the notice of amateurs as likely to be very serviceable to them.

"THE DISTRICT COUNCILLOR'S HANDBOOK," by J. C. SWINBURNE HANHAM (London: SHAW & SONS, Fetter Lane and Crane Court, E.C.). This volume is devoted, as the title implies, to such information as may be useful to District Councillors. It treats of the office, qualification and election of these officers; of their duties, powers and fees; and may be commended to the notice of those to whom it is addressed as containing valuable hints for their guidance.

STERILIZED MUSHROOM SPAWN.—According to the *Bulletin d'Arboriculture* for June, the Pasteur Institute in Paris is now working in the interests of horticulture. It now, in fact, offers to the horticultural public Mushroom spawn in two forms; sterilized, and in its normal condition, analogous to what French Mushroom growers know as *blanc vierge*. The sterilized spawn is an entirely new product obtained by the germination of the fungus spores. This is pure, free from any other fungus spores but those of the Mushroom. It is raised from picked Mushrooms remarkable for size of productive and marketable properties. The Pasteur Institute undertakes to provide any variety which the grower wishes to have, and, if the Mushroom-fancier has any variety which he wishes to propagate, the Institute undertakes to secure the germination of that Mushroom of which he wishes for spawn. It will thus raise to order special spawn in as large a quantity as may be required. The sterilized spawn yields rapid, regular, and considerable produce. It can be prepared in unlimited quantities.

MR. H. W. WARD.—After filling the position of head gardener at Longford Castle, Salisbury, for a period extending over twenty-five years, eighteen years under the late beloved Earl of RADNOR, and seven under the present peer, Mr. WARD, as we are informed, has felt it advisable to resign his appointment, and is consequently at liberty to accept a fresh situation where a good staff of men is kept, and where gardening is carried on with spirit; or to undertake the management of a smaller place as steward and gardener. During his quarter of a century's management of Longford Castle gardens, Mr. WARD has made them what they are—one of the best known in the United Kingdom. During that period of time also he has superintended the erection and heating of pretty nearly all the glass-houses, including a range of Orchid-houses, extended the famous Italian flower-garden, and considerably extended and beautified the grounds, &c., besides winning for Longford Castle at leading metropolitan and provincial shows the reputation of being a good fruit and vegetable-growing establishment. With such a record, it is to be hoped that Mr. WARD will not be long without the employment for which his capacities eminently fit him.

A NEW STRAWBERRY.—Fruits of a new Strawberry were brought by Messrs. J. VEITCH & SONS before the Fruit Committee of the Royal Horticultural Society's meeting on the 29th ult. at Chiswick. The fact that the next meeting at the Drill Hall does not take place until the 14th inst., a period of fifteen days later than the Chiswick meeting, was pleaded in extenuation of this unusual course, and cordially accepted. The variety in question, which rejoices at present in the somewhat grandiose appellation of "Majestic," is the product of a cross between British Queen and Waterloo. It is one of Mr. SEDEN'S raising, that experienced hybridist having occasionally dealt with fruits, as a change from Orchids. His first production in that direction seems to have been singularly successful. The fruits of this Strawberry have the round or semi-pointed form, and generally the deep colour of Waterloo, and all the flavour of British Queen; indeed, as a completely ripened or finished Strawberry, it was declared to be one of the richest-flavoured in cultivation. The variety is a large cropper, has the Queen erect foliage and form, with the Waterloo greenness. It is distinctly a late variety. The committee agreed to recommend at the next Drill Hall meeting that a First-class Certificate be awarded to it. We suggest that a more fitting appellation would be "Harry Veitch."

SOME NOTES ON ROSES SHOWN AT READING.—At the Rose show held by the National Rose Society at Reading on the 24th ult., no fewer than 3,980 blooms were staged in competition in the classes devoted to hybrid perpetuals, hybrid Teas, Teas and Noisettes, or 320 more blooms than at the Gloucester exhibition last year. Consequently, the Reading show was the largest provincial exhibition ever held by the society in the south of England. With the exception of those at Birmingham in 1890, and at Derby in 1895, it was, moreover, the most extensive show that has as yet been held by the society in any part of the kingdom, if we except the metropolitan exhibitions at South Kensington and the Crystal Palace, where the classes open to exhibitors were, as a rule, nearly twice as numerous. *Edward Mawley, Hon. Sec., N.R.S.*

THE CEDAR FORESTS OF MOUNT MLANJE.—One of the earliest acts of Sir H. H. JOHNSTON'S administration as Commissioner in British Central Africa was to declare the great mountain mass of Mlanje, in the south-eastern corner of the British territory, Crown property. The Commissioner's main object in doing so was to protect the remnants of the magnificent Cedar (Widdringtonia) forests that were still found on Mlanje, and that this policy was a wise one is shown by the report which has just been addressed to the Commissioner by Mr. JOHN M'CLOUNIE, who is in charge of the Government's forests in that district. In this report Mr. M'CLOUNIE says:—"I have now been all over the Ruo plateau and the Luchenya, and the Likubula gorge, and the Tuchila plateaux. The district round the source of the Tuchila is by far the best and most timbered part of the mountain. A few straggling trees are seen near the source of the Ruo, and only one of any size, while the Luchenya is dotted with Cedar along its slopes. The Likubula is well wooded, but the forests are almost inaccessible. On the plateau round the source of the Tuchila the ground is covered with compact Cedar forests, and may be estimated at 700 to 800 acres, on that around the Likubula about 200 acres, and a further 100 acres round the Luchenya. Giving the number of trees to the acre as 150, the total number of full-grown existing trees should stand at 150,000, with an average of 40 cubic feet of timber each. At the present value of 3*s*. per cubic foot the total value of these trees would be £900,000. But if this timber was sold, as it ought to be, at 6*s*. a cubic foot, the wealth would be doubled. As I have gone all over the woods, and noticed quantity and quality, these figures may be taken as near the mark. It is no exaggeration to say that five or six years' more delay in the assumption of control over the remaining patches of Cedar forest would have meant the entire extinction of this unique Conifer, which there is abundant evidence to show was once indigenous to all the high mountains and plateaux in the southern part of British Central Africa. Up to the present I have cut up nothing but dead wood which, in most cases, is in good, seasonable condition. The supply of timber yearly might be considerable, and not materially affect the forests for many years, especially as there are large numbers of young trees growing up in all the woods which must now be protected from fire. I have this season sown a large quantity of Cedar-seed, which should be ready in a year to transplant. The ground to be planted must be thoroughly hoed and cleaned to remove grass, &c., and prevent fires." *Times.*

TRENTHAM HORTICULTURAL SOCIETY.—We are requested to announce that the Trentham Horticultural Society's show will not be held this year, owing to the County Agricultural show being fixed to take place at the same date at Longton, of which place the Duke of SUTHERLAND is the Mayor.

CATTLEYA LABIATA WARNERI.—There are now flowering at Laeken, near Brussels, in the gardens of H.M. the KING of the BELGIANS, under the care of Mr. KNIGHT, eight plants of Cattleya labiata Warneri carrying 179 flowers, on fifty-eight flowering bulbs. One plant with twelve flowering bulbs has forty flowers. This is generally considered a shy-flowering Cattleya, but it is simply magnificent as here shown. Any one who wishes to see them may do so on application to the Superintendent of the Royal Gardens, Laeken.

EDINBURGH CHAIR OF BOTANY.—In the House of Lords on Tuesday, June 30, a bill was read a second time which has for its object the transference to the Crown of the right of patronage to the Chair of Botany in the Edinburgh University which is now vested in the curators of patronage. It has hitherto been usual that with the Chair of Botany the professor should hold the office of curator of the Botanical Gardens, an office which was in the patronage of Her Majesty, and unless arrangements were made between the appointing parties considerable inconvenience would ensue. It was in the interest of the School of Botany that the same person should hold both offices, and with a view to facilitate this a departmental committee had recommended that the transfer proposed should take place, and the proposal had been agreed to by Her Majesty, the treasury, and all others who were interested.

GOREY ROSE SHOW.—The Gorey Rose Show was held in the grounds at Mr. CLIFFE OWEN'S residence, at Knockmullen, on Tuesday, June 23. The fixture was only established last year; and though it is conducted on a somewhat unpretentious scale, it has contracted considerable attention amongst the Rose-growers of the north of the county, as was shown by the number, variety, and beauty of the flowers exhibited on Tuesday. The Earl FITZWILLIAM, Coollattin Park, lent a splendid tent, and flowers were sent for exhibition by Mr. W. DIXON, Bellmount (who acted as judge), Mr. STEELE, of Earlswood, and Mr. WILSON, of Shillelagh. The fine collection of Roses, Begonias, and Orchids of the first named gentleman were a centre of attraction, while the contributions of the two latter were also much admired. The Earl of COURTOWN lent some plants for the decoration of the tent. The band of the Wexford Regiment, which was in attendance, played a choice selection of music during the day. The Roses were not up to the standard of last year, a fact which is, however, wholly attributable to unfavourable weather. On the whole, Messrs. GEORGE MERCER and CLIFFE OWEN are to be congratulated on the result of their efforts. *Extract from the Enniscorthy Guardian.*

FLOWERS IN SEASON.—A correspondent residing at Reading, Mr. S. KEMONGER, sends us some very pretty, fragrant flowers of seedling Carnations, raised from seeds sown, so he tells us, about a year ago. Everyone with space at command should grow

Carnations from seed, for the produce is sure to be varied and pretty, the plants strong, and the blooms abundantly produced; there is, moreover, the excitement of waiting for the opening of the flowers, and, may be, securing a flower of the first water.

PUBLICATIONS RECEIVED.—*Annual Administrative Report of the Forest Department, Madras Presidency, for the Year ending June* 30, 1895.—*Bulletin of the Botanical Department, Jamaica*, edited by WILLIAM FAWCETT. Among the contents are: Notes on Citrus Fruits, Synoptical List of Ferns, continued; Sarsaparilla, and other papers.—*Farmers' Bulletin, No.* 38, U. S. Department of Agriculture; "Spraying for Fruit Diseases," by B. T. GALLOWAY.—*U.S. Department of Agriculture, Division of Entomology;* some Mexican and Japanese Injurious Insects liable to be introduced into the United States.—New York Agricultural Experiment Station, *Bulletin No.* 100, "Combating Carnation Rust," by F. C. STEWART.—*Bulletin No.* 101, "Potato Diseases of Long Island in the Season of 1895," by F. C. STEWART.—*Minnesota Botanical Studies.—Bulletin No.* 9, *April* 30. Contents:—"Distribution of the North American Helvallales," LUCIEN M. UNDERWOOD; "Physiology of Root-tubers of Isopyrum biternatum," D. T. MCDOUGAL; "Plants Collected by Dr. J. H. SANDBERG in Northern Minnesota," J. M. HOLZINGER; "Changes in Dry Weight of Leaves of Helianthus," S. THOMPSON and W. W. PENDERGAST, &c.—*Vegetations, Biologic von New Iceland*, Von L. DIELS.—*Bulletin No.* 132, Michigan State Agricultural College Experiment Station: "Some Injurious Insects," by G. C. DAVIS.—*Ros Rosarum*, by E. V. B., 2nd edition, ELLIOT] STOCK.—*Arboriculturists and Others in North Germany*, MACFARLANE & IRSKINE.

PLANT PORTRAITS.

BEGONIA GLOIRE DE LORRAINE, *Garden*, June 6.

BEGONIA GLOIRE DE LORRAINE, *Illustration Horticole*, May 30, Pl. lviii.

DEUX PRUNES ANGLAISES.—Prince of Wales and Rivers' Early Transparent Gage. *Illustration Horticole*, June 15, Pl. lix.

GLADIOLUS HYBR. KONINGIN WILHELMINA, *Tijdschrift voor Tuinbouw*, Pl. vi.

BOOK NOTICE.

GARDENERS AND CRICKET.

WE hear little now-a-days of those who follow the gardening profession distinguishing themselves in any branches of sport. This is probably owing to the fact that recreation outside the limit of the sphere of a gardener's labours is practically impossible, since plants, like children, require constant attention; and this was never more apparent than at the present day, when our greenhouses, conservatories, and hot-houses are stocked with plants from almost every part of the world.

We have in our mind the names of a few prominent gardeners who delight in the good old English game of cricket, and it is interesting to be told that over a century ago three of the most celebrated cricketers of the day were gardeners in large establishments. A dainty little volume that has just come into our hands, entitled *Annals of Cricket*, by Mr. W. W. Read, a famous Surrey player, contains some curious descriptions of these "wielders of the Willow."

Edward Stevens was gardener to the Earl of Tankerville at Walton-on-Thames, was also the most famous bowler of the day, from 1760 to 1790. He is said to have had an eye trained as straight as a plant, that he could pitch a ball 22 yards' distance, and hit a daisy four times out of six attempts. He was nicknamed "Lumpy," on account of his solid build. About the same time H. Minshull and W. Rumney were famous cricketers; both were in the gardens at Knole Park, Sevenoaks, at that time the seat of the Duke of Dorset. These men used to be taken about by their employer to play in different counties, a proceeding that may have been very well for cricket, but must have been extremely tantalising to the head-gardener. Minshull is stated to have been a very fine batter, but as conceited as a wagtail. If description goes for anything, another leading player, in the person of Tom Taylor, must surely have been associated with some horticultural pursuit, for he is measured-up as "a country clod-stumper, with a wilted applejohn face, and skin like the rind of an old Oak, and quite as sapless." He was a regular Daisy-cutter. George Brockwell and Daniel Hayward were giants at the game some fifty years ago. They were both famous in the history of Surrey cricket, and the latter, who put in his gardening apprenticeship at Mitcham, became noted for his abilities in cricket parlance as "an exceedingly showy hitter" and "fast field."

The book contains many illustrations of past and present cricket fields, and also an instructive chapter on the management of a cricket ground (2*s.* 6*d.*, Sampson, Low & Co.).

LEADER STRAWBERRY.

THE number of new varieties of Strawberries is constantly increasing, and in some of them there are points which will tend to keep them in cultivation for a long time. Messrs. Laxton, of Bedford, have been noted for many years past for the general excellence of the Strawberries of their raising, and in the present instance they are sending out in Leader a variety of fine appearance, prolific, and admirably adapted for forcing as a second early. They inform us that it is excellent for outside culture. Our illustration (fig. 6), which shows the plant and fruits of less than half size, was taken from an example sent to us for our inspection on the 2nd ult.

HOME CORRESPONDENCE.

PLANT NOMENCLATURE.—The recent publication of the *Index Kewensis*, has caused much discussion upon this subject. It seems to me that the names of plants are becoming more confused year by year. Disregarding the utter confusion which exists in the names of garden varieties, could not some steps now be taken so that there may be only one name recognised for each species of plant? Now, what are the steps to be taken? I would suggest that the Royal Horticultural Society should pass a resolution declining to recognise a plant under any other name except that under which it is catalogued in the *Index Kewensis*. Could not nurserymen, too, agree only to apply to a plant the name under which it is designated in the above work? Could not you and the editors of other horticultural publications come to a similar agreement? I am well aware of the difficulties in the way of bringing about this result. At the same time, taking into consideration the advantages which would be conferred, and the confusion which would be saved, is it not now worth making a determined effort in this direction, now that we have a standard work to which we can refer? *E. D. Tillett.* [As a general rule, we make it a practice to conform to the *Index Kewensis*, but we cannot always stop to see if a name cited by a correspondent, or even one used by ourselves, is in conformity with the *Index*. ED.]

NO MORE HERRING-NETS.—When Strawberry time was about to arrive, I dreaded to have to again haul down the nets from the loft, where they had been put away since they were used last year, only to find them, as usual, full of rents, and perhaps also rotten with either the dry or wet rot. Having considered how very cheaply galvanised wire netting may now be bought, I made up my mind to give it a trial this year, and procured some coils of netting of 1 inch mesh, and 2 feet wide for the sides. For covering the top I selected wire netting of 3 feet in width, with a mesh of 1½ inch. Our Strawberry-beds were luckily exactly 12 feet wide, and the lengths various, so that there was no difficulty in forming the enclosure. The wood scantling used as a framework was 2 inches by 1 inch. The netting 2 feet, and 1 inch mesh, was soon fixed to a framing round the sides of the bed, and for the netting 3 feet wide framing was made to place over the top. This done, the structure was complete, and the Strawberries were safe from the predatory visits of the blackbirds and thrushes. Nothing could be more simple or cheaper, I think, in the end than this. When protection is no longer required, the wire at the sides may be rolled up, and the framings on the top stacked away in a dry place, in readiness for another year. When we gather the fruit, all that the gardener has to do is to lift off the top framings, lay them on top of the others, and so proceed until the required quantity is picked. The sides might advantageously be made, say, 6 feet high, and the roofing fixed at the same height, which would obviate the necessity of removing the top framings when gathering, a doorway admitting to the enclosure. I have, however, stopped short of this commodious method, feeling satisfied with the present arrangements; but to render the Currant and Raspberry plantations secure the higher form will have to be adopted. The birds look with longing eyes on fruits under the nets, but they are not altogether without the opportunity of having a taste of them; nor do I see any reason why they should, seeing how much good they do by ridding us of slugs and caterpillars, besides enlivening the garden by their song. They are left, entirely to themselves, an old Strawberry plantation, from which a tolerably good feed can be obtained. All this kind of protection may not be wanted in gardens less surrounded by trees and shrubs, but at Coombe Abbey the protection of such kinds of fruit becomes a necessity. *W. Miller.*

VIOLA OR TUFTED PANSY.—An attempt is being made in certain quarters to induce cultivators of that section of Pansies denominated Violas to drop this title and substitute for it "tufted Pansy." What is meant by Viola is clearly understood, and as the term has been employed ever since the late Mr. John Wills brought Viola cornuta into such notice as a bedding plant, the employment of the term is sanctioned and confirmed by usage. There is scarcely a compiler of a catalogue of Violas who does not employ the term, and in order to show how inapplicable is the term "tufted Pansy" to many of the Violas, an inspection should be made of the extensive trial of a considerable number of the leading varieties now being carried out by the Viola Conference in the gardens of the Royal Botanic Society in the Regent's Park. It will be perceived that a large majority of the varieties, instead of having a tufted habit, i.e., close, dwarf, and compact, they have an erect, tall, spare habit, and almost need the support of stakes to keep them in an upright position. A great many of the new Violas of the present day are selected, not because they are adapted for bedding purposes, in the decoration of the flower garden, but because they are thought to have a value for forming sprays for exhibition purposes, and their habit ceases to become an important consideration. This is unfortunate, because misleading. Certificates of Merit are awarded to cut blooms, the varieties are in consequence purchased for flower-garden use, the habit of growth is found to be objectionable, and disappointment results. The main reason why the trial of Violas has been instituted at the Regent's Park is to enable a selection to be made of those best adapted for flower-garden purposes; on the other hand, many of the fancy and show Pansies (named varieties), have dwarf and compact habits, and have much more claim to be regarded as tufted than many of the Violas. I desire, therefore, as a lover and cultivator of the Viola, to see the old and distinctive name retained; its use does not lead to any confusion, it is readily understood, it is sanctioned by usage, and it differentiates in an intelligible manner the bedding types from the large show and fancy Pansies. *R. D.*

PER-SIMON NOT PERSIMMON.—It may interest my friend Canon Ellacombe to hear that the recent Derby winner was not named after either Diospyros virginiana, or D. Kaki, as he suggests on p. 790 of your last issue; but that the name of the horse should really have but one "m," as written at the commencement of this note. The origin of the name was, I believe, that the name of the horse's dam began with Per, and its sire was St. Simon, and that accordingly the colt was given a name made up for the occasion out of a syllable from the names of each of its parents. *W. E. Gumbleton.*

ROYAL HORTICULTURAL SOCIETY'S CERTIFICATES.—A young member of the Fruit and Vegetable Committee, whose sympathies may be naturally with new things rather than with old, recently raised the not unimportant question at one of the committee meetings as to the propriety of granting Awards of Merit or Certificates to old things under any circumstances. That the committee declined to discuss the

subject doubtless showed wisdom, as the proposal might have led to long discussion practically useless at ordinary meetings. But there is matter in the proposal for discussion, although it may be thought that the subject was rather one for the Council to determine, though that body may be as indisposed to fetter the action of the committee as that committee seems unwilling to fetter itself. Now it is true the objects of the committees are "to encourage the production of new and improved varieties of fruits, flowers, plants, vegetables, &c.," but there is no restriction imposed with respect to awards to old things. On the other hand, the growing of old-established things at Chiswick for purposes of comparison is distinctly encouraged, and it has always been the practice there to give the full number of marks to good old things, so grown, as to meritorious new ones. The particular case which provoked the proposal of the member in question was the granting of an Award of Merit at a recent meeting to Rhubarb Victoria, one of the very best in commerce, but which never before obtained an award. At the same time a similar award was made to a new variety—Collis' Seedling. Both these were grown at Chiswick for comparison, and sample bundles, with others, were brought up to the Drill Hall for the committee's inspection. Now, excellent variety as is Collis' Seedling, it is not a bit better than is the old Victoria. Still, when subjects are sent to Chiswick for trial, the Fruit Committee does not like to treat them, as it were, with contempt, simply because they may not be better, though perhaps they are as good as older varieties are. Those who send these diverse things are entitled to some encouragement. Still, if Collis' seedling merited an Award of Merit, unquestionably such an old and tried variety as Victoria did so as well; and because that was the general feeling, the award to this old thing was made. I can very well understand that in some quarters there is no great love for awards to old things, which everybody has, because, from a trade point of view, there is no money in them; but there are others who would very ruthlessly trample that objection under foot. It is as much the business of the committees, by their awards, to make known to the world what are good old things as well as good new things, because the gardening world wants not so much the newest as the best. If there were an order or instruction issued to the committees that under no circumstances should awards of merit or certificates be granted to anything unless the thing in question is a distinct advance on any similar old variety, the order, though right enough and logical, would still seem harsh and prohibitive, but it would materially reduce the number of awards now made. But why any limit should be placed on the present powers of the committees to recognise the merits of good old things as well as of new things—not always good, all of them—is difficult to understand. Many old things still so good as to be



Fig. 6.—"Leader" strawberry. (see p. 18).

(Raised by Messrs. Laxton Brothers, Bedford. Foliage and fruits half-natural size.)

universally grown never met with awards of any description; some, indeed, came into being before the committees did. It is hard to understand why they should not receive now the same recognition that the committees grant to their younger compeers. *A. D.* [The form of the award should be different in the two cases and then no objection could be raised. ED.]

FASCIATED PEA.—When looking round a gentleman's garden lately I came across the enclosed curiosity. I thought it would interest you to see it. This tufted Pea is a chance seedling, the seed of which has been saved for the past three years. My friend, who is an enthusiastic gardener, thinks highly of it, and gets a good crop of useful Peas from this novelty; average height, about 4 feet. Personally, I never saw a Pea of this habit before. Please give me your opinion through the columns of the *Gardeners' Chronicle. D. Crombie, Powerscourt Gardens, Enniskerry, Ireland.* [The stem is fasciated, producing a cluster of Peas at the top, like the so-called Mummy-Pea, which occurs occasionally, and excites so much attention. It has nothing but the name to connect it with mummies. ED.]

LENT LILIES.—The very clerical—or shall I say, rather, ecclesiastical—term of Lent, applied both to Hellebores and Daffodils, is distinctly fantastic, and it may well be said, very absurd. Every flower, no matter what, that blooms during Lent might just as well be termed Lent something, as the flowers named are so dubbed. But in the case of the circular referred to at p. 765, vol. xix., in relation to prizes for plants, it would seem as if the author had got mixed over Hellebores and Daffodils, for whilst the forms of Helleborus might have been commonly known as Christmas Roses, the later forms of H. orientalis or colchicus have had given to them the more modern appellation of Lent Roses. But it is more ridiculous to term these flowers Roses, than it is to term Daffodils Lent Lilies. The use of terms or names in this eccentric and misleading fashion by horticulturists is specially reprehensible. *D.*

MEALY-BUG ON VINES. — In last week's issue of your valuable paper you recommend "J. M. R.," on p. 796, to fumigate with XL-All, as a means of partially ridding the vinery of this pest, and assert that it will not injure the Vines. With the directions given on each bottle of XL-All, gardeners are cautioned not to use it for Lady Downes and Muscat Grapes, both of which I know from experience it will injure. As many gardeners no doubt will follow the advice given to "J. M. R.," my remarks may be of good service to some of them. *F. C. Edwards.* [We have used it without injury but with great success in a small house where Black Hamburgh and Syrian were grown and terribly infested with mealy bug. ED.]

STARCH-POTATOS.—"D. T. F." thinks that we may here at home take successfully to the cultivation of Potatos for the production of starch as a manufactured article of trade. I am not sure that taking an average of seasons, we get soil-warmth enough in this country to produce a maximum of starch in the tubers. Then it would seem as if the German varieties, grown specially for the production of starch and of sugar, to be transformed into alcohol, contained both these elements in a greater degree than our home-raised, or the American varieties do. If that be so, it may be due either to long special breeding to secure those features, or to greater soil-warmth during the tubering season, in time creating those elements in a marked degree. One thing always has been known; it is, that the smaller tubers are invariably more starchy in flesh than are the larger ones, as these latter largely owe their greater size to excess of water, due probably to breed, to high culture, and to robust top-growth. But, as "D. T. F." says, the whole thing needs to be investigated, and in a thorough way. Apart from chemical analysis, we want to have Potatos grown so diversely that effects may be fully tested. *A. D.*

STARCH AND SUGAR CONTENTS IN POTATOS AND IN ROOT-CROPS.—In reference to the remarks of your correspondent "D. T. F.," at p. 768, vol. xix., a few more notes may be quoted upon the subject from illustrations obtained by Lawes and Gilbert at Rothamsted. But little is definitely known of the special functions of individual mineral constituents in vegetation. It is, however, pretty clearly established that the presence of potash is essential for the formation of the chief non-nitrogenous matters—starch and sugar. The published results of experiments at Rothamsted have shown that the proportion of potash in the ash of Wheat was the greater, the better matured the grain—that is, the larger the proportion of starch it contained; in the Potato was found a greatly increased amount of potash in the heaviest crops, that is to say, in those in which the largest amounts of starch have been found. The results of cooking several samples of Potatos, grown in the Rothamsted experiments, showed that the nutty flavour of the tubers depended very much upon the quantity of potash taken up during growth. Hence the immense value of a sufficient supply of potash in the soil, or of an artificial application in the form of kainit salt, or sulphate of potash. The Rothamsted experiments further show that high specific gravity in Potato tubers, and high percentage of dry matter go together. The total amount of dry matter produced per acre is considerably increased by mineral manure alone (containing potash), but very much more when the mineral and nitrogenous manures are used together. Thus the produce of dry substance of tubers was, without manure, 1353 lb. per acre; with purely mineral manure, 2384 lb.; and with the mixture of mineral and nitrogenous manure, more than 4000 lb. per acre. The produce of starch per acre is 1120 lb. without manure, and 1988 lb. with purely mineral manure; but with both nitrogenous and mineral manure the quantity of starch is raised to an average of 3400 lb., or about 1½ ton per acre. Here, then, in the Potato, we find a great increase in the production of the non-nitrogenous constituent, starch, by the use of nitrogen in manure, just as in the root-crops, has been found a great increase in the produce of the non-nitrogenous constituent, sugar, by the use of nitrogenous manure, when combined with potash. The same thing holds good in the production of sugar in Grapes. There is, however, under corresponding conditions as to manure, somewhat more sugar produced in Mangel-Wurzel for 1 of nitrogen in manure, than of starch in the Potato. Thus, with similar mineral manures (containing potash), and the same amounts of nitrogen supplied, was obtained, reckoned over the produce by the mineral manures alone, in Mangel Wurzel 19 parts of sugar for 1 of nitrogen as ammonium-salts, against 16·8 parts of starch in the Potato; and for 1 of nitrogen as nitrate of soda, was obtained 22·1 parts of sugar in Mangel Wurzel, and 16·1 parts of starch in Potatos. In Sugar-beet, however, there was even much more sugar produced for 1 of nitrogen—namely, when as ammonium-salts 28·6 parts, and when as nitrate of soda 36 parts. As then the root-crops are essentially sugar-yielding crops, so the Potato is essentially a starch-yielding crop; and it is seen that, provided the mineral constituents, and especially potash, are not deficient, the produce of both sugar and starch is greatly increased by the amount of nitrogen available to the plant within the soil, whether derived from previous accumulations, or from direct nitrogenous manuring. Another point to which attention may be called is, that from 80 to 85 per cent. of the total potash of the Potato tuber, and about two-thirds of the total phosphoric acid, are found in the juice. And when it is borne in mind that two-thirds or more of the nitrogen existing as albuminoids is in the juice, it is obvious that if the mode of cooking the Potato is such as to exclude the constituents of the juice from the final food-product, there is considerable waste of nutritive matter, and the nutty flavour of the Potato is sacrificed. *J. J. Willis, Harpenden.*

ORCHIS FOLIOSA.—This fine Madeiran terrestrial Orchis has for several years spontaneously produced seedlings in my garden. Most of the seedlings have spotted leaves, and seem to be intermediate between O. foliosa and O. maculata, which is so prevalent in the soil of my fields as to come up casually and flower in the borders. I mention these apparent hybrids because in the Drill Hall on Tuesday, June 9, Mr. Pritchard, of Christchurch, exhibited several very fine heads of dark purple flowers labelled O. foliosa, which I at once recognised as belonging to these intermediate forms. Also in the rock-garden at Kew, in one of the flat basements on the right-hand side as you face south, there are two clumps of these intermediates. One of the clumps has the spotted leaves of ordinary O. maculata, the other has the foliage of O. foliosa; but the flowers, though magnified, of O. maculata, or rather of those very fine forms of maculata which are not uncommon where O. latifolia and O. maculata grow together, and of which a variety long known as O. maculata superba, or the "Kilmarnock Orchis," was a good example. I hope, if this meets the eye of any one who frequents Kew and studies terrestrial Orchises, that he will examine the plants of which I speak. I have had hundreds of imported Orchis foliosa from Madeira, but never saw any like those which Mr. Pritchard exhibited, or those of which I speak as now in flower at Kew. *C. Wolley Dod, Edge Hall, Malpas.*

LATHYRUS DRUMMONDI.—This Everlasting Pea has been superb with me this season. It is planted against a wall of medium height, and the plant having attained to considerable strength, covers a large space, and blooms with astonishing freedom. I got it originally from Mr. Charles Green under this name, and take it to be a selected form of L. rotundifolius, but yet differing a little in some respects. [See *Gard. Chron.*, July 1, 1876, p. 16. ED.] The flowers are of a bright orange-carmine tint, but like most of the Everlasting Peas they fade rapidly. I have grown L. rotundifolius by the side of it, and have come to regard L. Drummondi as earlier, freer of bloom, and more vigorous in growth, while it does not flower so freely as the former, and sets its seed-pods more abundantly. By the side of it is L. latifolius, the shoots of which find their way among those of L. Drummondi, and the former keeps up the floral procession after the latter has done blooming. The shoots of Clematis Jackmanni, and those of C. magnifica, also creep among those of the Everlasting Peas, and form a charming combination. I find germination is hastened by soaking the seeds in water for a few hours before sowing. *R. D.*

BIRDS AND INJURIOUS INSECTS.—Your correspondent, Mr. Joseph Collinson, at p. 711, vol. xix., makes a humanitarian plea for the preservation of insect-eating birds, in a temperate and reasonable manner, and I quite agree with him that to destroy tom-tits is to destroy one of the gardener's and fruit-grower's best friends. The only predatory acts that I can lay to the tom-tit's charge are a fondness for late Peas, and a nasty habit of pecking the stems of nearly-ripe Pears; but I believe that a few lumps of suet tied up in their haunts would cure them, or rather prevent them doing this, their only mischievous acts. Sparrows are in a different category; the only harm they do us is to choke the water-spouts with their nests, and drive away the swallows by occupying their nests, but as sparrows increase at an incredible rate, they want to be kept in bounds, and cultivators should use their discretion. Our place is fairly a bird's paradise. We are surrounded with thousands of all kinds of birds, and if I were not liberally supplied with netting, crops of small fruits would be out of the question. My own view on the bird question is, that with plenty of netting the only bird that it is needful to destroy is the bullfinch, as they will destroy more fruit-buds in an hour, than would keep a dozen blackbirds a week. One year before I took to destroying them they ate every Apple-bud we had on the place; but in such a season as the present one, owing to the ungenial weather, cold nights, bright sunshine, and harsh drying weather, combined with the drought, all kinds of vegetation received a check, but at the same time all kinds of insects are present in such incredible numbers that the ingenuity of man and the insect-eating birds are powerless against them. On a broad scale, of course bushes, wall-trees, Roses, and such like with the aid of insecticides the cultivator succeeds, but in the case of the large trees and shrubs caterpillars innumerable are the masters of the situation. I have enclosed a few shoots of Oak trees taken out of a large rookery about 100 yards from my house. There are thousands of rooks who are now living on the caterpillars. I can hear them cawing as I am writing—a peculiar noise they always make when feeding on caterpillars. The tops of the Oak trees are worse than the shoots sent, and I daresay there are 100 acres of trees round about whose leaves are similarly perforated, and the tops of which look as if scorched. It seems that an unhealthiness in a tree favours the production of insect-life, just as an unhealthy condition of living produces disease in the human subject, or in animal life generally. *R. M., Newbury, June 8.* [The shoots our correspondent forwarded for our inspection were covered with skeletonised leaves. ED.].

MYATT'S ELIZA STRAWBERRY. — This old variety is, no doubt, excelled by some of the new varieties in size, but by few, perhaps, in the good quality of the fruits; for hardiness of constitution and prolific bearing, Myatt's Eliza can still, however, hold its own. *G. W.* [A capital variety, of strong growth, once thought much of by market growers and private gardeners. Its colour, pale red, is, perhaps, against it. Our correspondent sent a number of fruits of good size and flavour and fair colour. ED.]

THE LATE BRUCE FINDLAY.—Seldom have I felt the loss of a comrade more than that of this lost gentle and gifted spirit. Though rather widely parted, we were ever one in sympathy and spirit in all that concerned the advancement of horticulture, the elevation of horticulturists, and

the amelioration and ennoblement of the common working life of our country through the sweetness and the light distilled and diffused among the masses and the classes through such efforts as those so successfully initiated and sustained by Mr. Findlay for so many years at Manchester. We are losing so many leaders and veterans, that horticultural life in its social side seems less worth loving than it used to be, though we hope we shall never lack young men to fill their places; though of Bruce Findlay, as of some others we have lately lost from our midst, it may all too truly be said, "We ne'er shall see his like again." *D. T. Fish*, 12, *Fittes Row, Edinburgh.*

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

June 23.—*Present:* Dr. M. T. Masters (in the chair,; Dr. Bonavia, Mr. Douglas, Rev. G. Henslow (Hon. Sec.).

Dianthus, Colours of. With reference to the colours of Carnations, Mr. Douglas observed that the yellows are apt to revert to other colours, and mentioned as an instance of 200 seedlings from a yellow, among which no yellow appeared.

Cabbage Palm Fruit.—Mr. J. H. Maiden, successor to Mr. Ch. Moore, formerly curator for fifty years of the Botanic Garden, Melbourne, sent some fruit. They are small and globular, about the size of marbles. The Palm is Livistona australis, described as a tall and graceful tree, 80 feet in height. They were forwarded to Chiswick to be grown.

Tomatos, Monstrous.—Dr. Masters exhibited some Tomatos of the modern globular form, remarkable for possessing small exserted supernumerary carpels. These had grown on the placentas in the place of ovules. It was not uncommon in the old grooved Tomatos (due to the flowers having been synanthic), but it had not appeared before on the smooth fruit. It was received from Mr. Dixon of Chester.

Pinus Lambertiana. Dr. Masters also showed a shoot of this tree, known in California as the Sugar Pine, bearing numerous orange coloured male catkins.

Curious Moss-growth.—Mr. J. P. Way, of Warwick School, sent a remarkable specimen, found near the New Forest. It was of the shape of a double convex lens, about 6 inches across; the stems all radiating from the middle. It was forwarded to Dr. Braithwaite, who reports as follows:—"The moss is Leucobryum glaucum, common in this state, but very rare in fruit. It grows under two conditions: (1) In boggy heaths, when it takes a more expanded form, being always wet; (2) in woods, where it occurs in circular patches, beginning of the size of a sixpence, rooting, and going on increasing to the dimensions of a half crown. The branching goes on centrifugally, and the tufts are so dense that the easiest way for them is to lie between the surface of the ground and the older stems above. Then, probably, after the first heavy rain, the cushion swells up like a sponge, and is torn away from the earth, to become a white lump when dry, which is then blown about by the wind, just like the Rose of Jericho, Anastatica Heriochuntica. The plant would not grow again as a whole, but it throws off small ones, which grow and form new colonies." (See Br. *Moss Flora*, p. 85.)

PEOPLE'S PALACE HORTICULTURAL.

June 25, 26.—The summer exhibition of this society, the second of the three shows held every year, took place in the Queen's Hall of the People's Palace, Mile End, on the above dates. One most gratifying feature which characterised this show is the remarkable growth in the quality of the exhibits which come from what is known as the "congested districts"—Stepney, Mile End, Limehouse, Canning Town, Bow, &c., where the conditions of cultivation are unfavourable. The institution of these periodical competitions has stirred exhibitors to emulate each other in the production of plants, and no effort is spared to win prizes. The main body of the exhibitors is composed of labourers, mechanics, &c., and a number of them are engaged in warehouses in the City, being away from home all day.

The growth in the number of exhibitors resident in these districts has been as remarkable as the improvement in the quality of the exhibits, and at the show just held there were as many as ten entries for a collection of plants, filling a table space of 9 superficial feet, and the same number with three plants, foliage or flowering. The leading flowering plants are Pelargoniums of various types, even the show varieties being represented, and the scented-leaved also; Mimulus in plenty; but while common Musk predominated, there were examples of the improved large-flowered types; Fuchsias, among them some very good specimens—one, a huge fan-trained plant, quite a load to carry, shown by a labourer named Haydon, who grows it in the single room occupied by himself and wife; Creeping Jennies, some of them admirably grown and bloomed; Hydrangeas, Tuberous-rooted Begonias, Lilies, auratum and longiflorum predominating; trailing Campanulas, Canterbury Bells in pots, &c., and of foliage plants, India-rubbers, very healthy and bold in leafage; Begonias of the Rex type; Anthericum variegatum, a very favourite East-end plant; Ferns, including some exotic types, as well as our hardy British species; annual Tobaccos, &c. Fern-cases were a most satisfactory feature, and some pretty bunches of Sweet Peas were also present.

Outside of the congested districts are localities more favourable to plant growth than those lying in the centre, and the dwellers in these exhibit by themselves; but as the society is now rapidly extending in the direction of the more open districts of Leyton, Walthamstow, Forest Gate, &c., where the conditions of cultivation are even more favourable, these will be grouped by themselves, so as to equalise the competitions.

At the end of the month of June, forecourt and back gardens are visited for the purpose of awarding prizes for good-keeping, &c., and recently the judges, Messrs. R. Ballantine and R. Dean, visited about forty of these, and found some pretty gardens, both in the more crowded and in the open districts, but they have recommended to the committee that all gardens be planted and entered for competition by the first week in June, but that the prizes be not awarded till the month of August. In November greenhouses are inspected, that being the time when the Chrysanthemum is a prominent plant, and the inspection takes place just previous to the Chrysanthemum show at the People's Palace.

The exhibits, which filled the spacious Queen's Hall, were varied enough to interest all classes of visitors. The show extended over three days.

CROYDON HORTICULTURAL.

July 1. The annual exhibition of the Croydon Horticultural Society was held on Wednesday last, in the grounds of Wellesley House; and Roses, as is usual at this show, constituted the more important part of the display. In quality, these flowers were not equal to that common at Croydon, nor were they remarkable in quantity. Many entries were made by growers, who at the last moment were unable to exhibit; and from several of the leading amateurs we learnt that the best of their blooms had passed. The exhibition was of a varied character, and some capital plants and general horticultural produce were staged, including a good display by cottagers. The weather was showery. A sale of flowers was organised for the benefit of the Royal Gardeners' Orphan Fund.

ROSES.

Nurserymen. The first class in the nurserymen section was for forty-eight blooms distinct, to the 1st prize for which was added the National Rose Society's Medal. There were four collections, and the 1st prize was awarded to Mr. B. R. Cant, Colchester. The quality of the blooms was moderate, some of them being very good, but most of them small. The best were Earl of Dufferin, Dr. Andry, A. K. Williams, Duchess de Morny, Fisher Holmes, Xavier Olibo, Horace Vernet, Ethel Brownlow, Madame Gabrielle Luizet, Marie Baumann, Madame Victor Verdier, Alfred Colomb, Captain Hayward, Prince Arthur, and Pride of Waltham. Messrs. F. Cant & Co., Colchester, were 2nd, and Messrs. D. & W. Croll, Dundee, 3rd, both collections being of good proportionate quality, judged by that of the 1st prize collection.

The winners of the class for twenty-four trebles were Messrs. Prior & Sons, Colchester; and, although the blooms were lacking in size, they were even in regard to size, and of fair colour, Madame G. Luizet, Alfred Colomb, Pride of Reigate, and Horace Vernet, being some of the best, though the last-named was rather burned.

Twenty four Roses, distinct, were best from Messrs. G. and W. H. Burch, Rose growers, Peterborough. Gustave Piganneau, Ulrich Brunner, Alfred Colomb, Reynolds Hole, Maman Cochet were among the best blooms. Mr. G. W. Piper, nurseryman, Uckfield, was a very good 2nd; and Mr. Jno. R. Box, Croydon, was 3rd.

Teas and Noisettes were much better shown in these classes than by the amateurs.

The best eighteen blooms, distinct, were from Messrs. Prior & Sons, Colchester, and in their exhibit were commendable examples of Catherine Mermet, Niphetos, Innocente Pirola, Madame de Watteville, Madame Cusin, Princess of Wales, and Souvenir de S. A. Prince; Messrs. Cant & Co. were 2nd; and Messrs. D. & W. Croll were 3rd.

The last named exhibitors were 1st for twelve Roses of one variety, and staged very fine blooms of Mrs. Jno. Laing. Mr. B. R. Cant, with Gustave Piganneau, was 2nd, and Messrs. F. Cant & Co. 3rd with indifferent flowers of Mrs. Jno. Laing.

Twelve Tea or Noisette Roses (one variety) were best shown by Messrs. Frank Cant & Co., who showed Madame de Watteville; and Messrs. D. & W. Croll, who had Innocente Pirola, were 2nd; and Messrs. G. & W. H. Burch 3rd, with Catherine Mermet.

Amateurs.—There was no competition in the principal amateur's class, and the Challenge Cup, value 25 guineas, becomes the property of the Rev. J. H. Pemberton, Havering, Essex, who, beside exhibiting on this occasion took 1st prize in the same class last year. The thirty-six blooms exhibited on Wednesday last were good, compared with the average quality at this show, but not equal to this fortunate amateur's usual exhibits. François Michelon (Medal bloom), Earl of Dufferin, General Jacqueminot, Madame Eugène Verdier, Exposition de Brie, Jno. Stuart Mill, Marie Baumann, and Jeanne Dickson were the best and freshest blooms.

H. V. Machin, Esq., Gateford Hill, near Worksop, was the winner in the class for twenty-four blooms, distinct. His stand contained the best bloom of Mrs. Jno. Laing shown in the amateur classes, and it gained a Silver Medal offered by Messrs. Jno. Laing & Sons. There were other fine blooms in the stand, but some of quite ordinary quality were apparent. The Rev. J. H. Pemberton was 2nd; and F. W. Campion, Esq., Colley Manor, Reigate, 3rd. Teas and Noisettes were poor.

The 1st prize for eighteen blooms, in not fewer than twelve varieties, was taken by E. M. Bethune, Esq., Denne Park, Horsham. The best blooms were The Bride, Catherine Mermet, and Comtesse de Nadaillac. H. V. Machin, Esq. was 2nd; and F. W. Campion, Esq., Colley Manor, Reigate, 3rd.

Six Roses, distinct, in trebles, were best from the Rev. J. H. Pemberton, who had a very commendable stand in this class, Her Majesty, Mrs. Jno. Laing, Gustave Piganneau, Marie Baumann, A. K. Williams, and Caroline Testout were the varieties shown. H. V. Machin, Esq, was 2nd.

For twelve Rose blooms of one variety, a stand of Her Majesty, in good average condition, won the highest prize for H. V. Machin, Esq.; E. M. Bethune, Esq, was 2nd with Francisca Kruger; and T. B. Haywood, Esq., 3rd, with Alfred Colomb.

Growers of fewer than 2000 plants in a competition for twelve Roses distinct, were only two. The 1st prize was capitally won by Mr. E. Mawley, Rosebank, Berkhamsted, and E. M. Bethune, Esq., was 2nd. The last-named was the only exhibitor in this section, of a collection of twelve Tea or Noisette Roses.

Mr. E. Mawley won for four Roses in trebles; and E. M. Bethune, Esq, was 2nd.

Growers of fewer than 1000 Rose trees competed in a class for nine distinct blooms, and W. D. Freshfield, Esq., The Wilderness, Reigate, showed a nice lot in his 1st prize exhibit. Keppel H. Gifford, Esq., Holyrood, Streatham, being 2nd.

W. D. Freshfield, Esq., won among growers of fewer than 500 plants, for six Roses, distinct; and for six Tea or Noisette Roses.

The Challenge Cup offered to growers within 2 miles of Croydon Town Hall was won by A. C. Gifford, Esq., Tennison Road, South Norwood, with a collection of twelve Roses, distinct. M. Hodgson, Esq, Shirley, was 2nd, and won the National Rose Society's Silver-gilt Medal; he also won the remaining classes in this section, viz., for six H.-P. Roses, distinct; six Tea or Noisette Roses, distinct; and for six Roses of one variety.

PLANTS AND FRUIT, ETC.

Nine ornamental foliage stove and greenhouse plants were capitally shown by Jno. Warren, Esq., Handcross Park, Crawley; his specimens of Croton Warreni and C. Evansiae, nua were splendid examples. P. Crowley, Esq., Haddon-House, Croydon (gr., Mr. J. Harris), was 2nd. J. Aste Esq., Roes Road, South Norwood (gr., Mr. F. Scot), won in a class for six such plants.

Six Exotic Ferns (distinct) were best shown by Jno. Warren, Esq. He had excellent specimens of Davallia divaricata, D. Mooreana, Nephrolepis exaltata, N. davalloides furcans, and Microlepia hirta cristata. P. Crowley, Esq, was 2nd. Jno. Warren, Esq. won for four large Palms, and in several other classes.

For a group of miscellaneous plants arranged on a space of not more than 100 square feet, the best competitor was E. H. Colfs, Esq., Caterham, with a pretty group of low-statured plants, arranged with considerable taste.

The 1st prize for a smaller group was taken by T. Jefferies, Esq., London Road, Croydon.

Six plants of ornamental Dracænas were very fine from Philip Crowley, Esq.; and Jno. Warren, Esq., was a capital 2nd.

The exhibits of plants suitable for the decoration of dinner tables were deserving commendation. Those shown by Mr. C. Lane, gr. to E. H. Coles, Esq., Caterham, who was 1st, were of suitable size, of differing habit, and had been well cultivated. Mr. W. Garlick, Caterham, was 2nd.

There were many other classes for plants, including Pelargoniums, Caladiums, Begonias, Gloxinias, Coleus, Fuchsias, Selaginellas, &c.

Table decorations are usually pretty at Croydon. The 1st prize on this occasion was won by Miss Cooper, Sydenham Road, Croydon; Mr. A. C. Robinson, Roma, Wallington, was 2nd. The bouquets, sprays, and other florists' arrangements deserve mention.

Fruit was not largely exhibited. The 1st prize for six dishes was taken by Jno. Warren, Esq. E. M. Bethune, Esq., was 1st for three bunches of white Grapes; and J. Friend, Esq., for an equal number of bunches of a black variety, showing good Black Hamburghs. Frank Lloyd, Esq., Coombe House, showed fifty large and finely-coloured fruits of the very old Strawberry Princess Alice.

Vegetables were of moderate quantity. Mr. J. Johnson was 1st, with a commendable collection of nine varieties; and Mr. C. Perrett, gr. to Mrs. Fuller, Duppas Hill, was 1st for six varieties.

Miscellaneous.—Messrs Jno. Peed & Sons, Roupell Park Nursery, Norwood, Road, S.E., exhibited a group of hardy flowers of a miscellaneous character, including many varieties of Sweet Peas.

Another group of such flowers was staged by Messrs. J. Cheal & Sons, Lowfield Nurseries, Crawley, garden Roses and Violas being shown in this collection.

Two large exhibits of Begonias were made by Mr. J. R. Box

Croydon; and Messrs. Jno. Laing & Sons, Forest Hill, S.E.; in the latter exhibit were interspersed other ornamental plants, and several new varieties of Gloxinias were included. Mr. Box's exhibit contained a fine lot of single and double-flowered Begonias, and miscellaneous plants of an ornamental character.

A large number of Roses were shown from the Park Hill Recreation Ground.

EALING HORTICULTURAL.

July 1.—This was the thirty-second annual exhibition, and was one of the best shows held recently. There were five tents, and they were all well filled, one with bunches of wild flowers and grasses, and plates of garden flowers, the latter arranged by school children on the ground; a second contained the cottagers' produce from the allotment gardens, and plants grown in their windows and forecourt gardens, some of the latter being very good. A third was filled with table decorations, bouquets, &c., a fourth with plants, and a fifth with cut flowers, fruits, and vegetables.

Non-competitive exhibits were very good. One from Mr. G. Reynolds, Gunnersbury Park; and one from Mr. J. Hudson, Gunnersbury House, were arranged with admirable taste; and so was a group of Japanese Maples, intermingled with white Lilies, from Messrs. Fromow & Sons, Turnham Green. Messrs. C. Lee & Sons, Ealing and Hammersmith, had an effective group of variegated and other ornamental shrubs; and eight boxes of cut Roses. Messrs. J. Veitch & Sons, Chelsea, had six boxes of cut Roses; and Mr. W. Rumsey, a box of blooms of his new Rose, Mrs. Rumsey. Groups arranged for effect were a good feature, the best of the large ones came from Mr. W. Roberts, gr. to W. J. Harris, Esq., Ealing; the small-sized one from Mr. J. Knightly, gr. to A. Robinson, Esq., Ealing.

Groups of dwarf plants arranged on tables made a good feature. Specimen plants are not so much cultivated at Ealing as they formerly were, but some fair examples of Allamandas, Clerodendron Balfourianum, Vincas, Fuchsias, Plumbago capensis, &c. were staged.

Mr. J. Butler had the best six Ferns, including a good piece of Alsophila excelsa, and a good example of Asplenium nidus. Caladiums were very good, Messrs. J. Harris and W. Owen taking the leading prizes. The best specimen stove or greenhouse plant in flower was Clerodendron Balfourianum, from Mr. Boosey; the best foliaged plant, Dracæna Lindeni. Fuchsias, Begonias, bedding Pelargoniums, Mosses, &c., were all well shown.

Cut Flowers.—The main interest in the show centred in the cut Roses. This year the class for twenty-four varieties was thrown open to all comers, and brought five exhibitors. Mr. C. Turner, Slough, was 1st with bright, well-developed flowers; Mr. J. Mattock, Oxford, and Messrs. G. & W. Burch, Peterborough, 2nd and 3rd.

There were several classes for locally-grown Roses, but though shown in numbers, they were over-blown. Stove and greenhouse cut blooms were well-shown in twelve bunches, Mrs. Boosey taking the 1st prize with an excellent box. Boxes of cut Gloxinias, Begonias, and bedding Pelargoniums were also shown.

Miss Lilian Hudson, Gunnersbury House Gardens, had three stands of flowers and foliage, very light and graceful, arranged in excellent taste; Mr. Boosey was 2nd. Baskets of flowers for a drawing-room were charming also, and wild flowers were tastefully arranged.

METHODS OF PROPAGATION.

LAYERING.

(*Continued from vol. xix., p. 757.*)

Plants which are too Tender for Stooling.—Many plants introduced from Japan, China, and the Southern States of America, it is not safe to stool in the open; and for these a bed must be made in a pit, where the lights may be put on when necessary. The grand evergreen Magnolia grandiflora, Exmouth var., is one of these, but if one has a good plant against a wall, it may be layered there by using some of the temporary platforms, or bracket-rings. Merely fill some 48-sized pots with peaty soil and sand, and tongue some small laterals, bend them into the pots, and secure them by passing a piece of thin tar-twine through the hole in the pot, and then looping it round the layer, pass it through the pot again, and secure to a branch of the Magnolia, or to a cross-peg at the bottom of the pot. The chief danger under this method is drought, as unless there is regular inspection, and watering the soil in the pots, exposed to the drying air and sun-heat, gets baked, and the layer will not root into it. If you can, therefore, make a stool in a cold pit for Magnolia, Clethra arborea, Ceanothus, and Passiflora of sorts, and some of the tender Ivies, as Algeriensis variegata, it is much the best method by which to increase them. The various Gorses (Ulex), as the double form of the common "Whin," the upright Irish, or the dumose Spanish variety, are best layered in the open. A simple plan for the last-named is to fork up the soil around a plant in the shrubbery, to enrich it with short dung, and add a little sand in which to peg down the outer branches of the Gorse; then pile soil on around, treading down firmly; this is also a rough-and-ready method for layering Border Pinks.

Daphnes.

One of the sweet-scented Daphne species is D. Cneorum. This is naturally a weak wiry-growing shrub, well adapted for the margins of beds of American plants. It is easily increased (and one cannot well have too much of it) by making the soil around an established plant rich and light, then tongueing the repent branches, and layering them into the soil, using wire layering pegs, or even large hair-pins, to retain the shoots in position. Put down in the early spring they will have rooted freely by the next, and may then be lifted and put in the shade, and finally planted where required in the autumn. Pot a few of the plants in a peaty soil, and grow them on to decorate the conservatory in the spring, where their fragrance cannot fail to be grateful. Daphne indica, and also the more vigorous white form, may be propagated from layers, though I have advised the former to be grafted inside on Daphne laureola or Spurge Laurel, or Daphne pontica.

Hydrangeas.

The grand Japanese Hydrangea paniculata grandiflora, should be planted at the bottom of a hollow or basin, so that at the flowering period it may have a good supply of liquid-manure. Never shall I forget my esteemed friend, Louis Van Houtte père, taking me to see his plant of this lovely flowering shrub at Ghent. It was planted in the centre of a basin-like pit, near to one of the ingeniously-raised water-cisterns, and at the time I saw it, it bore at least one hundred large terminal panicles of its pure white barren flowers. A plant closely allied to this is Schizophragma hydrangeoides, a kind of creeping Hydrangea, with small panicles of flowers; this only needs pegging down on to moist peaty soil to root at every node, and, like Daphne Cneorum, is useful to edge Rhododendron beds.

Roses.

I have already called attention to the troubles and vexation arising from the use of Manetti-grafted, or even budded, Roses, and advocated own-rooted plants. Layering is a ready means to propagate Roses, and it may be done without forming a special "stool," by simply bending down, tongueing, and layering the ripened long shoots which are always produced in abundance by both Tea, Noisette, and H.P. Roses in beds. A class of Roses somewhat neglected now (not catalogued among show Roses by the National Rose Society) is that including the Moss and hybrid China varieties. These are best propagated by layering, while such lovely denizens of the court of Queen Rose as Coupe d'Hébé, Brennus, Charles Lawson, all layer freely, and do much better on their own roots. China Roses treated thus may be grown in beds and layered down, forming in a short time exceedingly handsome and fragrant additions to the flower-garden.

Conifers.

Among the Conifers, the Arbor-vitæ (Thujas), Cupressus, Juniperus, Taxus, and Thujopsis can all be layered with advantage; but the Japan Cedars (Retinosporas) are the most easily increased by this simple means: Select a few strong growths at the base of your plant, say, R. squarrosa, and take off all the small laterals between the leading shoot and the bole of the shrub, and peg down on to the soil with some wooden pegs or zinc layering-pegs; water copiously, and then heap over the selected shoots some light prepared soil, merely leaving the growing points exposed to the air and light. Within twelve months these will be found to have made an abundance of fine fibrous roots, and in the autumn they may be cut from the parent plant, and put in a sheltered spot, from which next year they may be moved, and used in the parterres for winter bedding.

Miscellaneous Shrubs.

It hardly needs telling that all shrubs are amenable to this method of propagation, but it is not advisable to layer any but such as will not propagate freely by cuttings. I will enumerate a few of these, and note any special treatment where it is needful.

The exquisitely-coloured Japanese Maples, varieties of palmatum and dissectum, should have a little box-like erection built round them; this should be filled with good light soil, and the shoots tongued and pegged down into it in the autumn, and removed the following autumn, when they will be found well-rooted. The Fern-leaved Alder, A. imperialis asplenifolia, may be layered thus at any time.

The Arbutus, though it grafts freely, may yet be layered, the scarlet flowering variety of A. unedo, a very desirable addition to a shrubbery, and Rollison's fine variety are propagated thus. Aucubas, if layered, soon make pretty little plants, which, being well berried by artificial fecundation, are very ornamental. A. salicifolia and viridis are the two best, as they display their coral-red fruits better than other varieties.

Among flowering shrubs the so-called Ghent Azaleas and the Japanese A. mollis may be layered easily and quickly, and should be put down as soon as they complete their growth on a light and peaty compost, which should never be suffered to get dry.

Among evergreen flowering shrubs the Berberids are very attractive. Most of them are easily grown from seed, but some of the best are only reliable from layers, as they so easily hybridise and sport. B. fascicularis, a form of the Holly-leaved variety, must be layered, and the exceedingly graceful repent hybrid stenophylla should be thus increased also.

The singular, but pretty, Buddleia, with its globose heads of flowers, and its botanical relative named after Dr. Lindley, which no one would take to be of the same genus, need layering for stock. For all the Ceanothus tribe a cold pit is necessary. Such well-known kinds as C. azureus, and the lovely large panicled variety raised by my friend Emile Lemoine, of Nancy, named Gloire de Versailles, making long flexible shoots, are easily manipulated; but the close-growing, small-leaved varieties, C. papilionaceus and C. rigidus, need careful handling, and take longer to root—indeed, they are easier raised from cuttings under a bell-glass, and will be referred to with other subjects later on.

Taking an intermediate position between ornamental shrubs and useful fruit-trees, the various Nuts are propagated in nurseries from stools laid down in February or March. The two most useful are the purple-leaved Filbert and the cut-leaved Cob, both of which fruit freely when they attain to sufficient size and age.

Deutzia gracilis, so much used for early forcing, is increased by division of the roots and by cuttings; but the erect-growing D. scabra and D. crenata are better when layered.

The Oleasters (Elæagnus), most useful plants to cover unsightly walls or fences, are generally increased by layers; the best are the silver and gold variegated forms of Elæagnus reflexa. The star-like scales from the back of the leaf of this plant are pretty objects for the microscope, mounted in Canada balsam, or even put up dry.

The Dyer's Broom (Genista tinctoria) makes excellent rock-plants, or marginal plants in the shrubbery, more especially the double form, and layers with great facility. A more difficult subject is the Snowdrop tree, Halesia, but this is best put down when in full foliage, and shaded by a few Fir branches. All the handsome Magnolias of a deciduous habit, as M. Lenne, M. acuminata, M. purpurea, are best layered; as are the Mock Oranges (Philadelphus), the finest being one known as P. speciosissimus; and the singular Hop-tree, Ptelea trifoliata. The Venetian Sumach Rhus Cotinus, and Chionanthus virginiana may also be layered. The former makes a useful stool, and with

the Japan Skimmias, should be treated to a peaty bed, and kept very moist, when they will root freely from layers. The shrubby Spiræas, especially S. grandiflora (now called Exochorda) must be layered into light soil; while the Bladder-nuts (Staphylea), especially the one grown for forcing, viz., S. colchica, are best layered into plunged pots, and the soil covered with moss, or mulching to keep it moist. Viburnums both evergreen as in Laurustinus, and deciduous as V. plicatum, should be layered in the autumn. *Experience.*

Obituary.

Death of the Inventor of Medicated Garden Shreds.—William Lerro's name will live in the memory of those who identify the individual and his work, which is perpetuated in the firm which has continued that work since he retired from business in 1892. Mr. Lerro, who only enjoyed his retirement for about four years, recently passed away at Worthing at the age of 71. Mr. Lerro contrived a shred for securing fruit trees, Vines, and creepers against walls, &c., that would replace the old slips of woollen cloth, leather, list, &c., which form a harbour for insects, some of which are detrimental to plants—something that would repel instead of entice them. The Medicated Garden Shreds, or "Dean's Shreds," as known to many, proved their value in this respect, and Mr. Lerro was flattered by their use in royal and other large gardens. Mr. Lerro, when freed from the anxiety of the manufacturer, employed his leisure in acts of benevolence, and in alleviating the sufferings of his fellow creatures.

Mrs. G. W. Cummins.—Those of our readers who are acquainted with the esteemed gardener to Mr. A. H. Smee, The Grange, Wallington, Surrey, will sympathise with him in his bereavement. Mrs. Cummins passed away somewhat suddenly on June 20.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Accumulated. Above (+) or below (−) the Mean for the week ending June 27.	Above 42° for the Week.	Below 42° for the Week.	Above 42°, difference from Mean since December 29, 1895.	Below 42°, difference from Mean since December 29, 1895.	Rainfall. More (+) or less (−) than Mean for the Week.	No. of Rainy Days since Dec. 29, 1895.	Total Fall since Jan. 1, 1896.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Dec. 29, 1895.
	Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.			Ins.		
0	0 aver	85	0	+ 232	− 378	2 −	122	26·9	18	25
1	1 +	99	0	+ 256	− 241	1 −	92	10·0	34	32
2	0 aver	106	0	+ 250	− 222	2 −	76	7·3	39	31
3	0 aver	114	0	+ 190	− 229	2 −	80	8·8	37	36
4	0 aver	115	0	+ 248	− 247	1 +	75	8·4	35	35
5	2 +	125	0	+ 235	− 240	2 −	70	7·4	45	37
6	1 +	109	0	+ 280	− 228	2 −	98	18·6	42	34
7	0 aver	113	0	+ 327	− 258	2 +	88	12·8	35	35
8	2 +	125	0	+ 321	− 206	4 −	74	9·8	50	41
9	1 +	106	0	+ 309	− 233	2 +	100	15·3	17	30
10	2 +	123	0	+ 350	− 210	3 −	85	12·8	27	35
*	2 +	132	0	+ 401	− 109	4 −	82	7·4	65	45

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

The Past Week.

The following summary record of the weather throughout the British Islands for the week ending June 27, is furnished from the Meteorological Office:—

"The *weather* was at first fine over the southern and eastern parts of the Kingdom, but unsettled in the west and north, with frequent, and in some cases, heavy falls of rain. Later on showery weather became general, and on the 24th thunderstorms or thunder only were reported in many parts of England, as well as in isolated parts of Ireland and Scotland. Towards the close of the week an improvement was reported in most districts.

"The *temperature* agreed very closely with the average in the 'Wheat Producing' districts, and also in 'England, N.W.,' but was slightly above the normal over the western parts of the Kingdom generally. The highest readings occurred mostly on the 27th, when the thermometer rose to 75° and upwards in nearly all the English districts, as well as in 'Scotland, E. and Ireland, N.,' and to 82° in 'England, S.W.' In 'England, N.W. and the Channel Islands' it did not exceed 71°. The lowest readings were observed on various dates in the different districts, but were mostly either on the 22nd or 23rd, or on the 26th or 27th; in the 'Channel Islands' the thermometer did not go below 48°, but in most other districts it fell to between 41° and 44°, in 'Scotland, E.,' to 39°, and in 'Scotland, W.,' to 38°.

"The *rainfall* was less than the mean in all districts, excepting the 'Midland Counties, England, N.W., and Ireland, N.,' where there was a slight excess.

"The *bright sunshine* was very deficient in 'Ireland and Scotland, N.,' and slightly below the mean in 'England, E.' In all other districts the amount was in excess of the normal, the difference in 'England, S.W. and the 'Channel Islands' being large. The percentage of the possible duration ranged from 65 in the 'Channel Islands,' and 59 in 'England, S.W.,' to 18 in 'Scotland, N.,' and 17 in 'Ireland, N.'"

Markets.

COVENT GARDEN, JULY 2.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. Ed.]

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Adiantum, per doz.	4 0	12 0	Heliotrope, per doz.	4 0	6 0
Aspidistra, per doz.	12 0	30 0	Hydrangea, various		
— specimen, each	5 0	15 0	per doz.	9 0	24 0
Calceolaria, p. doz.	6 0	9 0	Ivy Geraniums per		
Cock's-combs, doz.	4 0	6 0	dozen	4 0	6 0
Coleus, per doz. ...	2 0	4 0	Lilium Harrisii, pr.		
Dracæna, each ...	1 0	7 6	dozen pots ...	12 0	21 0
— various, p. doz.	12 0	24 0	Lobelias, per doz....	3 0	6 0
Ericas, various, per			Marguerites, p. doz.	6 0	10 0
doz.	9 0	18 0	Mignonette, p. doz.	4 0	8 0
Evergreen Shrubs,			Palms, various, ea.	2 0	10 0
in variety, doz....	6 0	24 0	— specimens, ea.	10 6	84 0
Ferns, small, doz....	1 0	2 0	Pelargoniums, doz.	8 0	12 0
Ferns, various, doz.	5 0	12 0	— Scarlets, p. doz.	3 0	9 0
Ficus elastica, each	1 0	7 6	Spiræas, per doz. ...	8 0	12 0
Foliage plants, doz.	12 0	36 0			

Bedding Plants in variety.

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Arums, p. 12 blooms	2 0	4 0	Orchids:—		
Bouvardias, per bn.	0 6	0 9	Cattleya, 12 blms.	6 0	12 0
Carnations, 12 bun.	4 0	6 0	Odontoglossum		
— 12 blooms ...	0 6	2 0	crispum, 12 bm.	2 0	6 0
Eucharis, per dozen	2 0	4 0	Pelargoniums, scar-		
Forget-me-nots, p.			let, per 12 bun.	3 0	6 0
doz. bunches ...	1 6	3 0	— per 12 sprays...	4 0	6 0
Gardenias, per doz.	2 0	4 0	Poppy, doz. bun.	0 6	1 0
Lilac, French, per			Pyrethrums, 12 bn.	2 0	4 0
bunch	3 0	5 0	Roses, Tea, per doz.	0 9	1 6
Lilium Harrisii, per			— coloured, per		
bunch	2 0	4 0	dozen... ...	0 9	1 6
— Candidum, per			— yellow (Maré-		
bunch	1 0	2 0	chal), per doz.	3 0	6 0
— 12 blooms	0 4	0 6	— red, per dozen	0 9	1 0
Maidenhair Fern,			— red, doz. bun.	4 0	8 0
per 12 bunches...	4 0	8 0	— Gloire, doz. bn.	4 0	6 0
Marguerites, per 12			— Safrano, p. doz.	1 0	2 0
bunches	2 0	4 0	— Moss, doz. bns	0 6	1 0
Mignonette, p. doz.			Spiræa, doz. bun.	2 0	4 0
bunches	3 0	4 0	Stephanotis, 12 sps.	1 6	2 0
Pansies, doz. bun.	1 0	2 0	Tuberoses, 12 blms.	0 4	0 6

Orchid-bloom in variety.

Vegetables.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Beans, English, per			Mushrooms, per lb.	0 6	0 8
lb.	0 8		— (Outdoor), per		
— Channel Is-			half-sieve ...	3 6	4 6
lands, per lb.	0 6		Peas, per sieve ...	3 0	4 0
— Broad, per half-			Tomatos, home-		
sieve ...	1 0		grown, smooth,		
Cucumbers, per dz.	2 0	3 0	p. doz. lb. ..	4 0	4 6
Marrows, Vegetable,			— ordinary kinds,		
per doz.	1 6	2 6	per doz. ...	3 0	4 0

New Potatos.

Supplies of home-grown come to hand more freely. Prices a shade easier than last week. Market brisk. *J. B. Thomas.*

Fruit.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Cherries, Dukes, p.			Melons, each ..	1 6	2 0
half-sieve ...	5 0	5 6	Nectarines, 1st size		
— Whites, do., in			per doz. ...	12 0	
variety ...	4 0	7 0	— 2nd do., p. doz.	3 0	6 0
— Blacks, do., do.	4 6	6 0	Peaches, 1st size,		
Currants, Black,			per doz. ..	10 0	12 0
½-sieve... ...	6 0	—	— 2nd do., doz.	3 0	4 0
— Red, ½-sieve ...	3 0	—	— 3rd do., doz.	1 6	2 0
Figs, per doz. ...	1 6	2 0	Pine-apples, St. Mi-		
Gooseberries, per			chael, each ...	2 0	5 0
half-sieve ...	2 0	2 6	Raspberries, p. doz.		
— dessert, in			punnets	2 0	2 6
variety, per			Strawberries,		
half-sieve ...	3 0	5 0	(Queen's), per		
Grapes, Alicante, lb.			doz. 1 lb. pun-		
— Hamburgh, lb.	1 0	1 6	nets	12 0	15 0
— Muscats, Eng-			— (Paxtons), per		
lish, per lb. ...	2 6	3 0	doz. 1 lb. pun-		
— Muscat, Chan-			nets .	6 0	9 0
nel Islands, lb.	1 9	2 0			

SEEDS.

London: *July* 1. — Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that to-day's seed market, as usual on Midsummer Wednesdays, presented an inanimate appearance; indeed, stagnation all round is just now the prevailing note. Some small sowing orders still drop in for Tares, Mustard, &c. There is no change in Rapeseed. America, it is worth noting, continues to take Trifolium from England. Some choice Spanish Lentils are now offering on tempting terms. Peas and Haricots are naturally at present neglected. As regards Canary seed, a further fall really looks now impossible. Hemp seed is dull. Other articles at this inactive period call for no comment.

FRUIT AND VEGETABLES.

Borough: *June* 30.—Quotations:—Peas, English, 5*s.* per sack, and 2*s.* to 3*s.* per bushel: French Beans, 2*s.* 6*d.* to 3*s.* per flat; Cauliflowers, 1*s.* 6*d.* to 3*s.* per dozen; Cabbages, 1*s.* 6*d.* to 3*s.* per tally; Spinach, 1*s.* 6*d* per bushel; Marrows, 3*s.* to 8*s.* 6*d.* per dozen; Lettuces, 6*d.* to 1*s.* per score; Onions, English, 6*s.* per tally; do., Egyptian, 3*s.* to 3*s.* 6*d.* per cwt.; do., Portuguese, 4*s.* to 5*s.* per case; Radishes, 2*s.* 9*d.* to 3*s.* per tally; Cucumbers, English, 2*s.* to 3*s.*; do., Dutch, 1*s.* 6*d.* per dozen; Endive, 1*s.* 6*d.* per dozen; Carrots, new, and Turnips, 2*s.* 3*d.* to 3*s.*; Parsley, 1*s.*, and Mint, 1*s.* per dozen bunches; Horseradish, 1*s.* 6*d.* per bundle; Tomatos, English, 4*d.* to 6*d.*; do., Jersey, 4*d.* per lb.; Peaches, 1*s.*; Apricots, 1*od.* to 1*s.* per box; Mushrooms, 8*d.* to 1*s.* per lb.; Strawberries, 3*s.* to 3*s.* 6*d.* per peck; Cherries, English, 3*s.* to 7*s.* per half-sieve; do., foreign, 1*s.* 9*d.* to 2*s.* per basket; Gooseberries, 1*s.* 6*d.* to 2*s.* do.; Red Currants, 4*s.* 6*d.* to 5*s.* 6*d.*; Black do., 5*s.* 6*d.* to 6*s.* 6*d.* per half-sieve; Rhubarb, 1*s.* 6*d.* per dozen bundles; Pine-apples, 2*s.* to 3*s.* each; Grapes, Jersey, 1*s.* per lb.

Spitalfields: *June* 30. — Quotations:—Carrots, 2*s.* to 2*s.* 6*d.*; Turnips, 2*s.* 6*d.* to 3*s.* per dozen bunches; Cabbages, 1*s.* to 3*s.* per tally; Peas, 2*s.* to 2*s.* 6*d.* per bushel; do, 4*s.* 6*d.* to 5*s.* per bag; Broad Beans, 2*s.* to 2*s.* 6*d.* per bag; Lettuce, best, 1*s.* to 1*s.* 3*d.* per score, and 4*d.* to 6*d.* for seconds; Onions, spring, 1*s.* 6*d.* to 2*s.* per dozen bunches; Mint, 1*s.* 6*d.* to 2*s.*; Parsley, 1*s.* 6*d.* to 2*s.* per dozen bunches; Beetroot, 1*s.* 6*d.* to 2*s.* per bushel; Cucumbers, 2*s.* to 3*s.* per dozen; Rhubarb, 1*s.* 6*d.* to 2*s.* per dozen.

Stratford. *June* 30.—Quotations:—Cabbages, 1*s.* 6*d* to 2*s.* 6*d.* per tally; Beetroot, 4*d.* to 6*d.* per dozen; Parsley, 1*s.* 6*d.* to 2*s.* per dozen; Rhubarb, field, 1*s.* to 1*s.* 6*d.* per dozen; Spring Onions, 2*s.* 6*d.* to 3*s.* do.; frame Cucumbers, 1*s.* 6*d.* to 2*s.* 9*d.* do.; Strawberries, 1*s.* 3*d.* to 2*s.* 9*d.* per peck; Gooseberries, 2*s.* to 2*s.* 6*d.* per half-sieve; Raspberries, 3*s.* to 4*s.* per dozen punnets; Currants, Red, 3*s.* to 3*s.* 6*d.* per half-sieve; do., black, 5*s.* 6*d.* to 6*s.* per half-sieve; Cherries, 4*s.* to 5*s.* 6*d* per half-sieve; Tomatos, Guernsey, 3*d.* per lb.; ditto, English, 3*d.* to 4*d.* per lb.; Green Peas, 1*s.* 6*d.* to 2*s.* per sieve; do., 4*s.* to 5*s.* per bag; Broad Beans, 2*s.* 6*d.* to 2*s.* 9*d.* per bag; Carrots, bunched, 1*s.* to 2*s.* per dozen; Mangolds, 17*s.* to 19*s.* per ton; Onions, Egyptian, 3*s.* 6*d.* to 4*s.* per cwt; Apples, Tasmanian, 8*s* 6*d.* to 10*s.* 6*d.* per case.

Farringdon: *July* 2.—Quotations:—Cabbage, 5*s.* per tally; Peas, 3*s.* per bushel; Broad Beans, 2*s.* do.; Marrows, 4*s.* per dozen; Carrots, 4*s.* per dozen bunches; Turnips, do.; spring Onions, 2*s.* 6*d.* per dozen bunches; Radishes, 1*s.* 6*d.* do.; Lettuce, 1*s.* per score; Mint, 2*s.* per dozen bunches; Parsley, do.; Strawberries, 2*s.* 6*d.* per peck; Red Currants, 6*s.* per half-bushel; Black do., 7*s.* do.; Cherries, White-hearts, 6*s.* 6*d.* do.; do., Black, 4*s.* to 5*s.* 6*d.* do.; Raspberries, 5*s.* per dozen punnets; Gooseberries, green, 2*s.* 6*d.* per half-bushel; ripe do., 3*s.* 3*d.* do.; Tomatos, English, 4*s.* 6*d.* per dozen lb.; Pine-apples, 2*s.* each (5 to 6 lb.).

CORN.

Averages. — Official statement of the average prices of British Corn, imperial measure (qr.) for the week ending June 27, and for the corresponding period last year:—1896: Wheat, 21*s.* 10*d.*; Barley, 19*s.* 3*d.*; Oats, 14*s.* 10*d.* 1895: Wheat, 26*s.* 1*d.*; Barley, 20*s.* 3*d.*; and Oats, 16*s.* 7*d.*

POTATOS.

BOROUGH: *June* 30.—Quotations: Old, 15*s.* to 40*s.* per ton; New, 5*s.* to 7*s.* 6*d.* per cwt.

SPITALFIELDS: *June* 30.—Quotations:—Old; High-lands, 32*s.* to 40*s.*; Black-lands, 20*s.* to 30*s.* per ton; Hebrons, £6 to £6 10*s.*; Sutton's Regents, £6 to £7; Jersey Kidneys, £6 to £6 16*s.*; do., Flukes, £6 10*s.* to £7; do., Rounds, £5 10*s.* to £6 per ton.

STRATFORD: *June* 30.—Quotations:—English, 6*s.* 6*d.*; Jersey Kidneys, 6*s* to 7*s.*; do. Flukes, 6*s.* 6*d.* to 7*s.* 6*d.*; Cherbourg, 6*s.* to 6*s.* 6*d.*; St. Malo Flukes, 6*s.* 6*d.* to 7*s.* per cwt. Old: light-soil Bruces, 15*s.* to 25*s.*; Magnums, 15*s.* to 25*s.* per ton.

FARRINGDON: *July* 2.—Quotations:—New: Bedford's Monarch, £6 to £7; Dunbar do., Lincolns, £6 to £6 10*s.*; blackland, £6; Jersey Myatts, £6 to £6 6*s.*; do., Flukes, £6 6*s.* to £7 per ton.

LONDON MARKET AVERAGES: *July* 1.—Early Regents, 6*s.* to 7*s.*; Snowdrops, 6*s.* to 7*s.*; Hebrons, 6*s.* to 7*s.*; Jersey, 6*s.* to 8*s.*; St. Malo, 4*s.* 6*d.* to 5*s.* 6*d.*; Cherbourg, 5*s.* to 6*s.* per cwt. Old: Dunbar Main Crop and Bruces, 30*s.* to 40*s.* per ton.

HAY.

Averages.—The following are the averages of the prices at the metropolitan markets during the past week:—Clover, prime, 65*s.* to 90*s.*; inferior, 38*s.* to 60*s.*; Hay, best, 60*s.* to 87*s.*; inferior, 30*s.* to 55*s.*; mixture, 60*s.* to 84*s.*; and straw, 20*s.* to 40*s.* per load.

NOTICES TO CORRESPONDENTS.

BOOKS - ENTOMOLOGY: *Margaret.* The last edition (second) of the *Manual of Injurious Insects, and Methods of Prevention*, by Eleanor A. Ormerod (Simpkin, Marshall, Hamilton, Kent & Co., London), price 5*s.*

BOOKS: *Jasper. The Garden Calendar*, by T. W. Sanders, published by Hamilton, Adams & Co., Paternoster Row, price 2*s.* 6*d.* If you require a still cheaper work, *The Cottagers' Calendar*, published at this office, price 3*d.*, should be obtained. It is an admirable manual of its kind.

DRESSED HARDING: *Mushroom.*—Apply to the Horticultural sundriesmen in a large way of business, or tarpaulin-makers.

GLADIOLUS THE BRIDE: *R. M.* Some injury has probably befallen the parent-bulb, destroying the flower, and resulting in the formation of numerous small bulbs. These will probably flower next year.

KEW: *A Lover of Kew.* On application to any of the gate porters, you will be furnished with hand lists (about a dozen) of the plants grown in the various departments of the garden, and of the contents of the various museums, and the North Gallery. A description of Kew as it then was, is to be found in our issue for August 5, 1876.

MUSHROOM CULTURE: *S. H. J.* Like the correspondent you mention, we should advise you to go to work tentatively, and half an acre of land would suffice for a beginning. It is not alone sufficient for you to produce Mushrooms, you must find customers for the same. Obtain a name, if you can, as a grower; in fact, get well known in the markets, and endeavour to come into direct relations with retail buyers through the post, and by taking advantage of the recent introduction of the small parcels tariff on some of the railways. A Mushroom cultivator is no more removed from the risks attendant on all business pursuits than other men; but as at the present time the cultivation of the esculent lags behind demand, there must be money in it for some years to come, even should the prices obtainable in summer and winter fall to one-half of those that are usual. Obtain the issue of the *Gardeners' Chronicle* for January 11 of this year, and you will see some of your queries answered by a noted grower. Do not trust too implicitly the estimates of the income to be derived from Mushroom culture framed by those who have not been growers for market.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to be so good as to consult the following number.—Hortus.* Dendrobium chrysanthum.—*N. C.* 4, Pteris hastata; 5, Pteris argyræa.—*D. B., Rappart.* A very fine variety of Iris Kæmpferi.—*Weeds.* The nail-galls on the leaf of Lime-tree are caused by a mite—Phytopus tiliæ. The blue flower is Lathyrus cyaneus.—*G. T.* Polygonum sachalinense (Polygonaceæ), North-east Siberia, &c.—*W. C.* Habenaria bifolia. *W. J. P.* 1, Galega officinalis; 2, Lychnis chalcedonica; 3, Abies concolor; 4, Rhododendron ferrugineum; 5, Sedum rupestre.—*Enquirer.* 1, Campanula persicifolia; 2, Campanula, specimen insufficient; 3, Carduus, which we cannot name without the leaf; 4, Antennaria tomentosa; 5, Gladiolus illyricus; 6, Valeriana officinalis.—*E. H.* Cistus ladaniferus.—*A. B.* Saxifraga longifolia.—*F. F. S.* We are sorry to be unable to name your Pomegranate. The French cultivate many varieties that are not known here.—*A. B.* 1, No flowers—apparently Tanacetum vulgare; 2, Taxodium distichum; 3, Reseda luteola; 4, Spiræa ariæfolia; 5, Deutzia crenata, double-flowered; 6, Spiræa chamædrifolia; 7, Farfugium grande.—*G. W.* 1, Anthericum lineare variegatum; 2, Colutea arborescens; 3, Sedum tortuosum var.; 4, 5, Roses—send to some nurseryman.—*G. F. B.* 1, Galega officinalis alba; 2, Tradescantia virginica; 3, Veronica spicata; 4, Sidalcea malvæflora; 5 Levisticum officinale, Lovage; 6, Daphne Mezereum.—*G. H.* Lælia crispa, generally but erroneously called in gardens Cattleya crispa.—*A. B.* Crassula coccinea, unusually rich scarlet-crimson.—*D. M. W.* Probably Sambucus ebulus, but you enclosed a devouring caterpillar, who left but little of the leaf, but many traces of his voracity.—*W. P.* 1, Hyoscyamus niger, Henbane; 2, Impatiens, perhaps I. Sultani. Why send such scraps? you do not realise what they are like when we receive them.—*Thorp.* 1, Collomia coccinea; 2, not recognised; 3, Veratrum viride; 4, Ranunculus aconitifolius.—*G. T. B.* Lathyrus cyaneus.

PEAR: *F. G. G.* The common slug-worm, very destructive. Selandria atra.

PEAR FLOWERING ON THE WOOD OF THE YEAR: *C. B.* This is not a very unusual occurrence, particularly in some varieties, as Napoleon. A similar thing happens in the Laburnum and other trees which normally produce their flowers on spurs.

SOUTH AFRICA: *Amor Patriæ.* If you enquire at the Emigration Office, Broadway, Westminster, they will furnish you with the kind of information that you want.

SPECIMENS AND BOOKS: *W. H. P.* If you live in the vicinity of a botanic garden you can obtain specimens. Text-books are legion, very few of them deal with the properties of plants. *Henfrey's Elementary Course* (Van Voorst) is the fullest in this department. Have you asked at the Cambridge or Oxford Local?

TARRED STAGING: *A. E. H.* We do not know what you can do to remove the tar cheaply. Why not consult a builder about the matter?

TOMATOS: *A. E. H.* You will find farmyard drainings in a diluted form a good manure, and failing those, Peruvian guano, sprinkled on the soil in small quantities, or mixed with the water used for watering, quite safe in use. Sheep, pigeons, and fowls-droppings are good for the plants. These should be partially dried, so that they will readily pass through a ¼-inch or finer-meshed sieve. If artificials must be used, use nitrate of soda, superphospate of lime, and potash.

TOMATOS WITH DISEASED FRUITS: *T. Martin.* They are affected with Cladosporium lycopersici (the black spot). There is no remedy when a fruit is attacked by this species of fungus, but we would recommend a mild form of the Bordeaux Mixture to be used on the plants whilst there are no ripening fruits on them, and the gathering and destruction by burning of every affected fruit forthwith.

COMMUNICATIONS RECEIVED.—Laker (next week).—P. G. N.—W. H. D.—J. I.—W. W. R.—J. D.—R. D.—Emigration Office.—T. F.—F. W. B.—J. J. W.—W. H. D. (next week).—J. Veitch & Sons.—W. W., Taymouth Castle.—C. W. D.—Jain M.—A. F. B.—J. A.—H. W. W.—C. H. P.—H. G. C.—W. E. G.—Macmillan & Co.—T. A. D.—I. R.—W. C.—L M.—H. W. W.—J. A.—Reeve & Co.

PHOTOGRAPHS, SPECIMENS, &C., RECEIVED WITH THANKS.—Sir C. W. S.

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

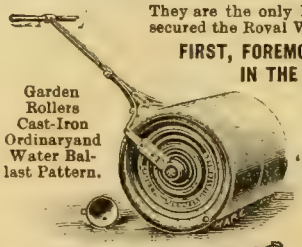
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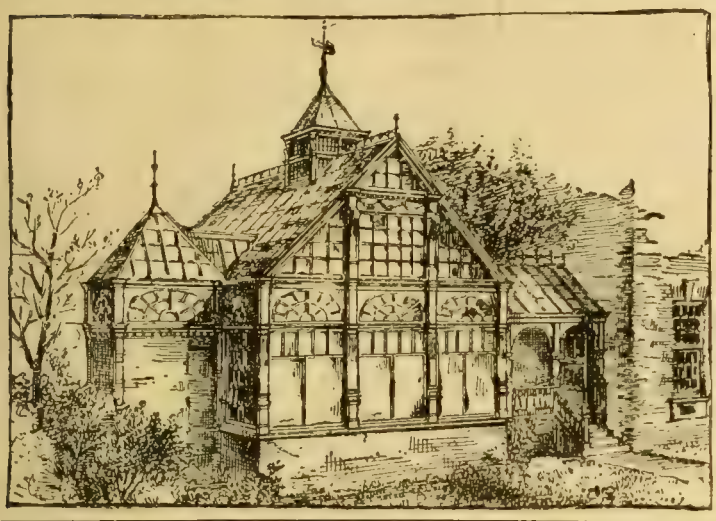
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GARDENING APPOINTMENTS.

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Mr. WM. CHRISTISON, for ten years Gardener at Homewood, Chislehurst, Kent, has been appointed Gardener to Mrs. FRESHFIELD, Kidbrooke Park, Forest Row, East Grinstead, Sussex.

Mr. T. ATKIN, until recently Head Gardener at Hintlesham Hall, Ipswich, as Head Gardener to G. E. JARVIS, Esq., Doddington Hall, Lincoln.

Mr. R. V. SMITH, for the past three years Gardener at Nork Park, Epsom, as Gardener to J. ROLLS HOARE, Esq., West Grinstead Park, Sussex, entering on his new duties on July 4.

Mr. DUNCAN MCINTYRE, late Foreman at Ardgowan Gardens, N.B., as Head Gardener to Lord MOUNTSTEPHEN, Brocket Hall, Herts.

Mr. B. T. KINGSLEY, formerly at Hutton Park, and Buckland, Breconshire, as Gardener to Mrs. GOUGH NICHOLLS, Holmwood Park, Dorking, Surrey.

Mr. T. KINGSLAND, until recently Head Gardener st Ridge wood House, Uckfield, Sussex, as Head Gardener to General BUCHANAN, West Dean, near Chichester, Sussex.

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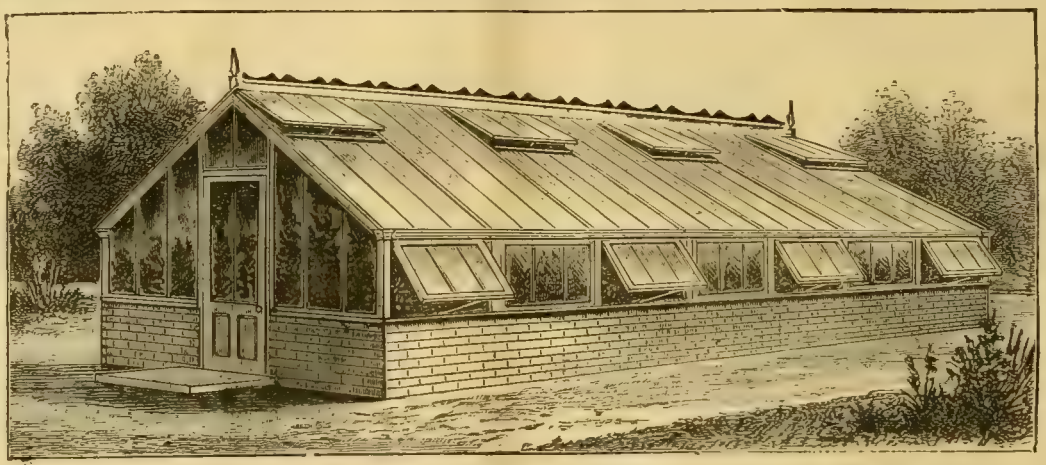
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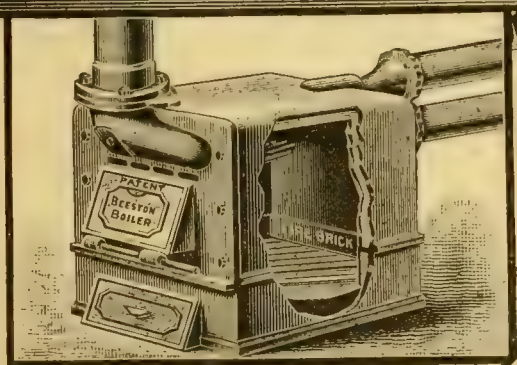
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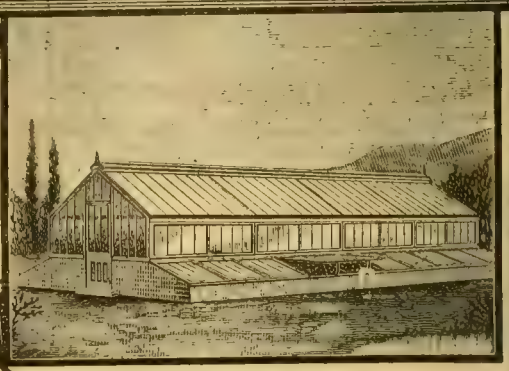


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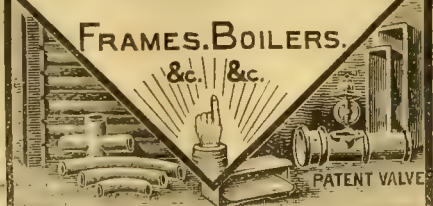
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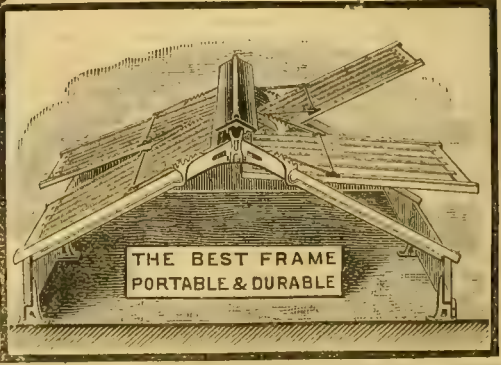


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Editorial communications should be addressed to the "Editor;" Advertisements and Business Letters to "The Publisher," at the Office, 41, Wellington Street, Covent Garden, London W.C.
Printed for the Proprietors by Messrs. BRADBURY, AGNEW, & Co. (Limited), Lombard Street, Precinct of Whitefriars, City of London, in the County of Middlesex, and published by HARRY GILLARD COVE, at the Office, 41, Wellington Street, Parish of St. Paul's, Covent Garden, in the said County.—SATURDAY, July 4, 1896. Agent for Manchester—JOHN HEYWOOD.

The Gardeners' Chronicle

ESTABLISHED 1841. No. 2898.

No. 498.—Vol. XX. {Third Series.} SATURDAY, JULY 11, 1896. {Regt. as a Newspaper. / With Supplement.} Price 3d. Post-free, 3½d.

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BOX'S BEGONIAS, for quality and quantity, are unequalled; obtained highest award for Begonias exclusively at the Temple Show. Exhibition, June till September, at West Wickham Nursery, near Station, Mid Kent, S.E.R. A visit solicited.—JOHN R. BOX, Croydon.

Important to Mushroom Growers.

CUTHBERT'S SPECIALITÉ MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5s.
R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

CARNATIONS. — JAMES DOUGLAS begs to announce that his CATALOGUE for Autumn, 1894, and Spring, 1897, is now ready. It contains descriptions of the New Border and New Malmaison Carnations, with Cultural Directions. SEEDLING CARNATIONS, best strains, 3s. 6d. per dozen; 25s. per 100. Catalogue post-free.
Edenside, Great Bookham, Surrey.

WANTED, a large, well-furnished PALM (Latania or Corypha), 5 to 6 feet high, in Exchange for Retarded Lily Crowns, or '96 crop in the Autumn. Particulars with price, to—
T. JANNOCH, Lily Nursery, Dersingham, Norfolk.

WANTED, for West End Hotel, a House to SUPPLY PALMS and other DECORATIONS by Yearly Contract.—Apply by letter, to C. P., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

BARR'S AUTUMN FLOWERS.
Plant during July or August to flower this Autumn.
Barr's beautiful and rare species of Crocus, Meadow Saffrons, White Lily of the West Wind, Yellow Lily of the Field, &c.
Descriptive LIST on application.
BARR AND SON, 12, King Street, Covent Garden, London.

Table Plants.

DRACÆNAS, CROTONS, ARALIAS, COCOS, GEONOMAS, &c.
Handsome Plants for Table Decoration.
B. S. WILLIAMS & SON, Victoria and Paradise Nurseries, Upper Holloway, London, N.

Sow Now, for Early Flowering in Spring.

ROEMER'S SUPERB PRIZE PANSIES.
The Finest Strain of Pansies in the World.
Introducer and Grower of all the Leading Novelties.
CATALOGUE free on application.
FRED. ROEMER, Seed Grower, Quedlinburg, Germany.

CALCEOLARIA. — GARAWAY & Co. offer Seed of the finest Herbaceous Calceolaria (Rapley's)—see Gardening papers—at 1s., 1s. 6d., and 2s. 6d. per packet.
GARAWAY AND CO., Clifton, Bristol.

The Nurserymen, Market Gardeners, and General

HAILSTORM INSURANCE CORPORATION, Limited.—Offices, 1 & 2, King Street, Covent Garden, W.C. Chairman, HARRY J. VEITCH.
Manager and Secretary, ALEX. JAMES MONRO.

PALM SEEDS.—PLANT NOW.—Just arrived, Kentias, Coryphas, Phœnix, Cocos, Seaforthias, and others. 100 in variety, to name, free, 2s. 6d.; 500 for 10s. Price to the Trade on application.
MORLE AND CO., Conservatories, Finchley Road, N.W.

LOVELS' YORKSHIRE STRAWBERRIES.
Rooted Runners, from Maiden Plants:—
Royal Sovereign, Noble, Thury, Paxton, President, and others, 6s. per 100. Ready in August. Sample dozen, 1s.
W. LOVEL AND SON, Driffield.

BEGONIAS of the newest and most superb type, including many rare varieties, Double and Single, for Conservatory or Bedding. See B. R. Davis' Descriptive CATALOGUE, free. A handsome coloured plate of Six Double Varieties and a Treatise on Cultivation, free for 1s.
B. R. DAVIS, Yeovil Nurseries, Yeovil, Somerset.

ORCHIDS — ORCHIDS — ORCHIDS.
SHOWING FOR BLOOM.
Cattleya Harrisoniæ violaceæ, C. labiata autumnalis, Dendrobium chrysanthum, D. transparens, Lælia anceps, Lycaste Deppei, L. Skinneri, Odontoglossum Cervantesii, O. crispum, O. Rossii majus. All guaranteed thoroughly established, healthy, and vigorous. 3s. each, or any eight for 21s.; packing and carriage paid for cash with order. Send for special Monthly List.—J. HUBERT GROGAN AND CO., Railway Nurseries, Worthing.

THE "LONDON" TOBACCO JUICE.—Duty free. Will bear diluting with from four to eight parts of water. In Bottles: Pints, 1s; quarts, 1s. 9d; half-gallon, 2s. 6d; gallon, 4s.; or in casks of 10 gallons and upwards at 2s. 6d. per gallon. Sold by all Seedsmen.
Sole Makers: CORRY & CO. (Ltd.), LONDON, E.C.

DOBBIE'S FERTILIZING COMPOUND.—A high class Artificial Manure for all Horticultural Purposes. Tin, about 2 lb., 1s 3d.; 61. bag, 3s.; per cwt., 25s.
All Carriage Paid.
DOBBIE AND CO., The Queen's Seedsmen, ROTHESAY.

HORTICULTURAL MANURE. — Chiefly composed of Blood and Bones. The best fertiliser for all purposes. Sold in tins, 1s. & 2s. 6d.; also in air-tight bags, ¼ cwt., 6s.; 1 cwt., 10s. Full directions for use sent with each tin and bag; 1 cwt. and above sent carriage paid. Cash with order.—C. BEESON, Bone Mills, St. Neot's, Hunts.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings. Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W. Telegraph Address, "Hortulanus, London." Telephone, No. 8728

SALES BY AUCTION.

Friday Next, July 17.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. F. Sander & Co., St. Albans, to SELL by AUCTION, at their Central Auction Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, July 17, at half-past 12 o'Clock precisely, a consignment of

RENANTHERA IMSCHOOTIANA.—A dwarf, compact growing, new species, with immense panicles of large, brilliant, orange-vermilion blossoms. The gem of the genus now introduced for the second time by us, only a few plants to hand, and all are offered without any reserve. The flowers are produced on plants 6 inches high. The inflorescence is a bouquet of brilliant vermilion blossoms. As many as sixty blooms are borne on a spike, the large size of the of the panicles and flowers, and the immense number produced by the plant being totally out of proportion to its size. The plant covers itself with its glorious masses of blossom. The habit is dwarf, and the culture simple. There is no doubt, but that it is the most charming of the genus. An Award of Merit was accorded it by the Orchid Committee of the Royal Horticultural Society, June 11, 1895.

A large consignment, in splendid order, of

CYMBIDIUM LOWIANUM VAR., from the same district whence came the plants offered in our Sale of July 3. The district is almost inaccessible, and great difficulty was experienced in getting the plants to the coast. Although never yet obtained from Upper Burmah, we believe C. Hookerianum is among the plants offered.

A PHAIUS SPECIES from Burmah, probably a form of P. Sanderianus.

A VANDA SPECIES (Roxburghii?).—The plants bear a strong resemblance to V. Roxburghii, and they are probably a form of that species, but no information has been received regarding them.

A splendid assortment of CALANTHE HYBRIDS, comprising the most beautiful and latest raised :—

CALANTHE WM. MURRAY.—Flowers white and crimson.
" HAROLD.—Rosy-carmine and crimson.
" CLIVE.—Rosy-carmine, orange-ochre throat, sepals shading into white.
" SANDHURSTIANA.—A strong-growing, most richly-coloured form.
" VICTORIA REGINA.—Rosy-pink petals and sepals, lip almost white.
" COOKSONII.—A splendid snowy-white-flowered hybrid.
" BRYAN.—Flowers pure white, with an intense black-purple-maroon throat.
" NIVALIS, pure white flowers, with a yellow disc, produced in great profusion.
" REGNIERII, sepals and petals white, labellum rosy-pink.
" VESTITA RUBRO-OCULATA, a splendid variety, flowers white, the lip having a crimson blotch in centre.
" " LUTEO-OCULATA, SANDER'S VAR.—The grandest variety of luteo-oculata.
" RUBENS ALBA.—A pure white variety.
" LAUCHEANA.—A very distinct cross, flowers of a distinct blue colour.
" SYLVATICA.—A very rare species.
" VERATRIFOLIA.—A popular well-known species. Calanthes are unequalled for winter decoration, and the foregoing hybrids are the finest subjects for that purpose.

DENDROBIUM NOBILE, LANG TANG VARIETY.—From this district a host of splendid forms have emanated, and no doubt the present consignment will add to the number. Also rare, interesting, curious, fascinating, weird, mimical, attractive, exquisite, delightful, piquant, remarkable, charming and beautiful Orchids.

THUNIA BENSONIÆ, DENDROBIUM CLAVATUM.

DENDROBIUM FORMOSUM GIGANTEUM.—A wonderfully free-flowering Dendrobe, admirably adapted for exhibition purposes, and most useful to the florist.

DENDROBIUM DALHOUSIEANUM, D. CHRYSOTOXUM, D. SANGUINOLENTUM, D. INFUNDIBULUM, D. FARMERI, D. FIMBRIATUM, D. THYRSIFLORUM, D. DENSIFLORUM.

A number of extra fine well-leaved short plants of VANDA CŒRULEA, a CŒLOGYNE SPECIES from Upper Burmah, &c.

On view morning of Sale, and Catalogues had.

NOTICE OF FIRST CONSIGNMENT

OF

LILIUM HARRISII.

MESSRS. PROTHEROE AND MORRIS beg to announce that they have just received notice of the First Consignment of about—

40,000 Bulbs of LILIUM HARRISII,

which are expected to arrive about the third week in August, when they will at once be offered at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C.

Central Auction Mart, Bristol.

DENDROBIUM PHALÆNOPSIS SCHRODERIANUM, semi established, and unflowered; the best ever offered in the West of England; immense bulbs, and strong young growths; 50 plants; from G. R. Bryant, Esq., Bath, to make room for cool-house Orchids. CATTLEYA DOWIANA AUREA, ODONTOGLOSSUM ROSSII MONSTROSUM, LÆLIA PRÆSTANS, ONCIDIUM KRAMERI, &c., from Messrs. W. L. Lewis & Co. Also, another property, ODONTOGLOSSUM CRISPUM, PACHO TYPE, very fine imported stuff; DENDROBIUM CAMBRIDGEANUM, semi-established; &c.

MESSRS. DUROSE SUTTON AND CO. will SELL the above by AUCTION, on THURSDAY NEXT, July 16, 1896, at half-past 11 o'Clock precisely.

Catalogues of the Horticultural Auctioneers and Valuers, 1, Queen Anne Buildings, Bristol; and at Frome, Somerset.

Gunnersbury, W.—Dissolution of Partnership.—PRELIMINARY NOTICE of Important UNRESERVED SALE of unusually well-grown SPECIMEN and other PALMS in great variety, all of which are in splendid health, and free from scale. By order of Mr. Percy Cox.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, on the Premises, The Oxford Nurseries, Oxford Road, Gunnersbury, W., five minutes from Gunnersbury Station, on WEDNESDAY, July 29, at 2 o'Clock.

Further particulars will appear.

Sutton and Heston, Hounslow, Middlesex.

By order of the trustees of the late Mr. Frederick Salmon.

MR. WOODS has been favoured with instructions to SELL by AUCTION, at the Red Lion Hotel, Hounslow, on WEDNESDAY, July 22, 1896, at 2 for 3 o'Clock in the afternoon (in lots), FREEHOLD, COPYHOLD, and LEASEHOLD ESTATE as under :—

Compact Homestead, situate at Sutton, comprising a Detached Residence, with large Yard, Stabling, Lofts, Barn, Packing Sheds, Stores, Cart Houses, and Outbuildings, with Gardens, Meadow, Orchard, &c. Area about 1a. 3r. 26p. Copyhold of the Manor of Heston.

A tract of Land situated at Sutton. Area 6a. 0r. 0p. Planted with Fruit Trees and Bushes. Copyhold of the Manor of Heston.

Piece of Freehold Land adjoining last lot, containing about 9a. 2r. 37p., planted with Fruit Trees, Gooseberry Bushes, and Currants, possessing an immense frontage to main roads, within a few minutes of the Heston Hounslow District Railway Station.

Three Cottages, situate at Lampton, and known as Nos. 5, 6, and 7, Agnes Place, producing £35 6s. 0d. per annum. Copyhold of Syon Manor.

Beneficial Interests in Leases of Sutton Orchard, containing 9 acres.

Market Garden Land known as "Salmon's Ground," New Heston, containing about 5a. 1r. 24p., planted with young Fruit Trees and Bushes.

"The Rides," Heston, containing 12 acres, planted with young Fruit Trees and Bushes.

Pieces of Land with the Fruit Trees, Bushes, and Strawberries, situate at Lampton, containing 11a. 3r. 29p.; piece of Meadow Land adjoining the above, containing about 2a. 0r. 0p.

Pieces of Arable Land fronting Sutton Lane known as Sutton Fields, containing together about 10 acres.

Lyon's Close, containing about 3a. 0r. 28p.; also the Land adjoining, containing about 8a. 3r. 12p., with an approach from the Lampton Road.

Piece of Land, containing 8a. 2r. 26p., known as Barrack Field.

Holding situate at Sutton, Middlesex, and known as Hart's Farm, with Farmhouse-cottage, Farm-buildings, and Fruit and Arable Land; area about 47 acres.

Particulars, with conditions, had at the Red Lion Hotel, Hounslow; of HUGH R. PEAKE, Esq., Solicitor, 172, High Street, Hounslow, and at 2, Clement's Inn, Strand, London; and of Mr. WOODS, Auctioneer and Valuer, Hounslow.

ORCHIDS! ORCHIDS!

LOVERS OF SPECIAL

AND

RARE DENDROBIUMS

AND OTHER

CHOICE ORCHIDS,

Should not fail to see the Catalogue making the

SPECIAL OFFER

OF A

LARGE PRIVATE COLLECTION

ON SALE BY PRIVATE TREATY,

BY

JOHN COWAN & CO., Ltd.,

THE VINEYARD and NURSERIES,

GARSTON, near LIVERPOOL.

Catalogues, POST FREE *on application.*

FOR IMMEDIATE SALE, cheap, good PALMS, some 8 feet; large AZALEAS, CAMELLIAS, specimen plants; CACTUS, in 16 and 32-pots; ASPIDISTRAS, CLIVEIAS, and other GREENHOUSE PLANTS.

Apply, 22, Lyndhurst Road, Peckham, S.E.

HADLEIGH, SUFFOLK.—TO BE DISPOSED OF, the Lease, Goodwill, Stock in Trade, and Glass Erections, &c., of above NURSERY, comprising about 1¾ acres of Land, convenient DWELLING HOUSE, Packing and Potting Sheds, SEED SHOP, and Fittings. Lease about nineteen years unexpired. Rent £27. No other Nursery within several miles. Price £150. Apply to—

WILLIAM BADMAN, Cemetery Nursery, Gravesend.

GRAVESEND.—FOR SALE, GOODWILL, FIXTURES, and STOCK, &c., of COMPACT NURSERY.—8 well-built Greenhouses, with the lease of the Dwelling-house, containing 12 rooms and spacious cellarage, and 2 Greenhouses, and 1½ acres of good Land; the glass is about 600 feet run; the whole heated by two new tubular boilers. Lease about 10 years, with renewals. Rent £50 per annum. Apply—DIXON, Spencer Park Nursery, Wandsworth Common, S.W.

Near the Crystal Palace.

FOR DISPOSAL, a SMALL NURSERY, about an acre, well stocked; about 1000 feet of glass, doing a fairly good Jobbing Business. Established by Advertiser over twenty years. Rent of House and Grounds very moderate. Full particulars from—

J. POWER, The Nursery, Madeline Road, Anerley, S.E.

FOR SALE, COMPACT NURSERY, 8 miles of Covent Garden, on the main road, near two railway stations. Convenient Cottage, 9 Houses, and Range of heated Pits, all filled with Tomatos, Grapes, Cucumbers, and water laid on. Rent £35 on lease.—For particulars apply, A. W. COOPER, Florist, 49, Upper Park Road, Hampstead.

FOR SALE, Old Established NURSERY, SEED, and JOBBING BUSINESS. Same hands twenty years. Goodwill, Stock, Fixtures, &c., as it stands. Full particulars on application.

G. N., 3, Station Buildings, Wightman Road, Hornsey, N.

LONDON, N.W.—Aristocratic neighbourhood, for immediate SALE, Thorough genuine FLORIST'S BUSINESS. Established upwards of 20 years. Owner retiring from business. Average turnover for last three years, £4250. Large profits. Premises comprise Noble Shop and Commodious Dwelling-house. Lease, 7, 14, or 21 years. Rent, £150 per annum. Strictest investigation invited. Price, £1600.

Also, 3 Acres of productive LAND, near Harrow-on-Hill, with small Stock, can also be had if desired. Price, £260 per acre. Full particulars of PROTHEROE AND MORRIS, 67 and 68, Cheapside, E.C. (Folio 8813.)

SURREY.—FOR IMMEDIATE SALE, genuine NURSERY BUSINESS—1¾ Acres walled in, 15 modern Greenhouses. Commodious House. Stabling and Outbuilding. Lease 14 years. Rent £50. Splendid connection in London and Local Trade. Value of stock £900. Price all at £1050. Full particulars, PROTHEROE AND MORRIS, 67 and 68, Cheapside, London, E.C. (8835).

FOR DISPOSAL, a good FLORIST'S and SEEDSMAN'S BUSINESS, doing a good Cut Flower, Plant, Seed, and Bulb Trade, with capital Jobbing Gardening Connection, in fashionable part of large West of England Town. This is a genuine concern, and will bear inspection.—H. E. H., 41, Wellington Street, Strand, W.C. No agents.

To Nurserymen and Florists commencing Business.

HAMPTON-ON-THAMES, on the Marling Park Estate, free from London fogs, a deep rich loam, the favourite neighbourhood for Growers, FREEHOLD LAND for SALE on easy system of Purchase, or to be LET on Lease.

For full particulars, apply to Mr. FREDK. G. HUGHES (Surveyor), the Estate Office, Hampton-on-Thames.

Land in Denman Road, Camberwell.

TO BE LET, on Lease or otherwise, a PIECE of LAND, on the east side of Denman Road, with a frontage of 36 feet, and depth of 120 feet, with some Glass-houses, fitted with Hot-water arrangement. Suitable for a Small Nursery.

For leave to view, apply at 22, Lyndhurst Road, Peckham, from 11 to 4 o'Clock, P.M. No agents need apply.

TO LET, within easy reach of Bournemouth, SMALL NURSERY, well stocked with Conifers, Fruit Trees, &c. Three Glass-houses, Pits, and Frames. Apply to—W. T. DIXON, Borough House, Wimborne, Dorset.

TO LET.—In the North of England, near large country town, and only 1 mile from station on Midland line, a productive PRIVATE KITCHEN GARDEN of about 2½ acres. Excellent range of Glass, Vineries, Peach-house, Stove Melon-house, Forcing-pit, Greenhouse, &c., and whole Garden in first-rate order. Owner would buy certain amount of produce weekly besides hiring Plants, &c., when required. Address, by letter only to—

B. M., 4, Mount Street, London, W.

ARUMS.—About 200 strong Bulbs for Sale, cheap.—HEAD GARDENER, Wellingore Hall Gardens, Lincoln.

ODONTOGLOSSUM LONDESBOROUGHIANUM, O. MADRENSE, LÆLIA PEDUNCULARIS, and L. DAYANA. All fine imported plants, in grand condition, 2s. 6d., 3s. 6d., 5s., and 7s. 6d. each.

W. L. LEWIS AND CO., Southgate, London, N.

CHEAP OFFER of transplanted CELERY, BRUSSELS SPROUTS, &c.—Clayworth Pink Celery, Red and Giant White, also Ayton Castle Leeks, 5s. per 1000; 5000 lots, 4s. 6d.; 10,000 lots 4s. per 1000. Wroxton Brussels, 3s. per 1000; 5000 lots, 2s. 6d. per 1000; 10,000 lots, 2s. per 1000. Broccoli, Savoy, Early Cabbage, Curled Greens, &c., 3s. per 1000; 5000 lots, 2s. 6d. per 1000. Cash with order.

GEO. YORKE, Plantist, Retford.

Choice Vegetable Seeds.

FOR AUTUMN SOWING.

H. AND F. SHARPE will be pleased to give Special Quotations for their fine Selected Stocks of CABBAGE, TURNIP, LETTUCE, ONION, RADISH, and other SEEDS suitable for AUTUMN SOWING, which will be found very advantageous to Purchasers. Also fine samples of WHITE MUSTARD, and Sowing RAPESEED, at moderate prices.

SEED GROWING ESTABLISHMENT, WISBECH.

30,000 SEEDLING FERNS.

PTERIS CRISTATA, 34s. per 1000, Packing Free.
Sample 100, 4s., Carriage Free.
Terms, Cash with Order.
PTERIS TREMULA, in 48's, 4s. per dozen, } Packing Free.
CYRTOMIUM, 3s. 6d per dozen. }

SAVAGE & SON, PLASHET NURSERY, EAST HAM.

CHRYSANTHEMUM GUIDE
AND
CHRYSANTHEMUM ALBUMS.

I have a few of these valuable works left, and will send a copy of each, post-free, 2s., or separately. The Guide, 8 stamps, the Album, 18 stamps.
Both are invaluable to Chrysanthemum Growers.
H. J. JONES, Ryecroft Nursery, Lewisham.

TREE CARNATIONS, for Winter-blooming. —Try a sample doz. box on rail for 5s. to include Miss Joliffe Improved, La Neige, Reginald Godfrey, Sweet Briar, Portia, Daybreak (these last three Americans); M. Thérèse Franco, and W. Scott.

BOUVARDIAS in great variety, 2s. per doz.

BEGONIAS.—The finest strains obtainable. Singles, 2s. per dozen; Doubles, 3s. 6d. per dozen.

GLOXINIAS.—Hethersett noted strains, and Emperor Frederick.
All packed on rail for cash with order.
JAMES GREEN, Reliance Nurseries, March.

ORCHIDS. — ORCHIDS. — ORCHIDS.
About 1500 ORCHIDS, newly imported, and in splendid condition, for Sale. Apply to Mr. WM. YOUNG, 18, Waverley Market, Edinburgh.
Any reasonable offer will be accepted, or they can be sold in lots, to suit purchasers.

☞ REASONS WHY YOU SHOULD PURCHASE
LAXTONS' TWO GRAND NEW STRAWBERRIES
Laxtons' "Monarch" & Laxtons' "Leader."

BECAUSE
LAXTONS' "MONARCH"
is the finest flavour extant, of enormous size, most brilliant scarlet colour, and beats Royal Sovereign hollow.

BECAUSE
LAXTONS' "LEADER"
is the largest Strawberry ever introduced, of the finest flavour, the grandest second early forcer, and the best all-round main crop.

For the above, and all the best Strawberries in cultivation, go to
LAXTONS, STRAWBERRY SPECIALISTS, BEDFORD.
The Largest and Finest Stock in England, therefore Cheapest.
FULL ILLUSTRATED AND DESCRIPTIVE LIST POSTED ON APPLICATION.

CLEANSE & FERTILIZE YOUR FRUIT TREES & PLANTS
With the CELEBRATED XL ALL
HORTICULTURAL SPECIALITIES.

XL ALL VAPORISING FUMIGATOR.—The Cheapest, Most Simple, and Best Fumigator in existence. A liquid compound, simply evaporated from a small copper cup by the agency of a spirit lamp.

Compound
For using in the Fumigators.

Bottle.	Enough for cubic feet.	s.	d.
No. 1	40,000 ..	24	0
No. 2	20,000 ..	13	0
No. 3	10,000 ..	6	6
No. 4	5,000 ..	3	3



Fumigators
(Will last for Years).

To do 5,000 cubic feet of space at a time, 2s. each.

To do 2,000 cubic feet, 1s. 9d. each.

Showing a cost for fumigating of only 8d. per 1000 cubic feet of space.

XL ALL LIQUID INSECTICIDE (Wash).—The most certain in effect and safest Wash in the market. 1 pint, 2s.; 1 quart, 3s. 6d.; ½ gallon, 5s.; 1 gallon, 10s.

XL ALL TOBACCO POWDER.—The strongest and finest grade of Powder yet produced. In 6d., 1s., 2s. 6d., and 5s. tins.

XL ALL MILDEW WASH.—A clear liquid. Kills Mildew and Insects at the same time. Does not Mark or Stain Fruit, Flowers, or Foliage. Price, 1 gallon, 12s. 6d.; ½ gallon, 6s. 6d.; 1 quart, 4s.; 1 pint, 2s. 6d.

XL ALL LIQUID MANURE.—1 pint, 1s.; 1 quart, 1s. 6d.; 1 gallon, 3s. 9d.; 4 gallons, 12s. Cheaper in bulk. To be used one part to fifty of water, making the cheapest Plant Food in the market.

XL ALL PERFECTLY SOLUBLE MANURE.—For Top-dressing and Dissolving in Water. In 1s., 2s. 6d., 5s., and 10s. tins.

XL ALL GRADUATING MANURE.—For Mixing with the Soil when Re-potting, or Making up New, or Renovating Old Borders. In 1s., 2s. 6d., and 5s. tins. In bags, ¼ cwt., 10s. 6d.; 1 cwt., 21s. In bulk, at Special Rates.

The above Specialities may be had from all Nurserymen, Seedsmen, Florists, and Sundriesmen.

C. H. RICHARDS, Sole Manufacturer, **OLD SHOT TOWER WHARF, LAMBETH, LONDON, S.E.**

EXHIBITIONS.

SALTERHEBBLE and DISTRICT ROSE SHOW.—THURSDAY, July 16. Schedules may be had of JNO. E. BROOKS, Sec., 4, Savile Park Street, Halifax.

CHESTER HORTICULTURAL SHOW and FÊTE.—AUGUST 5 and 6, 1896.
OVER £400 in HORTICULTURAL PRIZES.
Entries Close July 15.
J. WYNNE FFOULKES, Hon. Sec.
Crypt Chambers, Eastgate Row, Chester.

ROYAL BOTANICAL GARDENS, MANCHESTER.
ANNUAL ROSE SHOW,
JULY 25, 1896.
Early Entries respectfully invited. Address, HON. SEC.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free.
P. McARTHUR, The London Nursery, 4, Maida Vale, London, W.

HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.C.
Highest Market Prices. Prompt cash.

GERANIUM and PELARGONIUM CUTTINGS.—Best Market sorts to name, from Pot Plants, well ripened stuff; 40s. per 1000. Also Stools of same, 8s. per 100; cash.
MORLE AND CO., Conservatories, Finchley Road, N.W.

PELARGONIUMS.—GARAWAY & Co. offer good plants, in 5-inch pots, of the best market and decorative varieties, at 15s. per dozen.
GARAWAY AND CO., Clifton, Bristol.

Plants Shipped to all Parts.
WATSON AND SCULL, 90, Lower Thames Street, London, E.C., give special attention to the reception and forwarding of Plants and Botanical Specimens to and from all parts of the World. Be particular, and have them consigned to our Care, and save Expense and Delay.
Dealers in Virgin Cork, Raffia, Bamboo Canes, Garden Sticks, Palm Seeds, &c.

FERNS AND DECORATIVE PLANTS!—(TRADE):—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 12s. 100; ditto, large, in 48's, 10 best selling sorts, 6s. doz.; strong seedlings, 6s. 100, 50s. 1000; Adiantum cuneatum, in 48's, for cutting, 6s. and 8s. doz.; ditto, for making large plants quickly, 16s. and 20s. 100; Cyperus, Aralias, Grevilleas, Spiræas, Rhodanthe, & Geraniums, in 48's, 6s. doz.; Marguerites, Heliotropes, Mignonette, Fuchsias, Ivy Geraniums, in bloom, in 48's, 8s. doz.; Ficus, Palms, Dracænas, Crassulas, Pelargoniums, & Hydrangeas, in bloom, in 48's, 12s. doz.; Lists free. Packed free. Cash with order.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

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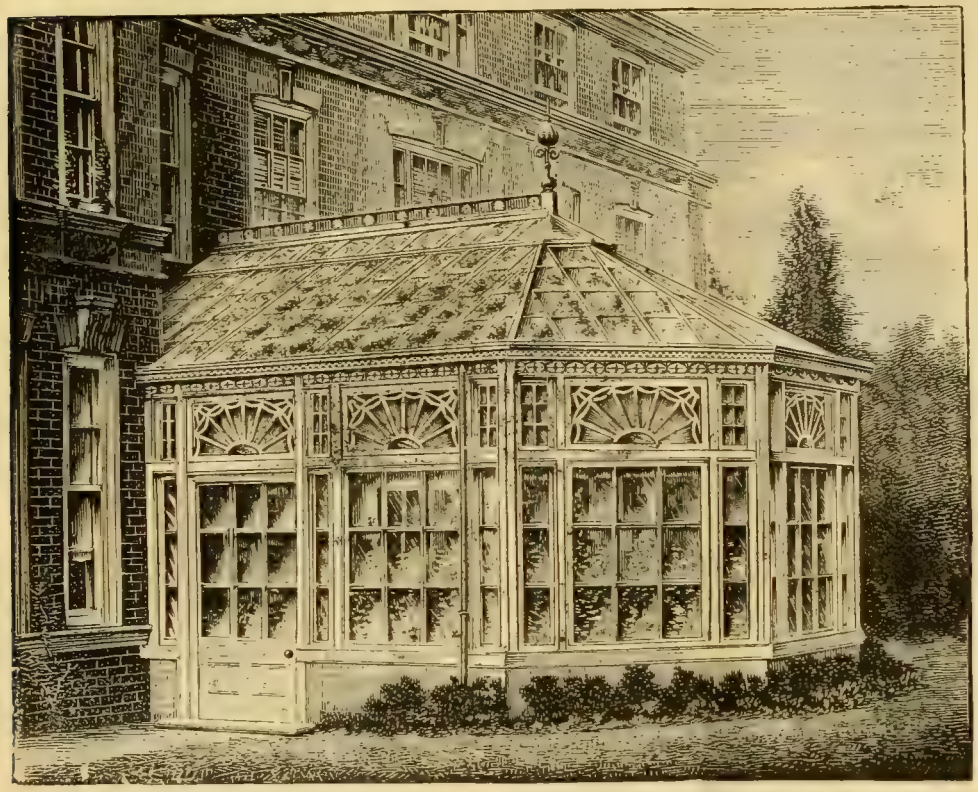
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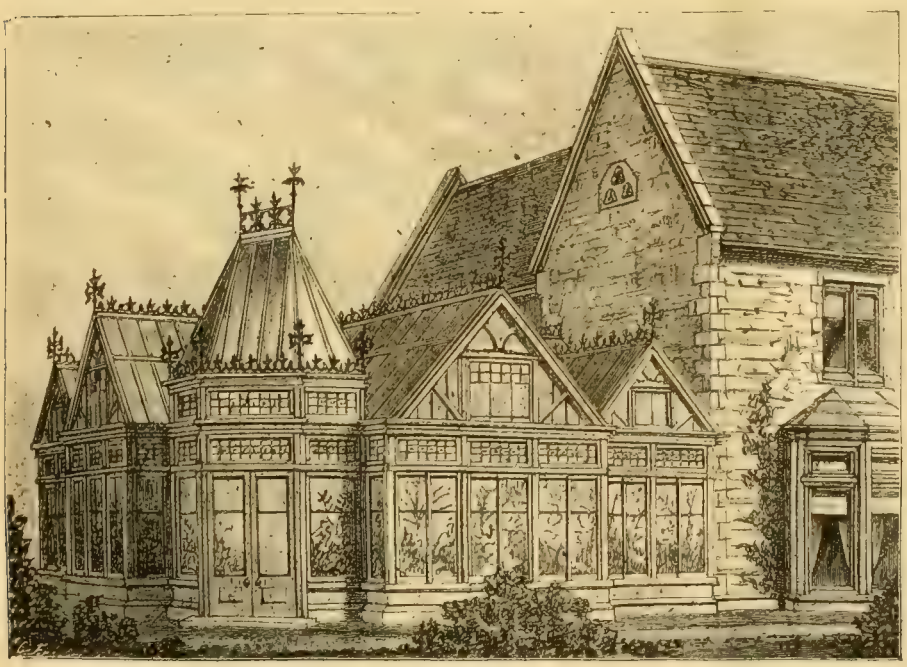
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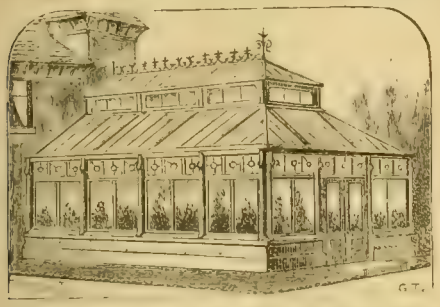
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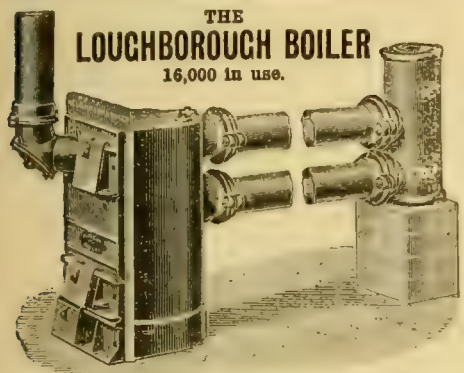
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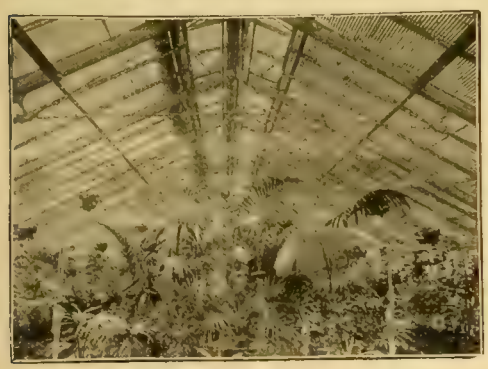
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MUNGO CHAPMAN, late of Easter Duddingston Lodge, Mid-Lothian, begs to intimate to his friends and acquaintances that he retires from his present situation on the 20th of the present month. He has arranged to reside at St. Ninians, near Stirling, where he intends to commence the Cultivation and Sale of Hardy Plants on his own account.
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He hopes to be able soon to issue a Plant Catalogue, from which customers may make their own selection. In the interval, he will be fully employed in getting up Stock.
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THE
Gardeners' Chronicle.
SATURDAY, JULY 11, 1896.

ROSES AND ROSE SHOWS.

PARTICULAR interest attaches to the exhibitions of Roses during the present season, from the extraordinary character of the weather during the past few months. Rarely has there been a season when the prospects, from a rosarian's point of view, have fluctuated from week to week, as during the present year. The winter was also a remarkable one, and Rose-lovers had occasion to congratulate each other at its close upon the excellent condition of their plants, few of which had been injured in the least. The season was commenced therefore under very encouraging conditions, directly opposed to those prevalent at the same date in 1895. The spring had hardly dawned upon us, before these favourable circumstances were superseded by others far less pleasing. The drought which has proved to be a long one had commenced, and its deleterious effect was increased by the cold, dry, eastern winds that prevailed for weeks. It was only too evident that against this combination of evils Roses could not combat without very serious loss, and anxiety quickly replaced the feeling of satisfaction so general previously. Blight was soon the consequence of the drought and east winds, and when at last the chilling winds decreased, there followed exceedingly bright sunshine, which the Roses, with their roots in dry soil, and their vitality already weakened, could not enjoy, and by which their ultimate chance of blooming well was increasingly decreased. For the greater part of the time latterly, there has been little in the Rose garden to cheer an amateur on the look-out for blooms worthy of the exhibition-table, and that he might hope would possibly be rewarded by a National Society's Silver Medal. The shows have been less good than in many previous seasons, but to those who have been engaged to even a limited extent in their cultivation this has been no matter for surprise.

The Reading exhibition has been already described in these pages, and is the subject of further remarks below.

At the Crystal Palace on Saturday last, the display was not equal in quality or extent to the exhibition held there in 1895. Growers were less able to exhibit well on this occasion than at Reading; but what was the southern growers' misfortune was also the northern growers' opportunity to excel, and Messrs. Harkness & Sons succeeded in capturing the trophy, and the north secured other good classes and distinctions. Nevertheless, the 2nd prize in the nurserymen's large class was won by Mr. Frank Cant, Colchester, albeit there were other collections from the north, candidates for the prize.

Generally the Teas were much below average size, and very few good blooms were staged. It was difficult to find a Rose in this section

among the nurserymen's classes worthy of the Society's Silver Medal, and the bloom of Innocente Pirola, to which the medal was eventually awarded, was comparatively a poor one. Roses that have done well such a season as the present are good ones for planting against a similarly unfortunate year, and in the report of the show, the best blooms in all the classes are indicated.

Other Rose shows have been numerous. The Roses in connection with the Wolverhampton Floral Fête were better than we had expected to see them, but less good and less numerous than last year. The class for seventy-two blooms was won by the firm who secured the trophy at the Crystal Palace. The Rev. J. H. Pemberton has been remarkably successful at most shows, and at Wolverhampton took all the best prizes in the amateurs' classes. At this show there were about 1900 blooms staged. The National Society's exhibition at Ulverston and a few other northern Rose shows have still to be held.

NATIONAL ROSE, CRYSTAL PALACE.

NURSERYMEN'S CLASSES.

THE CHAMPION TROPHY AND GOLD MEDAL were, as usual' won and lost with the 1st prize for seventy-two blooms distinct. This year the trophy will be taken to Bedale, the winner of the class being Messrs. HARKNESS & SONS, Bedale and Hitchin. The collection, taken collectively, exhibited as good quality as we have seen in a large class this season. The flowers were:—Back row: Ulrich Brunner (large and handsome), François Michelon, Comtesse d'Oxford, Marchioness of Dufferin, Captain Hayward, Lady Mary Fitzwilliam. Dr. Andry, Mrs. Jas. Laing, Etienne Levet, Duchesse de Vallambrosa, Chas. Lefebvre, Caroline Kuster, Madame J. Bomaire (?), Star of Waltham, Alfred Colomb, Her Majesty, Gustave Piganeau, Caroline Testout, Jno. Stuart Mill (excellent), Paul Neyron, Madame Eugénie Verdier, Exposition de Brie, Baroness Rothschild, Horace Vernet (good, but passing). 2nd row: Sénateur Vaisse, La France, Maréchal Niel, Earl of Dufferin, Niphetos, Prince Arthur, Madame de Watteville, Duke of Edinburgh (good), Mrs. Sharman Crawford, Suzanne de Rodocanachi, Catherine Mermet, Edouard André, Innocente Pirola, Madame Haussman, Madame Hoste, Madame Victor Verdier, Madame G. Luizet, Comte de Raimbaud, The Bride, Fisher Holmes, Comtesse de Nadaillac, A. K. Williams, Madame Cusin (very fine), Duc de Rohan. Front row: Marie Verdier, Mrs. W. J. Grant, Comtesse de Ludre, Pride of Waltham, Duke of Wellington, Marie Baumann, E. Y. Teas, Queen of Queens, Marie Rady, Ernest Metz, Duke of Fife, Princess Beatrice, Pride of Reigate (good), Helen Keller, Victor Hugo, Duchesse de Morny (good), Charles Darwin, Marchioness of Dufferin, Pierre Notting, Merveille de Lyon, Lady Sheffield, Souvenir d'un Ami, Duc d'Orleans, and Augustus Guinoisseau. Messrs. FRANK CANT & Co., Colchester, who only just missed the trophy last year by two points, were again 2nd on this occasion. The following were pretty blooms of very commendable merit:—Victor Hugo, Chas. Darwin, Earl of Dufferin, Madame Chas. Crapelet, a pink sport from Suzanne Rodocanachi, but unnamed; Exposition de Brie, Kaiserin Augusta Victoria, Catherine Mermet, and Reynolds Hole; Mr. B. R. CANT, Colchester, was 3rd. There were four competitors.

Forty distinct Roses (trebles).—Messrs. HARKNESS & SONS were also the winners of this class, with a comparatively good stand. The varieties which helped most were Gustave Piganeau, Suzanne de Rodocanachi, Her Majesty, Duke of Wellington, Edward Andry, Marie Baumann, Captain Hayward, Helen Keller, A. H. Williams, Fisher Holmes, and Marchioness of Dufferin. Mr. B. R. Cant took 2nd place with a collection but little inferior, and Messrs. F. CANT & Co. were 3rd. There appeared to be no other competitors.

Forty-eight distinct, single trusses.—In this class the winners were Messrs. D. PRIOR & SON, Colchester, and the varieties staged were:—Back row: A. K. Williams, Mrs. Jno. Laing (good), Ulrich Brunner, White Lady, Duchesse de Morny (good), Horace Vernet, Her Majesty, Prince Arthur, Marie Verdier, Earl of Dufferin (good), Marchioness of Dufferin, Marie Baumann, Marie Finger, Alfred Colomb, François Michelon, and Alphonse Soupert. Centre row: Merveille de Lyon, Baron Adolphe Rothschild (good), Eugénie Verdier, Abel Carrière, La France, E. Y. Teas, Duke of Edinburgh (good), Pride of Waltham, Dupuy Jamain, Lady M. Fitzwilliam, Louis Van Houtte, Margaret Dickson, Captain Hayward, Heinrich Schultheiss, and Charles Darwin. Front row: Suzanne Marie Rodocanachi, Comte de Raimbaud, Silver Queen, Reynolds Hole (bad), Duke of Fife, Fisher Holmes, Mrs. W. J. Grant, Exposition de Brie (bad), Auguste Rigotard, Duc de Rohan, Baroness Rothschild, Victor Hugo, Etienne Levet, Xavier Olibo, Souvenir de la Malmaison, and Star of Waltham. Of the four other exhibits in the 2nd place was taken by Messrs. J. BURRELL & Co., Cambridge. The blooms were small, some of them, however, fresh and bright; 3rd, G. W. H. BURCH, Peterborough.

Twenty-four distinct Roses.—The 1st prize in this class went to Slough, the winner being Mr. CHAS. TURNER of the Royal Nurseries. The quality of the exhibit was good, the only failing being in regard to the size of bloom. The varieties were Marie Verdier, Xavier Olibo, Her Majesty, Earl of Dufferin, Mrs. John Laing (good), Beauty of Waltham (good), Marchioness of Dufferin, Alfred Colomb. 2nd row: Duke of Fife, Black Prince, Gabrielle Luizet, E. Y. Teas, G. Piganeau, Reynolds Hole, Heinrich Schultheiss, Ulrich Brunner, Chas. Darwin, Marie Baumann, Mrs. Harkness, Victor Hugo, Dr. Andry, Pride of Reigate, Maurice Bernardin, and The Bride. 2nd, Messrs. JAS. TOWNSEND & SONS, Lower Broadheath, Worcester: Alfred Colomb, Prince Arthur, and Niphetos, were good; Mr. JOHN MATTOCK, Oxford, was 3rd. There were four other competitors.

Twenty-four distinct Trebles.—Messrs. PRIOR & SONS won with a collection of moderate quality; Messrs. G. & W. H. BURCH were 2nd; and Messrs. JAS. TOWNSEND & SONS, 3rd.

Twelve distinct Roses of varieties, raised by Messrs. A. Dickson & Sons, Newtownards.—The Dickson Challenge Cup, offered by the firm for the best exhibit in this class was won by Messrs. FRANK CANT & Co. The varieties were Marchioness of Dufferin (over-blown), Mrs. R. G. Sharman Crawford, Margaret Dickson (over-blown), Earl of Dufferin, Lady Helen Stewart (good), Helen Keller, Marchioness of Downshire, Lady Arthur Hill, Jeannie Dickson, Caroline d'Arden, and T. W. Girdlestone. The quality of this collection was only moderate. Mr. B. R. CANT was 2nd; and Messrs. D. & W. CROLL, Dundee, were 3rd.



THE REV. H. H. D'OMBRAIN.
(Hon. Sec. and Father of the National Rose Society.)

Eighteen distinct Roses (English or Scotch raised).—Curiously enough the 1st prize was won by Messrs. ALEX. DICKSON & SONS, Newtownards, co. Down, though Irish Roses were not allowed to be shown, and one exhibitor was disqualified for including some. None of Messrs. Dicksons' blooms were of varieties raised in their own country, however. They were Mrs. Jno. Laing, Captain Hayward (good), Her Majesty, Pride of Waltham, Spenser, Star of Waltham, Mrs. Jowitt, Mrs Geo. Dickson, Sultan of Zanzibar, Medea, Prince Arthur, Lady Mary Fitzwilliam, Olibo, Countess of Rosebery, Heinrich Schultheiss, Paul's Early Blush, Duchess of Albany, and Mrs. Paul; 3rd, Messrs. GEO. PAUL & SON, The Old Nurseries, Cheshunt.

TEA AND NOISETTE SECTION.

Twenty-four distinct Roses.—The 1st prize was taken by Messrs. D. PRIOR & SON, Colchester. The varieties were—Back row: Ernest Metz, Innocente Pirola, Maman Cochet, Marie Van Houtte, Madame de Watteville, Edith Gifford, Comtesse de Nadaillac, The Bride (very good), Alba rosea, La Princess Vera, Niphetos, Catherine Mermet, Maréchal Niel, Madame Cusin (good), Caroline Kuster, Souvenir d'un Ami, Corinna (good), Souvenir d'Elise Vardon, Adam, Souvenir de S. A. Prince, Luciole, Medea, Anna Olivier, and Francisca Kruger. The blooms were of moderate quality only, few of them being exceptional. Messrs. FRANK CANT & Co., Colchester, were 2nd, and had pretty specimens of Maman Cochet, Comtesse de Nadaillac, and Corinna; 3rd, Messrs. D. & W. CROLL, Dundee.

Eighteen Tea or Noisettes, distinct.—In this class Mr. JNO. MATTOCK, Headington Nursery, Oxford, was the victor. The best blooms in his stand were Catherine Mermet, The Bride, Princess of Wales, Madame de Watteville, Souvenir de S. A. Prince, and Ethel Brownlow. 2nd, Messrs. J. BURRELL & Co., Howe House Nurseries, Cambridge, the flowers were small in this stand, but some of them pretty; the best was Maman Cochet. 3rd, Messrs. PAUL & SON, The Old Nurseries, Cheshunt. There were two other collections.

Eighteen trebles, distinct.—Messrs. FRANK CANT & Co. staged well in this class, and secured premier position. Their best trebles were Ernest Metz, The Bride, Madame Lambard, Maréchal Niel, Ethel Brownlow, Maman Cochet, Madame Cusin, and Madame Van Houtte. Mr. JNO. MATTOCK was a good 2nd, and the third place was taken by Messrs. D. PRIOR & SON. There were two other collections.

GARDEN ROSES.

Thirty-six bunches, distinct varieties. Messrs. PAUL & SON had very fine bunches arranged in good fashion. Most of the varieties included were in good condition, and the collection was well worthy of the 1st prize it won. Messrs. GEO. COOLING & SON, Bath, and Messrs. F. CANT & Co., who were 2nd and 3rd respectively, also showed well.

Eighteen bunches, not fewer than three trusses to a bunch.—Mr. JNO. MATTOCK was 1st, and Messrs. D. & W. CROLL 2nd; 3rd, Messrs. JAS. TOWNSEND & SONS. The bunches shown in this class were not so effectively staged as those noticed in the previous class.

Nine bunches of Single-flowered Roses.—Messrs. D. & W. CROLL won in this class, but the nature of the flowers is much against their long preservation, and at mid-day they appeared very faded. 2nd, Miss MELLISH, Hodsock Priory, Worksop, Notts; Messrs. PAUL & SON were 3rd.

Twelve bunches of Roses suitable for Button-holes.—Mr. JNO. MATTOCK won capitally here, with the following varieties:—Madame de Watteville, Marie Van Houtte, Niphetos, Anna Olivier, W. A. Richardson, Ma Capucine, Comtesse de Nadaillac, Madame Hoste, Rubens, and The Bride; 2nd, Messrs. JNO. TOWNSEND & SONS; and 3rd, Mr. ALFRED EVANS, Marston, near Oxford.

Display of Roses and Rose foliage.—The 1st prize was taken by Mr. JNO. MATTOCK, who exhibited bouquets and bunches over a black velvet ground with considerable effect. 2nd, Mr. GEO. PRINCE, with a half cone of black velvet supporting six rows of shelves. The Roses were in small glass vases. Messrs. TOWNSEND & SONS were 3rd.

OPEN CLASSES.

Twelve bunches, distinct.—These bunches were to be composed of any H.P., H.T., or Tea or Noisettes. The 1st prize was taken by Messrs. PAUL & SON, Cheshunt. The bunches were shown in earthenware bottles, with long stems and foliage attached. The varieties which appeared best were Alfred Colomb, Marie Van Houtte, Niphetos, Jeannie Dickson, and Suzanne de Rodocanachi; Mr. GEO. MOUNT was 2nd, with a good lot; and Mr. JOHN MATTOCK 3rd.

Twelve trusses of H. T.'s in not fewer than nine varieties. Messrs. A. DICKSON & SONS won with the following varieties, Comte Henri Rignon, Caroline Testout, La France (good), Capt. Christy, Lady M. Fitzwilliam, and Kaiserin Augusta Victoria, Mrs. W. J. Grant (good), Viscountess Folkestone, and Marjorie; 2nd, Messrs. D. & W. CROLL; 3rd, FRANK CANT & Co.

Twelve single trusses of any yellow Rose.—Mr. JNO. MADDOCK won this class with very fair blooms of Comtesse de Nadaillac; Messrs. FRANK CANT & Co. were 2nd, showing Madame Hoste; and Mr. GEO. MOUNT was equal 2nd with Marie van Houtte.

Twelve single trusses of any white Rose.—Messrs. A. DICKSON & SONS were 1st with blooms of Marchioness of Londonderry of moderate quality; Messrs. HARKNESS & SON were 2nd with The Bride; 3rd, Messrs. D. PRIOR & SON with Niphetos.

Twelve single trusses of any crimson Rose.—Captain Hayward was placed 1st in this class, this Rose being shown well by Messrs. A. DICKSON & SONS; Messrs. ROBT. MACK & SON, Catterick, Yorks, were 2nd with A. K. Williams; and Mr. GEO. MOUNT 3rd. There were about fourteen exhibitors.

Twelve single trusses of any dark velvety Rose.—Messrs. F. CANT & Co. were 1st with Horace Vernet; Mr. GEO. MOUNT 2nd with Fisher Holmes; and Mr. B. R. CANT 3rd with the same variety.

Twelve single trusses of any light (other than white) Rose.—Mr. GEO. MOUNT was 1st, with Mrs. Jno. Laing. The same variety, shown by Messrs. D. & W. CROLL, was 2nd; and Messrs. ROBERT MACK & SON 3rd. There were about fifteen stands.

Twelve single trusses of any Tea or Noisette.—Mr. JNO. MATTOCK won this class with Catherine Mermet; Messrs. HARKNESS & SON were 2nd with Madame Cusin; and Mr. B. R. CANT 3rd with Madame Watteville.

Twelve single trusses of any new Rose.—Messrs. DICKSON & SONS, Newtownards, Ireland, were 1st with some fair blooms of Mrs. R. G. Sharman Crawford, a rose that was probably staged as frequently as any throughout the exhibition. Messrs. G. COOLING & SON, Bath, 2nd, with Bladud; and Messrs. PRIOR & SON, Colchester, 3rd with Maman Cochet.

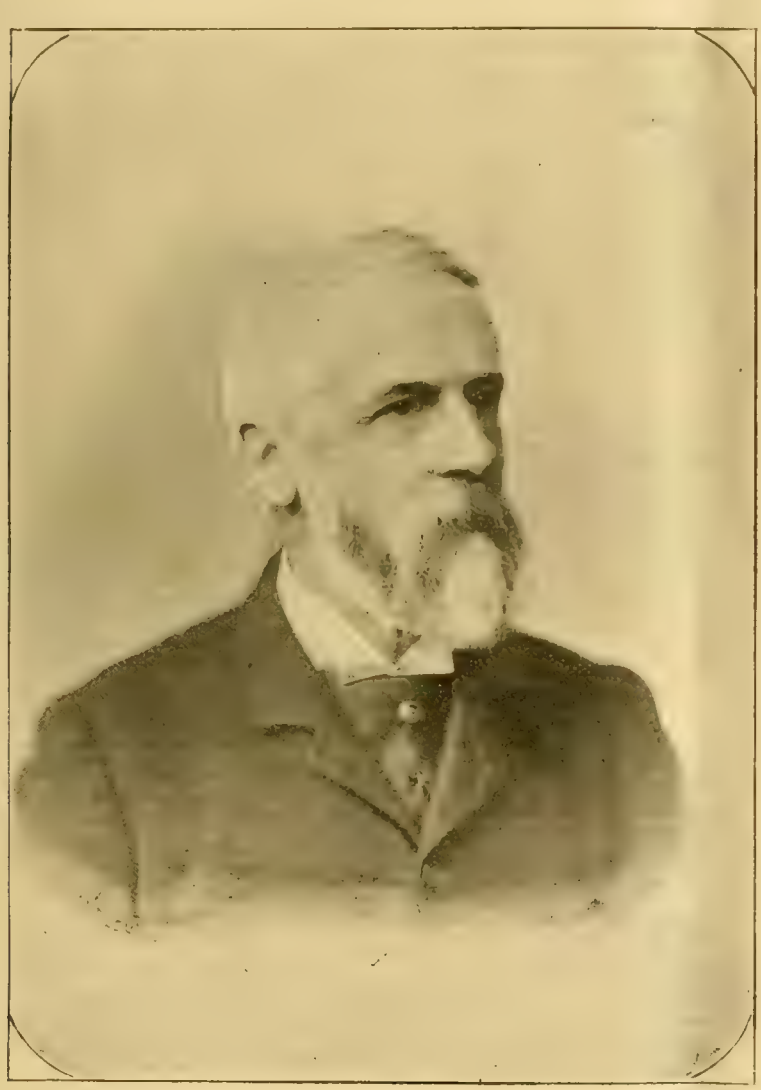
Twelve distinct trusses of any new Rose.—Messrs. DICKSON & SONS again scored, several of the varieties being of their own raising and not yet in commerce. They were Marchioness of Londonderry, Lady M. Beauclerc, B. Shandon, Leinster (somewhat after Helen Keller, Mamie (?), Miss E. Richardson (a beautiful light Rose of Marjorie shade), Mrs. W. J. Grant, Mrs. E. Mawley (a clear-creamy-flesh), Shaughraun, Lady Clanmorris, Hon. E. Murray, and Marchioness of Downshire—a most promising box and from which we may find some decided acquisitions. Mr. F. CANT, Colchester, and Messrs. PAUL & SONS, Cheshunt, followed.

Three trusses of any new seedling or sport.—The only award was a Card of Commendation to Mr. F. CANT for a new H.-P. named Mrs. F. Cant, a sturdy grower, which in shape, colour and fulness reminded one of a pale Madame G. Luizet. A beautiful soft, rosy-pink H.-P. named Mrs. Rumsey, came from Waltham Cross, but the flowers staged were rather thin. Muriel Grahame, Miss E. Richardson, and Leinster were shown from the famous Newtownards firm. Bladud from G. COOLING & SONS, Bath, but inferior to the blooms shown at Bath the same week, which would undoubtedly have earned the Gold Medal. Pride of the Valley from Mr. D. Prosser, Watson Nursery, Gloucester, completes the list.

AMATEURS.

THE CHAMPION TROPHY CLASS: *thirty-six blooms, distinct.*—This class was open to all amateurs, and the coveted Trophy and Gold Medal were won by the Rev. J. H. PEMBERTON, Havering-atte-Bower, Essex; his flowers were clean, and of fair size. The varieties staged were Her Majesty, Ulrich Brunner, Marie Baumann, Earl of Dufferin, Mrs. Jno. Laing, A. K. Williams, Gustave Piganeau, Etienne Levet, Mrs. R. G. S. Crawford, Countess of Rosebery, Louis Van Houtte, and Madame C. Crapelet, in the back row; Dupuy Jamain, S. M. Rodocanachi, Horace Vernet, Catherine Mermet, Marshal P. Wilder, Marchioness of Londonderry, Jeannie Dickson, General Jacqueminot, Comte Raimbaud, Baroness Rothschild, François Michelon, and Countess of Oxford, in the middle row; Prosper Langier, La Havre, Captain Hayward, Charles Gater, Marchioness of Dufferin, Xavier Olibo, Madame E. Verdier, Victor Hugo, Caroline Testout, Beauty of Waltham, Charles Lefebvre, and Mons. E. Y. Teas, occupying the front of the stand. Mr. E. B. LINDSELL, Hitchin, was a close 2nd, and had U. Brunner, Her Majesty, G. Piganeau, Victor Hugo, Marie Baumann, Caroline Kuster, and Merveille de Lyon, in good form; Mr. H. V. MACHIN, Gateford Hill, Worksop, followed.

For thirty-six singles, irrespective of the number of plants grown, Mr. W. BOYES, 30, Duffield Road, Derby, beat Rev. J. H. PEMBERTON with some bright and clean blooms. Maman Cochet, Marie Baumann, Marie Verdier, Alfred Colomb, Ulrich Brunner, Pride of Waltham, General Jacqueminot, La France, Innocente Pirola, Madame de Watteville, Edouard André, G. Luizet, Souv. d'Elise Vardon, A. Rigotard, Niphetos, Baroness Rothschild, Thomas Mills, Etoile de Lyon, Madame Hausmann, Cleopatra, P. Piganeau, Madame Lyon, Victor Hugo, Mr. J. Wilson, Horace Vernet, S. M. Rodocanachi, Madame Hoste, Duke of Wellington, Caroline Testout, Comtesse de Nadaillac, Mrs. J. Laing, Augustine Guinoisseau, Prince Arthur, Her Majesty, F. Michelon, and A. K. Williams being the varieties. The Rev. J. H. PEMBERTON had good examples of Mrs. J. Laing, Her Majesty, Earl of Dufferin, F. Michelon, A. K. Williams, and Victor Hugo, but had evidently thrown his chief strength into the trophy class. T. B. HAYWARD, Esq., Woodhatch Lodge, Reigate, was a good 3rd.



EDWARD MAWLEY, ESQ.

(Honorary Secretary of the National Rose Society.)

For twelve of any Rose except Tea or Noisette. Mr. H. V. MACHIN, Worksop, won with Her Majesty, the same box containing the Silver Medal H.P. for best bloom among amateurs. E. B. LINDSELL, Esq., was 2nd, with Merveille de Lyon; and Colonel T. H. PITT, Turkey Court, Maidstone, 3rd, with Mrs John Laing.

In a division open only to growers of fewer than 2000 plants of exhibition varieties, Mr. E. MAWLEY, Rosebank, Berkhamsted, won for twenty-four singles, his best flowers being Alfred Colomb, Etienne Levet, M. Baumann, K. A. Victoria, A. K. Williams, Star of Waltham, Maman Cochet, Prince Arthur and Her Majesty. Mr. COLIN ROMAINE, The Priory, Old Windsor, and Mr. A. SLAUGHTER, Jarvis Villa, Steyning, followed.

Nine blooms of any Rose, except Tea or Noisette.—Mr. A. SLAUGHTER was in front of Mr. R. E. WEST, Reigate, by his Alfred Colomb beating Ulrich Brunner.

An extra class of eight distinct trebles was won by Rev. J. H. PEMBERTON; H. V. MACHIN, Esq., Worksop, being a close 2nd; and E. B. LINDSELL, Esq., Hitchin, 3rd. Many growers expressed their opinion that the two last awards should have been reversed; the 3rd prize stand was exceptionally clean and well set up. There were four other competitors.

In the division for growers of fewer than 1000 plants, the class for nine distinct singles was a strong one. Ten lots were staged. Mr. M. WHITTLE, Belgrave Avenue, Leicester, won with La France, Prince Arthur, Mrs. J. Laing, Ulrich Brunner, Caroline Kuster, Duke of Edinburgh, Baroness Rothschild, A. Colomb, and a grand bloom of K. Augusta Victoria; Mr. CONWAY JONES, Hucclecote, Gloucester, and Mr. C. E. SHEA, Foot's Cray, Kent, were 2nd and 3rd.

Six distinct trebles.—Mr. W. WHITTLE was also in front in this class; Dr. TUCKER, Swanley Junction, Kent, 2nd; and Miss MELLISH, Hodsock Priory, Worksop, 3rd.

For growers of fewer than 500 plants, nine distinct singles.—Mr. H. FOSTER, Ashford, Kent, was 1st, and staged Earl of Dufferin, Etienne Levet, Baroness Rothschild, Marie Baumann, Merveille de Lyon, Alfred Colomb, Madame G. Luizet, Louis V. Houtte, and Dupuy Jamain. Mr. G. MOULES, Hitchin, being a close 2nd, with a stand containing a good Captain Hayward and Ernest Metz. Mr. R. MILLER, Bellevue House, Sutton, was 3rd.

Six distinct single trusses.—W. D. FRESHFIELD, Esq., The Wilderness, Reigate, beat nine other competitors in this class with Etienne Levet, Her Majesty, Merville de Lyon, Ulrich Brunner, S. M. Rodocanachi, and Charles Lefebvre, in good form. Mr. E. R. SMITH, Welford Lodge, Muswell Hill, was 2nd. Mr. J. WALLENDER, Hodsock Priory, Worksop, and H. P. LANDON, Esq., The Lodge, Brentwood, following.

Four distinct varieties (trebles).—Mr. H. P. LANDON, was 1st, Mr. J. PARKER, Old Headington, and W. D. FRESHFIELD, Esq., Reigate, 2nd and 3rd.

The Harkness Challenge Cup offered for twelve Singles drew seven competitors, the fight was close between 1st and 2nd. O. G. ORPEN, Esq., Colchester, was successful with The Bride (Silver Medal Tea), Grand Mogul, Madame Cusin, Madame de Watteville, Ulrich Brunner, Madame Hoste, Gabrielle Luizet, Catherine Mermet, K. A. Victoria, Ernest Metz, Bridesmaid, and Maman Cochet. Mr. H. ADAMSON, South End, Bedale, was 2nd, having some good blooms in Comtesse de Nadaillac, Mrs. J. Laing, A. K. Williams, and Fisher Holmes; Dr. TUCKER, Swanley, and Mr. WHITTLE, Leicester, were awarded 3rd and 4th respectively.

Six blooms of any Rose except Teas or Noisettes.—Mr. R. L. LANGTON, Raymead, Hendon, won with Mrs. J. Laing; Dr. TUCKER, Swanley, was 2nd, with the same variety; Mr. E. MORRIS, East Bond Street, Leicester, 3rd, with Alfred Colomb; and Mr. K. H. GIFFORD, Holyrood, Streatham, 4th, with Mrs. J. Laing.

In an extra open Class for eighteen Singles, the Veitch Memorial Medal and £5 was awarded to P. C. BURNAND, Esq., Reigate, who staged Baroness Rothschild, S. M. Rodocanachi, M. de Lyon, Ulrich Brunner, Her Majesty, Rosieriste Jacobs, Lord F. Cavendish, Mrs. J. Laing, Annie Wood, E. Y. Teas, A. Colomb, C. Testout, Earl of Dufferin, Mrs. S. G. S. Crawford, Madame Cusin, Gabrielle Luizet, and Duke of Edinburgh. R. E. WEST, Esq., Reigate, had a good Comtesse de Nadaillac, Dr. Andry, and Abel Carrière in his 2nd prize stand; Mr. A. SLAUGHTER, Steyning, being 3rd.

The Dickson Challenge Cup, for twenty-four blooms set out by Messrs. A. Dickson & Sons, Newtownards, was won by E. B. LINDSELL, Esq., Hitchin, who had Helen Keller, Earl of Dufferin, Marchioness of Londonderry, Mrs. S. Crawford, Muriel Grahame, and Margaret Dickson; the Rev. J. H. PEMBERTON was 2nd; and H. V. MACHIN, Esq., 3rd.

For six singles, open only to Amateurs who have never won a prize at the N. R. S. Exhibitions.—Mr. A. MUNT, Hedgerley, near Slough, was 1st, with Innocente Pirola, G. Piganeau, C. Testout, C. de Nadaillac, Madame Cusin, and Edith Gifford; Mr. H. ADAMSON, South End, Bedale, a good 2nd; Mr. G. A. HAMMOND, Cambrian House, Burgess Hill, and Mr. A. C. GIFFORD, Selhurst, 3rd and 4th.

A second class for six, but open only to members who have owned since the previous Crystal Palace Show, found Mr. E. CROFT-MURRAY, Perivale, Ryde, in front with Ulrich Brunner, F. Krüger, Catherine Mermet, C. de Nadaillac, Cleopatra, and Madame H. Jamain. Mrs. E. C. SIMPSON, Wray Park, Reigate; and Mr. R. COOK, Stourbridge Park, N.W., following.

A piece of plate offered for six singles grown within 8 miles of Charing Cross was secured by Mr. R. H. LANGTON, Raymead, Hendon, with good examples of S. M. Rodocanachi, Her Majesty, Marie Baumann, Mrs. J. Laing, A. K. Williams, and Mrs. R. G. S. Crawford. K. H. GIFFORD, Esq., Holyrood, Streatham; and E. R. SMITH, Esq., Wellford Lodge, Muswell Hill, followed in like order.

NEW ROSES.

The Rev. J. H. PEMBERTON won in the class for six new Roses with Captain Hayward, Mrs. R. G. S. Crawford, Charlotte Guillemot, C. Gater, Marchioness of Downshire, and Helen Keller. Mr. J. BATEMAN, Rose Vale, Highgate, being 2nd.

TEA AND NOISETTE SECTION.

The flowers in this division were by no means up to the standard seen at Reading, and in the Trophy class were very weak. The Trophy and Gold Medal were won by O. G. ORPEN, Esq., Colchester, for the following eighteen varieties:—Innocente Pirola, Bridesmaid, Anna Olivier, Madame Cusin, The Bride, Maman Cochet, Souvenir d'un Ami, Catherine Mermet, Madame H. Jamain, Comtesse de Nadaillac, Madame Hoste, Ethel Brownlow, Cornelia Koch,

Edith Gifford, Marie V. Houtte, Sylph, Etoile de Lyon, and Souvenir d'Elise Vardon. The 2nd prize stand, from C. J. GRAHAME, Esq., Leatherhead, contained good Comtesse de Nadaillac, Ernest Metz, Maman Cochet, and Innocente Pirola. The Rev. A. FOSTER-MELLIAR, Ipswich, was 3rd, only two others competing.

Twelve single blooms, distinct.—O. G. ORPEN, Esq., was also 1st in this class; Mr. A. TATE, Downside, Leatherhead, and H. V. MACHIN, Esq., Worksop, following.

The piece of plate for eight trebles was secured by C. J. GRAHAME, Esq., Leatherhead:—The Bride, Maman Cochet, Innocente Pirola, Comtesse de Panisse, Madame Cusin, Comtesse de Nadaillac, Ethel Brownlow, and Francisca Krüger; Mr. W. BOYES, 30, Duffield Road, Derby, and the Rev. A. FOSTER-MELLIAR, Ipswich, 2nd and 3rd.

Nine blooms of any Tea or Noisette. Mr. GRAHAME was 1st with Maman Cochet; Mr. O. G. ORPEN 2nd, with Madame Cusin; and Mr. H. V. MACHIN 3rd, with the same variety as the winner.

In a division open to growers of fewer than 500 plants, the 1st prize for twelve distinct varieties went to Mr. J. PARKER, Old Headington, for Jean Ducher, Madame Hoste, Souvenir d'un Ami, C. de Nadaillac, E. Brownlow, The Bride, Catherine Mermet, E. de Lyon, E. Metz, C. Kuster, Princess of Wales, and Souvenir de S. A. Prince; Mr. CONWAY-JONES, Hucclecote, Gloucester, 2nd.

Nine single blooms, distinct.—Mr. R. H. LANGTON, Hendon, was in front with Cleopatra, Niphetos, Maman Cochet, C. de Nadaillac, Madame de Watteville, E. Brownlow, Madame Cusin, Innocente Pirola, and Souvenir d'un Ami; Mrs. E. CROFT MURRAY, Perivale, Ryde, and Miss BAKER, Holmfels, Reigate, were 2nd and 3rd.

Nine blooms, distinct, from growers of fewer than 200 plants, were best from W. D. FRENCHFIELD, Esq., Cleopatra, C. Kuster, C. Mermet, Mrs. J. Wilson, Maréchal Niel, Devoniensis, Edith Gifford, C. de Nadaillac, and F. Krüger, being the varieties staged. Mr. J. PARKER, Old Headington, was a close 2nd, and Mr. A. EVANS, Marston, near Oxford, 3rd.

Six blooms, distinct.—Twelve competed in this class, H. P. LANDEN, Esq., Stenfield, Brentwood, just succeeding in beating Mr. WHITTLE, Leicester; Mr. R. FOLEY-HOBBS, Forgate Street, Worcester; and the Rev. G. E. JEANS, Shorwell Vicarage, I.O.W., being 3rd and 4th.

A piece of Plate for four distinct trebles was won by R. H. LANGTON, Esq., Raymead, Hendon, with one of the cleanest stands in the show, Maman Cochet, Madame Cusin, Ethel Brownlow, and C. de Nadaillac, being very good; Mr. J. PARKER, Old Headington, was 2nd, and CONWAY-JONES, Esq., Hucclecote, 3rd.

Six blooms of any Tea or Noisette.—Mr. CONWAY JONES won with Niphetos, Mr. J. PARKER was 2nd with C. de Nadaillac, and Mr. R. H. LANGTON 3rd with Innocente Pirola.

In an extra class for nine bunches, seven trusses to a bunch, Mr. J. PARKER, Old Headington, beat Mr. H. V. MACHIN, Worksop.

GARDEN ROSES.

A Silver Cup presented for eighteen bunches of distinct varieties in a space 5 feet by 3 feet, was won by H. V. MACHIN, Esq., who staged a very pretty lot. The most pleasing were macrantha, The Pet, Maiden's Blush, Thoresbyana, Cecile Brunner, Madame P. Ducher, and Bardon Job.

In the second stand, which ran Mr. MACHIN very close indeed, Mr. A. TATE, Leatherhead, had Hebe's Lip, Perle d'Or, macrantha, moschata nivea, and Gloire des Rosomanes (good).

The Rev. J. H. PEMBERTON, Havering-atte Bower, was in front for a stand of nine bunches, Polyantha, Madame Georges Bruant, Marquise de Salisbury, and Leopoldine d'Orléans being excellent. Mrs. D. G. NESFIELD, Speldhurst, Kent, and Miss MELLISH, Hodsock Priory, Worksop, were 2nd and 3rd.

MEDAL ROSES.

Considerable difficulty was experienced before the judges could award the medals. Flowers of exceptional merit were scarce. In the amateur's classes the Medals were awarded to the Bride, shown by O. G. ORPEN, Esq.; and Her Majesty, from H. V. MACHIN, Esq., Worksop. La Duchesse de Morny gained the Medal for H.-P. in the nurserymen's classes, and Innocente Pirola for Teas or Noisettes. The former was shown by Mr. B. R. CANT in Class I., and the latter by Messrs. HARKNESS & SON also in Class I.

MISCELLANEOUS EXHIBITS.

The largest of the honorary exhibits was made by Messrs. JNO. LAING & SONS, Forest Hill, London, S.E. This firm had a large group of choice plants arranged to fine effect, Caladiums, Begonias, Crotons, Ferns, Nepenthes, and other such subjects being well shown. A large display of cut Roses, Pinks, Carnations, Gladiolus, and general hardy flowers was also contributed by Messrs. LAING.

Messrs. GEO. JACKMAN & SON, Woking, exhibited cut Roses and Pinks; Messrs. CARTER & Co., High Holborn, Sweet Peas and other hardy flowers; Messrs. J. CHEAL & SONS, Crawley, hardy flowers and Violas; Mr. E. G. FOSTER, Brockhampton Nursery, Havant, a collection of Sweet Peas; Mr. M. PRITCHARD, Christchurch, an excellent collection of hardy flowers; and Messrs. WALLACE & Co., Colchester, an exhibit of Calochortus, and numerous Lilies, &c.

A. F. W. HAYWARD, Esq., exhibited a collection of seven choice paintings in oil, six of which represented Roses, and one of them Pansies. The Society showed its appreciation of the quality of these by the bestowal of a Silver Medal

NATIONAL ROSE SOCIETY, READING.

THIS town has long been a centre of horticultural interest; half a century ago growers of the show Pelargonium regarded it with favour, for there Mr. Hoyle, whose flowers remain in our catalogues to the present day, made those marvellous improvements in conjunction with Mr. Forster of Clewer which made the flowers so popular that the prices of novelties ranged from two guineas up to five guineas. Here, too, arose that extensive seed establishment of Messrs. Sutton & Sons, whose world-wide connection has made Reading known all over the civilised world. Of late years, too, the lovers of that old-fashioned flower, the Auricula, have turned their thoughts towards Reading, as some of our best growers hail from there. When, then, the National Rose Society received the invitation to hold its southern exhibition there this year, I felt pretty sure that everything would be done to make it a success. In the neighbourhood, too, we knew that we had two very active members of our society, the Rev. Alan Cheales and Mr. J. T. Strange. So we looked forward with light hearts to the exhibition-day; but the only question was, would it be a fine day? for as the exhibition was to be held in the open air, this was indispensable. Happily, although there was some little threatening in the morning, the day proved very fine; and as the arrangements were all that could be desired, carried out as they were by the Secretary and other members of the committee, headed by their chairman, Mr. Ferguson "all went merry as a marriage-bell." The creature-comforts of the judges, exhibitors, and officials were admirably attended to, for Mr. Ferguson had invited them to partake of an excellent luncheon, and the hospitality with which they were welcomed will not soon be forgotten. The show was held in the old Abbey ruins, and as the surface was undulating, it reminded one of the Royal Botanic Society's shows in the Regent's Park, and certainly a more charming position could hardly be imagined. The grey walls of the ruins enclosed the exhibition-ground, while a canvas covering gave that subdued light under which Roses look so well. As you have already given a list of the winners, I shall, instead of going over the same ground again, put forward a few salient points which I think worthy of note.

Our Rose shows have often been decried on account of their formality, but this exhibition, I think, showed the impossibility of avoiding this; here was an undulating space, green grass, various plants and flowers, but you could not get rid of the stiff formal boxes, nor do I see how it can be done, for as the flowers must be shown to the best advantage, and so arranged that they can be seen on all sides, I think it passes the wit of man to devise any more effective method than that which has been in use for so many years. The banks also were very pretty, but as many of the Roses were lower down than the line of vision, it was not so easy for persons with short sight and stiff backs to see them as when they were on stages. The anticipations which had been formed with regard to the character of the flowers was, I think, fully borne out; no one expected very large flowers, and certainly, as a whole, they were undersized. The Teas were not shown at their best; probably the cold weather of May and the early part of June had interfered with them, and when Roses are a long time in coming out, they are never fully up to the mark. As usual, East Anglian growers were to the front, and the two firms of Cant and the Priors exhibited some fine flowers, as did also Messrs. Harkness of Bedale and Hitchin; while amongst amateurs Mr. E. B. Lindsell, Rev. J. H. Pemberton, Mr. Orpen, and Mr. Charles J. Grahame had some excellent flowers, and yet with all that, there was not much of very superior character. I should probably name Mr. B. R. Cant's forty-eight, the Rev. J. H. Pemberton's box, which won the coveted Sutton Prize, and Mr. Prior's box of Horace Vernet, as amongst the best in the show. There was certainly an absence of very new Roses, and many of those whose names have been before the Rose-growing public as claimants for particular notice were conspicuous by their absence. The medal Roses were, as they ought to be, good; Messrs. Harkness & Sons' A. K. Williams being a good example of that old flower; while Mr. B. R. Cant's Maman Cochet fully deserved the medal which it obtained. Mr. Orpen, who has a knack of showing medal Roses, won in the amateur's class with Kaiserin Augusta Victoria and Madame Hoste, the former as a hybrid Tea, and the latter as a Tea, but I always stand very much in doubt as to whether the former is distinct enough from the Teas, for it certainly has very little of the hybrid in it. Another excellent feature of the show was the exhibition of garden Roses; exhibitors have realised the fact that it is not sufficient to have bunches of bright and pretty flowers, but that they must be tastefully arranged, and not all "jammed" down together. The collection shown by Messrs. Cooling & Son was an admirable example of careful and tasteful arrangement; many, however, of some of our prettiest single Roses were over. It is always difficult to have them late in June, and the early character of this season made the difficulty greater. Noticeable amongst Mr. Cooling's lot was a beautiful group of Marquise de Salisbury, a brilliant Hybrid Tea, and one of the most effective of our new garden Roses. Messrs. Paul & Sons of Cheshunt had also an excellent collection, tastefully arranged, amongst which their single Carmine pillar showed up brightly. Mr. H. V. Machin also showed excellently; indeed, he has been one of the chief pioneers in the more tasteful arrangement of garden Roses, while probably his more northern position in this forward season is much in his favour. I have many complaints on this score; one grower writes to me, "All my Roses were over three weeks ago;" while another said to me at Reading, "I doubt whether I shall have anything for the Crystal Palace. I fear this is my first and last appearance for the National." Although there were no sensational blooms, such as we have seen in former years, a considerable number of the old favourites were exhibited in good form. Marie Van Houtte, Innocente Pirola, Edith Gifford, and Comtesse Nadaillac were well shown amongst Teas; while Marie Baumann, Duchesse de Morny, Count de Raimbaud, and A. K. Williams, were also well shown, so that notwithstanding the additions made to our lists in late years, the older varieties must still hold their ground. Of the Irish-raised Roses, Margaret Dickson was the best, and the season seems to have suited it, as I find most persons speaking well of it this year.

There is no one, I think, who visited Reading that will not carry away with them pleasant reminiscences of this visit of the National; everything was done to make it successful, and one can only hope that the fillip which has been given to Rose growing in this flourishing town may result in a wider appreciation and more extended cultivation of the queen of flowers.

Wild Rose.

IRISH-RAISED ROSES.

Fewer than two decades ago we were almost entirely dependent upon Continental growers for our supply of new Roses. Then came a rush of English-raised varieties; so much so, that we annually look forward to the new introductions from home-firms. When the late Mr. H. Bennett turned his attention to the systematic crossing of Roses, with such excellent results as Earl of Pembroke, Heinrich Schultheiss, Her Majesty, Mrs. John Laing, Cleopatra, Princess Beatrice, Princess of Wales, Grace Darling, Lady Mary Fitzwilliam, Viscountess Folkestone, and others, we were fast becoming comparatively independent of French and German raisers. In 1887, Messrs. A. Dickson & Sons, Newtownards, Ireland, sent out three grand Roses in Miss Ethel Brownlow, Lady Helen Stewart, and Earl of Dufferin. Ethel Brownlow has more than once carried off the Medal as being the best Tea-scented Rose in the exhibition of the National Rose Society. If memory serves me correctly, Earl of Dufferin has done the same. Caroline D'Arden and Lady Castlereagh in 1888 have not turned out such complete successes as the rest of the Irish Roses, but the following year we had a grand Tea in Mrs. James Wilson, a good Hybrid Perpetual in Lady Arthur Hill, and a fair Rose in Mr. James Brownlow. Jeannie Dickson, and T. W. Girdlestone are decidedly the best of 1890, the first-named being a grand Rose. Margaret Dickson, in the following year, was not thought very highly of this side of St. George's Channel until it was seen in 1894, when the season just suited it. Since that time it has been a constant Rose with us, and is decidedly one of our very best light-coloured Roses. This was the first one to secure the coveted honour of the Gold Medal presented by the National Rose Society for any new Rose, a prize that is only awarded to those of really sterling merit, and which it gained the year previous to introduction. There is a wonderful contrast in the growth of this Rose and Marchioness of Dufferin, its companion in 1891. The first not infrequently produces shoots 12 feet long and upwards, flowering throughout their entire length when pegged down; but the second is decidedly moderate in growth, albeit, still a grand Rose. Once the ice was broken as regards the Gold Medals for new Roses, Messrs. Dickson won with Margaret Dickson in 1890, with Marchioness of Dufferin in 1891, Mrs. W. J. Grant in 1892, Marchioness of Londonderry and Mrs. Sharman Crawford in 1893, Marchioness of Downshire in 1894, and Helen Keller in 1895.

Cards of Commendation were given in the same year for Countess of Caledon, Muriel Grahame, and Lady Mozra Beauclerk, all three of which the writer fully expects to see awarded the higher honour at the forthcoming shows.

In 1893, we only had one Rose from Newtownards, viz., Marchioness of Londonderry, a clear ivory-white of immense size and substance. Next year gave us Mrs. R. G. Sharman Crawford. I cannot say enough of this Rose. In my opinion, it is one of the best half-a-dozen Roses out of over 2000 varieties now in cultivation. Always good, whether the season be bad or not, and like that other grand introduction by Mr. H. Bennett—Mrs. John Laing—is sure to be in every collection. Marchioness of Downshire, of the same year, is also a good Rose, and with me is at present very good, both upon maidens and cutbacks; 1895 gave us Mrs. W. J. Grant, syn. Belle Siebrecht. This won the Gold Medal at Chester in 1892. Messrs. Dickson, having sold the entire stock to an American firm, the latter elected to distribute it under the name of Belle Siebrecht, a measure which has been justly condemned on this side of the Atlantic, seeing that it had, some three years previously, been already certificated under the name chosen by the raisers, and this by what is undoubtedly the highest Rose authority in the world. I was much struck with this Rose at Chester in 1892, and predicted a grand future. The delay in sending it out to the public was not so much on account of its being sold by the raisers, as an accident to the vessel in which the entire stock was consigned. In fact, for some little time it was doubtful if the few plants secured would recover from the effects; and even now I trust to see it develop more vigour as time goes on, and the excessive strain of propagation is removed. It has the good characteristics of producing its blooms upon very upright stems, retaining its shape from bud to expansion, and being one of the most distinct and clear pinks we have. Last year also gave us Helen Keller, a bold and well-formed flower of a bright rosy cerise, and most distinct. Mavourneen, a silvery-white flesh; and Marjorie, white, flushed with salmon-pink, are also of 1895. This year we have Muriel Grahame, a sport from that grand Tea, Catherine Mermet, which has given us The Bride, Waban, and others of great and tried merit. This is a pale cream, with a slight flush of rose, and will most decidedly be one of our grandest Teas. Tom Wood and Ellen Drew, two companions to Muriel Grahame, will no doubt keep up the reputation of this firm.

I have had exceptional opportunities to form an opinion upon the newer Irish-raised Roses, seldom missing either of the three annual exhibitions of the National Rose Society since its formation, and growing each variety in fairly large numbers as soon as procurable. One more remark about these Roses. Last year at the National Rose Society's exhibition at the Crystal Palace, the first-prize stand for twelve new Roses contained no fewer than ten raised at Newtownards, and we must remember that the term "new" only includes those put into commerce within the recent three years. I have my notes before me, and the ten consisted of Mrs. R. G. Sharman Crawford, Shamrock, Avoca, Marchioness of Downshire, Tom Wood, Lady Mozra Beauclerk, Marchioness of Londonderry, Helen Keller, Mavourneen, and Muriel Grahame; the two from other sources being Captain Hayward and La Fraicheur. The only awards for new Roses went to the same firm. A Gold Medal for Helen Keller, and Cards of Commendation for three others. The first prize for any new Rose (twelve blooms), was taken by Mrs. Sharman Crawford, and the two following prizes by Marchioness of Londonderry and Jeannie Dickson; all three being raised and distributed by Messrs. A. Dickson & Sons, and this was also the case in the previous year. When we remember that these Roses had to be cut some thirty hours and travel about 600 miles before being staged, need I say more about the undoubted excellence of the Irish Roses in every respect? *A. Piper.*

GATTON PARK.

This fine estate of 1000 acres, purchased in 1888, by Jeremiah Colman, Esq., is situated near Merstham, in a charming part of the county of Surrey. The mansion, of fine proportions, commands charming views of hill and dale from all sides, some of which were blocked out by trees till Mr. Milner, who was employed to lay-out and remodel the gardens, opened them. On his acquisition of the estate, Mr. Colman lost no time in putting everything about it in perfect order, making a beginning with the house, which is now architecturally beautiful, whereas formerly it was a plain and angular structure. The Marble Hall, which it is estimated cost £100,000, and in which the rarest marbles from the Baths of Caracella, and other matchless marbles, are employed, has been largely added to by Mr. Colman. It is his intention to erect a Palm-house in which to grow large specimens of these and other species of plants of service in decorating these immense halls, small plants being lost to view in them, and affording a very insignificant effect.

From the terrace looking towards Nutfield, Redhill, and Reigate on one side, there are exquisite views, and the estate itself affords a beautiful foreground to the picture. Here are remarked stately Beeches, Oaks, and Elms; giant Hollies, Yews, clumps of huge Cedars of Lebanon are objects which afford the chief beauty and grandeur of the picture. A chain of lakes lies in the bottom, increasing in size till the great one at the lowest point is reached. Walks bordered with shrubs and gay with flowers, skirt the banks of these pieces of water. Here, as in other gardens, it has been found that the Rhododendrons which usually make such a brilliant display, have not lasted in beauty for so long a period of time as in other years, and the duration of the flowers and those of the hardy Azaleas has been transient. The quaint old Town Hall is situated beneath a giant Chestnut near the house, and there in the times when Gatton used to return two members of Parliament, the said members were nominated, and here also was many a festive scene enacted. Close by are the remains of an old covered way, which formerly led to the mansion, which are now turned into a grotto and rockery; and not only at this spot, but throughout the grounds, many remains of former times are to be noticed. The rosary within neatly-clipped Yew hedges was bright with Roses; the beds of Iris, which are great favourites here, were well furnished with bloom; the broad borders of hardy herbaceous plants being gay with flowers in season. These borders are found in the kitchen-garden and other parts of the place, and they afford a brilliant floral display and fine source whence to gather flowers for the decoration of the rooms.

The Glass-houses.

Those houses which existed when the estate was acquired were of little use for gardening as carried on under modern methods, and the Beeston firm of Messrs. Foster & Pearson was entrusted with the erection of new structures, a work they have so far carried out in excellent manner, but which is far from being completed, the old range of vineries, &c, being only at the present time in course of demolition, in order to make space for the new ones. Orchids have for some time past been gaining favour at Gatton, and the successful manner in which they are cultivated by Mr. King, the gardener, well warrant the increased accommodation which it is intended to afford this class of plants. There exists a commodious house filled with vigorous, thriving plants of Odontoglossum, Masdevallia, and other species of cool-house Orchids, among which in bloom or in bud were numbers of very fine O. crispum, O. Pescatorei, Masdevallias, with high-coloured flowers; a few of Cochlioda Noezliana, of Oncidium macranthum, of O. incurvum, of Odontoglossum cirrosum, &c. Here also is one of the largest plants of Sophronitis grandiflora in the country.

The largest Orchid-house is chiefly filled with plants of Cattleya and Lælia, all of which are in excellent condition, and in some of those which were purchased a few years ago as established plants from different collections, increased vigour is noticeable every year since they have been at Gatton. The following were remarked in flower:—Cattleya Gaskelliana, which is one of the freest of the varieties of summer-flowering C. labiata, as the old autumn-flowering form is of the late-flowering ones; some excellent C. Mossiæ, Lælia tenebrosa, Lælio-Cattleya × Schilleriana, &c. The plants of Miltonia vexillaria and M. Roezlii are wonderfully thrifty, a plant of a good variety of the former having ten flower-spikes, and some of the latter produce their large fragrant blooms with freedom. Suspended overhead were fine plants of Odontoglossum citrosmum having long racemes of flowers, that named O. c. punctatissimum being a beautiful, rose-tinted flower, large, and profusely furnished with purple-coloured spots. In bloom were Dendrobium Brymerianum, Cypripedium Lawrenceanum, C. barbatum, C. hirsutissimum, Sobralia macrantha, and a few other species. In several other houses, not entirely devoted to Orchids, some species of plants likely to succeed under the same conditions are accommodated. In one large warm house, for instance, were plants of Stephanotis floribunda, scarlet-flowered Hibiscus, and the night-blooming Cactus in flower on the back wall; and arranged with Anthuriums, Clerodendron Balfourii, and other stove plants, were Dendrobiums perfecting their growth, a very fine specimen of the large yellow-flowered Sobralia xantholeuca, and a few other Orchids of large growth, in good condition. The front of this house was taken up with Crotons, Dracænas, &c., while fine plants of Nepenthes were suspended above them. In a small house, the roof of which is covered

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with trailing stems of the Cucumber, were growing varieties of Calanthe, in course of preparation for winter flowering; some very fine plants of Cattleya Trianæi, C. labiata, and other semi-established Orchids. At the end of another house, in which was a good crop of Tomatos, and a number of flowering plants of Gardenias, were panfuls of Cœlogyne cristata, &c., and in other houses are specimens, which from time to time get shifted about to wherever they may be expected to succeed—a plan which, where sensibly carried out, greatly adds to the longevity of many species.

Ultimately, it is intended to divert the old Odontoglossum-house, which was found to be unsuitable for cool-house Orchids, and which now contains Gloxinias, Adiantums, and small stock of various kinds, to the culture of Cattleyas; and when the contemplated new Tea-Rose-house is finished, the house in which the Roses now are may be arranged as an intermediate-house.

The greenhouse range is bright with Pelargoniums, Souvenir de la Malmaison Carnations, and other florists' flowers; and all parts of the garden are neat, and in a well-kept condition, notwithstanding the work connected with renovation and re-building now in progress.

The Kitchen Gardens.

These are extensive, and consist of two classes—the large modernised one in which everything is done in the best manner; and the old gardens, in which the evidences of former grandeur and vigour still remain, so far as many of the fruit-trees are concerned, decaying, it is true, but still interesting and useful. One healthy old giant as a wall-tree is truly remarkable, viz., a Uvedale's St. Germain Pear, the main stem of which is of immense size, and the horizontally-trained branches extend exactly 100 feet. It is difficult to name the time which this fine old tree must have occupied its present situation, but it must be considerably over 100 years, and during that period of time what changes in the methods pursued in the garden must have taken place! The old Apricot-walls, too, have some very remarkable trees—still very prolific, and ancient specimens of other kinds of fruit-trees are plentiful. In one of the walled-in gardens a large number of Chrysanthemums in splendid condition was observed.



FIG. 9.—RHODODENDRON RHOMBICUM: COLOUR OF FLOWERS PURPLE AND ROSE.

RHODODENDRON RHOMBICUM.

ALTHOUGH an extremely rare species in European gardens, this Rhododendron has for many years past been growing in the arboretum at Kew. There is one specimen there—a bush about 4 feet high, which flowers freely in April every year. The species belongs to the Azalea group, and is allied to the charming R. Schlippenbachii (see fig. 87, p. 561, of last volume). It is deciduous, its largest leaves being 2 inches long, and 1½ inches wide at the middle; tapering thence towards both ends they are, as the specific name denotes, rhomboidal or lozenge-shaped. They are dark-green, with a tinge of purple when young, and before falling in autumn become a fine bronzy-purple. The flowers, which appear whilst the shrub is still leafless, are borne in pairs; individually they measure 2 inches in diameter, the petals being oblong and rounded at the apex. The colour is purple, with a certain amount of rose in it, but approaches nearer the blue side of the colour-scale than any other hardy Azalea. It is a native of Japan, and was first discovered in the mountain forests of the island of Niphon. When fully grown it is perfectly hardy, and ripens seed freely, but, like many other Japanese plants, it is tender when young, and its rarity, no doubt, is due in a great measure to the seedlings being liable to be killed during winters of even ordinary severity. Whilst they are in nursery quarters, a thick layer of dry leaves ought to be spread over the ground during winter, and a rough framework to support a few mats during the severest weather is advisable. Less protection is needed as the stems become more woody, and after they are 12 or 18 inches high, none is needed. The large plant at Kew, from which our illustration was taken (fig. 9), is never protected, and such frosts even as those of February, 1895, did not injure a single twig. The species was given an Award of Merit by the Royal Horticultural Society on April 24, 1894. *W. J. B.*

LÆLIA PURPURATA ASHWORTHIANA, New Var.

This superb variety (fig. 10) differs from all others in cultivation, not only in the superb coloration of the lateral petals, partitioned with bold white stripes, but in their abnormal breadth. It was described at p. 758, col. c, and at p. 759, col. a, and we now add the following particulars sent by Mr. Ashworth. "I measured the flower and found as follows: width of petals, 1½ inch × 3 inches long, margined with white from centre of petals to the base of column; also white stripe ⅝ inch wide in centre of each petal half-way up; colour purplish-rose, with stripes as dark as the lip. Petals stand out at about 45° angle from lip. Sepals ⅞ inch wide and 3 inches long, white, with pinkish-rose lines, reflexed. Tube of lip 2⅝ inches long, white with rose stripes, and extremity of lip 1½ inch in width, dark purple tinged with a little yellow; perfumed." *J. A.*



Fig. 10.—Lælia purpurata ashworthiana.

GRAPE-GROWING ON SANDY SOIL.

Probably there are few growers of Grapes for any purpose who would deliberately select for Grape culture a soil that may be termed a solid bed of sand. The Bagshot sands are well known, and just what one sees at Knap Hill or Bagshot may also be found in the soil pervading Byfleet, a village that lies between Weybridge and Woking, where Mr. J. Bury has settled as a grower of Grapes for market. Had the soil been of an ordinary character, showing a fairly tenacious loam, sweet and fibrous, in which Grape-growers generally so much delight, the Grape culture here would have called for no special comment. But Mr. Bury did not select this sandy soil originally for the purpose named; the vineries, which are locally known as "Petersham," had been built and planted a few years previously to his taking possession of them, and it is very easy to understand that he did so with some doubt, as he had been for thirteen years previously gardener at Tewkesbury Lodge, Forest Hill, where he was a most successful Grape grower, and took, as an exhibitor, numerous first and other prizes in the best competitions. But Grape growing in private places, especially where special attention is given to the production of fine bunches thinly placed on the Vines, and in market vineries is very dissimilar. In the one case there is great anxiety not to over-crop the Vines, because extra fine bunches and berries are wanted. In the other it is needful to extract yearly from the Vines the uttermost of crop they can produce, and yet leave them capable of reproduction of similar crops in succeeding years. The Petersham vineries in no sense equal in extent the huge area of glass houses devoted to Grape culture at Finchley, Broxbourne, Swanley, and elsewhere. There are but two houses, but they are 25 feet wide, are of course ordinary spans, are each 336 feet long, or a total of 672 feet run. There is, therefore, ample room to test at once the capacity of the grower, and the adaptability of sand as a Grape-producing soil, and in both cases the results are most satisfactory. Only four varieties of Grapes are grown: Black Hamburgh and Muscat of Alexandria share equally one house, and Alicante and Gros Colmar the other. Oddly enough, the heating-power being all at one end of the pair of houses, the Muscats in one case, and the Gros Colmar in the other; both varieties most needing heat were planted at the remoter ends. The site of the vineries is very sheltered, and the soil naturally warm; so that, on the whole, both Muscats and Colmars, in spite of the drawbacks mentioned, ripen remarkably well.

Last year, when I saw the Muscats, they had in an unusual degree not only rich golden hue, but also that amber tint which characterised the Muscats Mr. Hinds, some years since, used to exhibit from off the sandy soil of Minley Manor. It is not a new thing to learn that sand is advised to be applied as a dressing for borders in which Muscat Vines are growing; indeed, there can be no doubt but that sand would constitute a very helpful mulch to many Vine borders where the soil is hard or tenacious, and tending to sourness because too full of humus.

Mr. Stephen Castle, a first-class Grape grower for market, not only always added sharp sand to his Muscat borders at Fordingbridge, but also generally used silicate as a manure. It is, however, unusual to find Vine borders literally all sand, and that to a great natural depth. The Vines are planted at 3½ feet apart on each side of the houses, and are, of course, spur-pruned to single stems. They root better inside than outside, borders having been originally prepared and raised, yet still of sand, for there is no other soil in the locality. As the houses are but 5 feet apart, however, the intersecting outside border for two rows of Vines to run in, affords very limited room. Fearing that because of the known natural tendency of Vine roots to run downwards, they might in his case have begun to get too much into the lower sand stratas, Mr. Bury had, during the winter, trenches 20 inches wide, opened inside of each house, and on either side at about 5 feet from the stems. When roots were found they were clean cut off at the outer side of each trench, and drawn up carefully, were pegged into the trench wall nearest the Vines. Then, when all had been so found and treated, some fresh soil, really a very thin addition, consisting of wood-ashes, old pot-soil, Mushroom-bed manure, &c., was wheeled in and strewn along the top of the soil cast out from the trench. Then being mixed, a portion was thrown into the trench and trodden down; the severed roots were then unpegged and laid so that the points projected upwards at an angle of 45°, and the whole of the soil was then filled in. Such treatment might well be regarded as drastic, but the effect on the Vines seems to have been most beneficial, for throughout they are carrying splendid crops, and there can be no doubt the bulk will in every way equal, if not excel, that of previous years. Most noteworthy is the really capital flavour found in both Alicantes and Gros Colmars when ripe, whilst colour is excellent. Mr. Bury believes in the efficacy of light—ample light, as aiding coloration, not only directly, but also in imparting to the leafage that substance and vitality without which neither good colour or flavour can be looked for. Shanking seems to give no trouble whatever on the sand so long as the roots are kept out of the lower strata. *A. D.*

FLORISTS' FLOWERS.

THE HOLLYHOCK.

I have in previous numbers of the *Gardeners' Chronicle* written about the Hollyhock disease, Puccinia malvacearum; it is very trying, especially in wet seasons, but this year the plants have not suffered materially, although it appeared very early in the season. Now is a good time to put in cuttings and eyes, but care should be taken to remove every particle of the disease. The eyes are obtained from the lateral shoots, and may be inserted singly in small pots, placing them in a partly exhausted hot-bed; the leaf attached to the bud may be removed, but not the leaf-stalk. Cuttings may also be obtained from the base of the plants, they form roots readily in the

aforesaid hot-bed. During the excessively hot and dry weather of the early part of the summer, the plants required a great deal of water, and to prevent evaporation the surface of the soil around the plants had been well mulched with manure, syringing the undersides of the leaves to keep down red-spider. In deep well-manured soil the Hollyhock grows very tall with the above treatment, and forms one of the most stately of garden plants. Well grouped in pleasure-grounds in front of shrubs, the Hollyhock is equally well adapted for effect at a distance, or to bear close inspection; even the single Hollyhock has its admirers, and in truth, some of the varieties are very pretty.

The Pansy.

The distance is great between the stately Hollyhock and the lovely lowly Pansy; but each have their admirers, and each of them have passsd through periods of prosperity and adversity. The Viola has now a special society all to itself, but according to the report of the special society's exhibition, the Pansy was strongly represented; it would, therefore, be well to call the society The Pansy and Viola Society, for although the Pansy is a Viola, the two names are quite distinct for garden purposes. The hot season has certainly been very trying, both for the Pansy and Viola. Neither of them can endure the hot, dry seasons of the London district. The difficulty is to keep them free from aphis and red-spider; either parasite is sufficient to check their growth and cripple the flowers. Cuttings may now be put in, and in the south it will be found they do best on the north side of a wall, or in some similar position where they can be sheltered from too much sunshine. There is no need to put them under glass; in fact, I believe they do better in the open. If the soil is heavy, an inch or two of leaf-mould and sand put on the surface will be necessary to cause them to root freely. If the young growths have red-spider or aphis upon them, they must be dipped in a solution of soft soap and tobacco-liquor. The soft soapy water will kill the aphis, but it is necessary to add tobacco-liquor to compass the death of the red-spider.

The Polyanthus.

This has been a very trying season for the Polyanthus. The season for blooming was all that could be desired, as the weather was fine, but after that no rain fell for two months, and the usual result of hot, dry weather, the leaves became rusty from the attacks of red-spider. The best varieties of the laced Polyanthus are lovely border flowers, but we in the south are confronted with hot dry weather when the plants ought to have damp, chilly nights. I well remember seeing a splendid show of them in the garden of Mr. Horner when he lived at Kirkby Malzeard, near Ripon in Yorkshire; parasites did not touch these plants, indeed Mr. Horner remarked that any plants which he received infested with red-spider gradually recovered, and this troublesome parasite died out, the air of the Yorkshire wolds not being conducive to its healthy development. Seedling Polyanthuses should now be planted out where they are to flower next season. I always choose a shady place for them; they need it more than the Auriculas do. The seed is now being saved; it is very soon scattered unless it is carefully watched, the pods open at the top, and the seed falls out. The time to gather the pods is when the seed can be seen through the transparent capsule to be of a brown colour. It may be sown now or in the spring. I sow in the early spring months, and the plants are ready to plant out in July.

The Pink.

This is one of the most charming of garden flowers, not only for its beauty, but the delicate perfume is even more pleasing than that of the Carnation. No delay should take place in getting the slips taken off and planted in some shady part of the garden. Forty years ago I was very successful in striking them out-of-doors without any glass protection, but I always took the chance to take them off when the day was cloudy and wet; if this was done on a hot sunshiny day, the "pipings" did not root so freely. I have put a lot in this week over a hot-bed, the heat is not excessive, but enough to heat the soil to 85° or so. The glass lights are kept over the frame, and tilted a little at the back, but at no time are they shut down close. Roots are soon formed, and care must be taken not to let the young plants become drawn, as they ought to be in nice stocky form about the end of September to plant out. It ought to be generally known that the lacing on Pinks is seldom well defined unless the plants are put out soon enough in the autumn to become well established before the winter. *J. Douglas.*

The Week's Work.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

CATTLEYAS.—By this season strong plants of Cattleya labiata and C. Gaskelliana will have made a considerable quantity of new growth, and in some the flower-sheaths will have appeared. Care should be taken that water is not allowed to remain in the growths, or decay may follow. At this stage it frequently happens that the outer sheath encircles the growth so tightly as to prevent air gaining access to it, a state of things which quickly causes the sheath to turn black; this arises from too much moisture being present between the sheath and the pseudo-bulb, and if it be not counteracted without delay the new pseudo-bulb may decay. It is prudent therefore to examine the plants at short intervals of time, splitting the envelope from top to bottom, and thus allow the moisture to escape. The plant so treated should be kept rather dry at the root for a few days afterwards, then, if the growths are found to be sound, the plant may receive ordinary treatment. My remarks on this subject will apply to Cattleya gigas, C. Dowiana, and C. D. aurea. Among the plants of C. gigas which have finished flowering, there may be some which will require repotting, or fresh material substituted for that which is decayed. This work should not be delayed, as new roots soon start, and a disturbance of the compost is then attended with danger. As regards plants in an unsatisfactory condition, which have not been disturbed at the roots for several years, they should be turned out of their pots, have all dead roots cut off, and the remainder washed clean. Some of these plants may not require pots so large as those they came out of, and should be placed in clean ones of a suitable size. Healthy specimens requiring more pot-room should have the old pot broken in pieces, and be afforded another one a size or two larger. The kind of compost to be used is furnished on p. 787, vol. xix. Keep the plants perfectly firm in their pots by means of stakes. The new roots on entering the fresh material furnish food for the new pseudo-bulbs, and it is an advantage to place the plants in a drier and better ventilated house than the Cattleya-house, where they would enjoy more sunlight, and where the maturation of the pseudo-bulbs would be accelerated. Till re-potted plants are re-established, water should be afforded only in quantity sufficient to prevent much shrivelling, slight shrivelling does no harm. Plants of C. Dowiana and C. D. aurea may also be re-potted as they go out of flower, and be placed in the lightest part of the Cattleya-house, great care being taken not to afford water copiously, or growth instead of rest will ensue.

GRAMMATOPHYLLUM MULTIFLORUM, G. FENZLIANUM, AND G. F. MEASURESIANA.—Plants of these species, both those that have flowered and those which have not, will now show new breaks, and should be examined as to the available rooting space. Teak baskets are preferable to pots for these plants, and the baskets should be comparatively small, as these species do not succeed if there is much material about the roots, being chiefly aërial. The compost should consist of fibry peat, with all of the soil sifted out of it, and a handful of clean crocks mixed with it, which press firmly around the base of the plant, and prick in a few heads of live sphagnum-moss. Growers commonly water these plants too frequently at the beginning of their season's growth, and, as in the case of Catasetums, Cycnoches, the deciduous Calanthes, &c., their young growths rot as a consequence. Special care is needed in affording water, and it is sufficient at first to merely sprinkle the baskets with a fine rose can till new roots form and new growths appear. Hang the plants in the Cattleya-house till they get re-established, when more heat, light, and moisture may be afforded.

THE KITCHEN GARDEN.

By C. Herrin, *Gardener, Dropmore, Maidenhead.*

BROCCOLI.—It is now time in most localities that the mid-season and late varieties of Broccoli should be planted; but in very warm localities planting may be left till the end of the present month, care being taken not to crowd the plants in the seed or nursery beds. It is a good practice where land is plentiful to make two or more plantings of Broccoli, and to sow or plant in different aspects; the more open and exposed, the better the plants endure frost. I usually clear off a Strawberry-bed early in this month, and plant with Broccoli, without digging the ground, but hoeing it, and raking off the weeds and rubbish. Before setting out the plants, drills are chopped out with the hoe or spade to about 3 inches in depth, and if the ground is too hard to allow of planting with the trowel or dibber, a crowbar is used to make the holes to receive the plants. Varieties of medium growth may stand at 2 feet apart each way, and strong growers at 2½ feet.

ASPARAGUS.—Next year's success will largely depend on the kind of treatment afforded during the next two months. It should be borne in mind that if land is allowed to become overrun with weeds, strong crowns will not form, and the shoots next year will be correspondingly weak. It is essential that the season's growth should be strong, and means should be taken to assist it by liquid manure applied once in fourteen days, and dressings of salt and artificial manure. The stems should be supported in some kind of way, either with short-sprayed Pea-sticks stuck in around the stems, or by running lines of soft string along the rows at 2½ to 3 feet from the ground, and securing the stems to these. If dry weather continue, afford water to the plants before and after applying the salt, &c.

PEAS.—Although it is too late for sowing late Peas, early ones may still be sown. It is my practice to sow this last succession on a warm border, giving the preference to a dwarf variety of the Chelsea Gem type of Pea, such being easily protected from small birds with netting. Drills should be made of 6 inches in depth, and the seed covered to a depth of 3 inches, which leaves a shallow trench to hold water, and a mulch, if this last be necessary, but which may not be afforded before the Peas are 6 inches above ground. Al the mid-season and late Peas should be mulched and the ground well watered, appearances indicating a continuation of the dry weather, otherwise the crops will be light, especially on light soils. The mulch may consist of long or short manure, partly decayed leaves, even dry Bracken may be used, but lawn-mowings may only be used if all other materials fail. One good watering and a heavy mulch applied directly afterwards, is more beneficial than two waterings alone.

VARIOUS.—Herbs coming into flower should be cut and spread out to dry slowly in a shed; and in any case a portion of each bed should be cut, if only to promote young growth, and the better wintering of the plants. Cut away the flower-spikes from Sorrel. Continue to plant out Cauliflowers for autumn use; also Vegetable Marrows in spare corners, or in Potato pits and frames. The lights will not be required. Radish seed should be sown frequently in the coolest part of the garden; when once ready they last but a few days, usable during hot weather, and these and saladings must be abundantly watered.

FRUITS UNDER GLASS.

By W. Pope, *Gardener, Highclere Castle, Newbury.*

PINE-APPLES.—As soon as a batch of strong suckers is obtainable, preparations for potting should be made, so that solar-heat may be utilised in affording them a good start. A steady bottom-heat not exceeding 95° will be required, and this is best provided by a bed of fermenting material, consisting of Oak or Beech leaves mixed with a small quantity of fresh stable litter. For potting-soil, use a rich fibrous loam, torn in pieces by the hand, pressing it firmly into the pots (which should be 5 or 6-inch ones for the largest suckers), and making it very firm round the base of the suckers, as doing this tends to speedier formation of roots, and sturdy foliage. Afford one thorough watering, to settle the soil, and keep the frame rather close and moist till the emission of roots has commenced, which is determinable by growth commencing in the leaves. At this stage the plants should be inured to more light and a freer circulation of air, when the ordinary pinery treatment should be given them. When the roots reach the sides of the pots, and before they become pot-bound, a shift should be afforded them,

using a rather fresh fibrous loam, torn up roughly, discarding the finer particles; a fair sprinkling of bone-meal, and charcoal if the loam be clayey. The pots used should be either new ones that have been immersed in water for a few hours, or quite clean old ones, and pot firmly.

PEACHES AND NECTARINES, EARLIEST-FORCED.—See that the earliest-forced trees get abundant root-waterings, and syringing morning and evening, so as to preserve the foliage fresh as long as possible. If the upper lights of the Peach-house are removable, they should now be taken off, so as to expose the trees to the weather. Pot-trees from which the fruit has been taken may be placed in an open situation out of doors, sheltering the pots from the direct action of the sun by plunging them in the soil or in other pots, &c. As the succession trees are cleared of their fruits, much of the old bearing wood should be cut away, and the growths thinned where crowded; use the syringe freely to cleanse the foliage, and maintain the borders in a thoroughly moist state. Should the wood be weak, and the trees show signs of exhaustion from overcropping or other causes, liquid-manure should be applied, and the wood well exposed to the light, and the foliage made healthy, so that the buds will be enabled to develop properly and strongly. The lateral or side shoots should be stopped at the first joint, unless the buds are in an advanced state, in which case lateral growth may be allowed to develop for a time. Trees with fruits now swelling should have their shoots stopped, tying back such of them as obstruct direct sun from reaching the fruits. Keep the borders moist, and mulch them with half-decayed stable-manure. As an arid atmosphere is not desirable, even in a house with ripening fruit, available surfaces should be damped two or three times a day during hot weather. Afford plenty of ventilation during the day, and sufficient at night to ensure a due circulation of the air.

UNHEATED HOUSES.—The trees in these houses will in most cases have finished stoning, and the final thinning may now take place, unless the trees are young and of great vigour. Apply liquid-manure copiously to the roots, keep the shoots thin, and secured to the trellis, drying the trees thoroughly morning and afternoon, except on wet or dull days, when the afternoon syringing may be dispensed with.

PLANTS UNDER GLASS.

By Jno. McIntyre, *Gardener, Woodside, Darlington.*

THE CHRYSANTHEMUM.—The latest will by this date have been shifted for the last time; "cut backs" for forming bushes should have formed strong crowns; and all the plants will have been placed out-of-doors to finish their growth. The usual seasonable pressure being now past in the plant-houses, more time will be at the disposal of the gardener for attending to the varied wants of his Chrysanthemum plants. From now onwards is a critical time with these plants, and if the gardener aims at great excellence, in whatever form his plants are grown, they should be carefully staked, and the stakes should be sufficiently tall that no shifting of stakes will become necessary. The plants should be placed in a sheltered yet open position, arranging them in straight lines on a bottom of coal-ashes, or if the walks in the kitchen garden are asphalted, they can be stood on these without anything else beneath them. Our plants ripen their wood and produce finer blooms stood on asphalte than on any other material. It is a good arrangement to have strong posts permanently fixed, and furnished with rows of galvanised iron wire, to which the plants, or rather the stakes, may be fastened. Earwigs commit much havoc in the summer months, and the Chrysanthemum grower must pay close attention to the work of catching them by hand. The bush-plants, if time permits, should now be staked, but passing green thread through the crown, so as to keep the shoots in proper order. Done in this manner, bushes do not become a bundle of sticks, and they have a natural appearance. Side-shoots will need removal to throw the energies of the plant into the main-stems, and the production of flower-buds. No hard-and-fast line can be laid down to suit all varieties in regard to the most suitable time to "take the buds," and every grower must determine this matter for himself. Some few varieties produce the best blooms on the terminal bud; but in the greater number of varieties the finest flowers come from crown-buds, and experience alone can determine this point. In this garden we begin to take the buds in the first week in August, and in the second week in September, and buds obtained later than this may turn to passable blooms, but they are of no use on the exhibition-table. If no exhibition-blooms are required, the best system to my mind is to grow three plants in one pot, cut them back at the end of the month of May, and allow three breaks to form on each plant—that is, nine shoots in all. From these take the terminal buds, and you will have nine fine flowers on each specimen, and the latter will be sufficiently large enough for most purposes, being dwarf in stature. If the plants were potted into sound materials they should not be afforded manure till the soil is getting exhausted of its fertility. I afford manurial aids from the time of taking the buds till the flowers are about to expand. A collection of Chrysanthemums should be examined as to the state of the soil as regards moisture morning and evening, a serious check being given them by lack of water at the roots. Aphis must be rigorously kept in check with tobacco-powder

MISCELLANEOUS.—At this season regular and constant attention should be given to keeping the various houses neat and the plants clean, and the arrangement occasionally changed in so far as regards the smaller portable plants. Do not allow seed to from on Fuchsia and Pelargonium plants, as it is bad for the plants, and gives them an uncared-for appearance.

THE HARDY FRUIT GARDEN.

By G. Woodgate, *Gardener, Rolleston Hall, Burton-on-Trent.*

APPLE AND PEAR TREES.—The chief work in the fruit garden which will now require considerable attention consists in the pruning of the bush, cordon, pyramid, and trained Apple and Pear-trees, taking the early varieties first, thinning the fruit if it be too abundant, and affording them water copiously, with alternately an application of manure-water to trees that may be carrying full crops; those trees which have little or no fruit, and growing strongly, having only clear water. When pruning the trees a sharp search should be made for insects injurious to fruit and leaves. The woolly aphis (American blight) on the bark of old and young shoots and root-stock of the Apple; and the coccoons and webs of the small Ermine-moth (Yponomeuta padella) among the foliage of the Apple, the larvæ of the slug-worm on the leaves, and the coccoons of the Wood-leopard-moth on the foliage and among the branches of the Pear, are common pests. In the case of webs and coccoons, the simplest method of ridding the trees of them is to collect and burn them, and even the smaller infested shoots along with them, if of small account. Little can be done at this season to kill American blight or the mussel-scale, beyond the application of soap-suds and clear water applied with the garden-engine. Winter is the proper season for applying means for their destruction; and I would direct the reader's attention to former Calendars for information on this subject. Pear and Cherry trees on which the larvæ of the sawfly are found should be marked for treatment in the winter, at which season the surface-soil under the trees to a depth of 4 inches may be removed and charred, or deeply buried in the kitchen garden—in this way destroying the pupæ, which generally winters just below the surface of the soil. The roots should be covered with fresh soil.

PLUMS.—These trees are in general carrying a fair crop of fruit, with the exception of one or two varieties, as Denyer's Victoria, and Jefferson, which have set heavy crops, requiring to be rather severely thinned.

PEACHES, NECTARINES, AND MORELLO CHERRIES will require constant attention in the matter of laying-in the young shoots for extending the area of the tree, and fruiting. The upper portion of these trees should have the first attention, the partial denudation of shoots diverting the sap to the branches in the lower half—very necessary indeed where glass copings are allowed to remain over the trees during the summer season, which tend to develop much growth at the top of the trees. Although we have had in this locality some refreshing rains, still a very insufficient quantity has fallen on the borders, which are near to high walls, and heavy applications of water to the roots of fruit trees are very necessary. The fruits of some of the early varieties of the Peach are approaching the end of the final swelling, and these should be well exposed to the sun. In doing this do not cut off or mutilate the leaves, but secure them with twigs for the time being.

APRICOTS.—These fruits are likewise approaching ripeness, requiring the same attention. Let all syringing cease of these trees whose fruit is getting ripe.

PRESERVE-FRUITS.—Attend to the gathering of fruits of all kinds for preserving purposes, according as it becomes fit for this kind of use, choosing a time when it is quite dry, and endeavouring to have it gathered early enough to allow of the work connected with boiling-up, &c., being undertaken the same day. The Strawberry-nets can now be used for the guarding of red, white, and black Currants. Continue to layer Strawberry-runners in pots or otherwise for forming new plantations, keeping the runners supplied with water if the weather be hot and dry.

THE FLOWER GARDEN.

By Hedley Warren, *Gardener, Aston Clinton, Tring.*

HINTS ON WORK IN GENERAL.—In weather favourable for weeding and rolling walks, that is, when showers have softened the surface, this job should receive attention. In shrubberies the removal of decaying matter, foliage, and flower-stems should be attended to. The mowing of grass lawns is at the present time work that cannot be slighted, if a close velvety turf is looked for. Climbing Roses and other similar subjects will often stand in need of the best wood being slightly secured against wind and rain, and the weak and superfluous shoots removed. It adds greatly to the good appearance of the waning glories of the Rose-beds if all dead or decaying flowers be gathered off the plants daily. The beds and borders of Roses may require a thorough soaking with clear water.

BEDDING PLANTS.—These plants, now beginning to grow freely, will require, in some cases, to get close to the soil by pegging down the side shoots, a matter that should have early attention, so that the beds may the sooner be furnished, and the ground covered. Verbenas, Calceolarias, Violas, and Petunias should be well supplied with moisture at the roots, otherwise their period of flowering will be curtailed. If such plants get exhausted, the removal of all seed vessels and decaying flowers, and a thorough application of water to the soil, will usually re-invigorate them. Carpet plants should occasionally have the unnecessary growths removed, and be pressed level, taking great care to keep the figures accurately defined by trimming and removing encroaching shoots. Succulents are much benefited if the flower-buds are removed as soon as they are discernible. Mentha Pulegium, Veronica, and similar spreading plants are kept within bounds by clipping them with a pair of sheep-shears. In many instances Pyrethrum parthenifolium aureum is throwing up flowering stems, which should be removed, entirely keeping the plants dwarf, and yet fresh-looking. Abutilons, Castor Oils, Solanums, "Tobaccos," and other subtropical plants should be securely fastened to stakes as stem-growth progresses, or much damage may be done by wind. Flower-beds are not unfrequently seen which contain too many plants, the outcome of a desire to make immediate effects, or because the nature of the soil has not been considered, a strong retentive soil, if fairly rich, producing a luxuriant growth at the expense of bloom. Much of this flowerless luxuriance might be obviated by planting less thickly, or by thinning out much of the superfluous growth at intervals during the summer. Antirrhinums have proved to be excellent plants in a dry season like the present, affording a wealth of bloom for a long time, with more to follow. Tropæolums are doing finely, making sturdy growth, notwithstanding the drought. As a dwarf variety of Tropæolum, Mrs. Clibran proves to be a very valuable plant, its bright yellow flowers showing up well. It is a variety that will in many places take the place of the yellow Violas and Calceolarias, and where these plants do not succeed I would certainly recommend a trial of the variety.

CANNAS.—The Gladiolus-flowered type is gaining favour as a pot plant, and as a bedder. The plants should be grown in warm spots, the beds should be very well drained, and liquid-manure freely used after the flower-spikes appear. When Cannas are raised from seed, the same should be sown as soon as ripe; when large enough, potting off the seedlings singly, and keeping them growing in a warm-house all the winter. Under this kind of treatment Cannas make strong flowering plants by the spring.

MR. J. IRELAND.—We are informed by Mr. Ireland that he has resigned his post of Orchid-grower and Foreman at Messrs. J. Cowan & Co.'s Nursery, Garston, Liverpool, and he is looking out for a situation commensurate with his abilities and knowledge of Orchids and general nursery work.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the PUBLISHER.

Letters for Publication, *as well as specimens and plants for naming, should be addressed to the* **EDITOR, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

APPOINTMENTS FOR THE ENSUING WEEK.

MEETING.

TUESDAY, JULY 14—Meeting of the Fruit and Floral Committees of the Royal Horticultural Society, Drill Hall, James Street, Westminster. Lecture by the Rev. J. H. Pemberton on New Roses.

SHOWS.

TUESDAY, JULY 14—Royal Horticultural Society's Special Rose Show, at Drill Hall (Competitive).

WEDNESDAY, JULY 15—Ulverston Rose National Rose Society. Royal Botanic Society Promenade. Geneva (six days).

THURSDAY, JULY 16—Rose and Horticultural Shows at Halifax, Selby, and Finchley. Jersey Summer Exhibition.

SATURDAY, JULY 18—New Brighton Rose Show.

SALE.

FRIDAY, JULY 17—Imported and Established Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK —63°.4.

Sports in the Law Courts.

WE hear and see a great deal of plant variation, and are often called on to make comment upon it. It does not happen, however, that the subject is made the object of a law suit so often as might be expected, and hence the case we have now to refer to is the more interesting. It appears from the report in the current number of the *Revue de l'Horticulture Belge*, that a difference of opinion arose between M. VINCKE and Messrs. SANDER & Co. as to the price paid by the latter for a plant of Cypripedium Harrisianum ×. This plant was the first hybrid Cypripedium raised in this country. Its parents were C. villosum and C. barbatum. In course of time numerous variations have made their appearance, differing from the original Harrisianum, and excelling it in attractiveness. These characteristics unfortunately are not always stable, the fine variety of one year may degenerate in the next season to an ordinary form of C. Harrisianum ×, or to something not so good. This variation is very interesting to the botanist, but it is evident that the amateurs and the dealers in Orchids may look upon it in a very different light. Thus when Messrs. SANDER & Co. saw *in bloom* a fine variety of Harrisianum in the possession of M. VINCKE, they purchased it, but the next year, when the plant produced flowers of an ordinary or inferior character, they were anxious, according to what is alleged to be the custom of the trade, to have the money refunded. The case was tried before the Tribunal of Commerce of Bruges, and from the summary of the proceedings given in our contemporary we translate the following particulars:—

The action (between M. VINCKE, plaintiff, and Messrs. SANDER & Co., defendants) related to the price of a plant of Cypripedium Harrisianum ×, which the defendants alleged that they had bought for the sum of 1000 francs, only on account of the peculiarities of colouring which the flower displayed. They said that the seller of an article ought to guarantee the existence of the special characteristics, which caused the sale to be effected, and that, the year after the sale, if the plant no longer bore a similar bloom, restitution should be made, as is the custom of the trade in dealing with Orchids. The plaintiff replied that there could be no special guarantee, that the plant had been bought in flower as it stood, and he denied the alleged custom of the trade.

The tribunal gave a verdict for the plaintiff, the costs to be paid by the defendants. "Whereas the defendants bought the plant in the state under which it was offered, without any stipulation or special guarantee, especially as to the production of similar bloom at the next flowering season; whereas, if it be shown that the plant did not again produce the same [a similar] flower to that it bore on the day of the sale, that fact would not nullify nor cancel the sale; that, in fact, the plaintiff parted with the plant under the conditions stated by the defendants, and without guarantee as to the fixity of the colour or the tint of the bloom; that there was therefore no positive mistake to annul the contract, nor concealment which justifies cancelling, but simply a circumstance, often happening in Orchid culture, that is, the occurrence of variation in the flowering; whereas, the defendants who are Orchid importers, must be acquainted with these possible variations, and that this being the case, if they had desired to protect themselves in case of such an event, they should have stipulated in special terms, or effected a conditional purchase. As to the custom of the trade, which the plaintiff considered had reference only to the sale of Orchids not in bloom, the tribunal passed the matter over as not being proved, and as not affecting arrangements made between the parties."

All plants are liable to vary, some much more than others. Hybrid productions and their descendants are specially prone to vary. These facts are of course perfectly well known to trade-growers, and it would be an impertinence for outsiders to attempt to interfere with recognised and legitimate trade-customs. The purchaser in this case, as we understand, bought the plant *telle quelle*, just as it was, and without any guarantee of persistence. The Belgian tribunal has asserted, that in the absence of any such specific guarantee, the purchaser cannot recover if the plant becomes sportive. In these days of "hybrids" and "sports," and the great extension of commerce in such productions, it would be well if the trade could come to some definite understanding for the avoidance of disputes. Of course, the application is not confined to Orchids. Chrysanthemums, Roses, and other commercial commodities are just as variable in their way, if not more so. We should be glad to hear the opinion, alike of hybridists and of merchants, upon a point of great importance to both.

Varieties of Canna indica.

THE new varieties of Canna are beautiful things in the flower-garden, but cultivators will not get the utmost out of them that they are capable of unless special preparations are made for them. Merely to dig the ground after manuring it is not enough. It should be remembered that the Canna is a native of the tropics, and can only be relied upon to flower well in the warmest of summers when some endeavours are made to imitate tropical conditions. The first of these is warmth of soil, and this can be obtained in a modified degree by putting, say, a bed of 1½ foot thick of fermenting materials, consisting of two-thirds last year's Oak or Beech leaves, and one-third short stable-litter, treading the mass fairly firmly together. This affords warmth and drainage, but failing the leaves and dung, their place may be taken with furnace-clinkers, brickbats, &c., to the depth of a foot, putting a layer of rotten dung, 6 inches thick, on the top of these. The spot chosen for the Cannas should be the hottest in the garden (at the foot of a south wall if cut blooms are looked for), and the plants should stand at least 2 to 3 feet asunder, according to strength, so that the sun may reach them all round, and the soil; mulching in our climate does harm, in preventing the sun-heat penetrating the soil, and its place should be taken by a bi-weekly stirring of the soil to aërate it, and prevent the loss of moisture, a crumbly surface doing this almost as effectually as a mulch. The rest is a matter of water and liquid-manure. The foliage should not be wetted at night, but about seven in the morning if the previous day was hot and it is likely to be so the next. If the bare appearance of the soil in the early stages of growth be not liked, put around the bed a row of Aralia papyrifera (Chinese Rice-paper plant), A. Sieboldi, Farfugium grande, a dwarf Solanum, or some of the taller varieties of tuberous Begonias—now, we fear, almost lost to gardens, but which are as graceful as a Fuchsia.

TOWER GROVE PARK (see Supplementary Illustration).—We have had frequent occasion to mention the beautiful garden and botanical Institute bequeathed to the town of St. Louis by the late Mr. SHAW, an Englishman by birth, an American by adoption. By his intimate relations with the late Drs. ENGELMANN and ASA GRAY, he had become acquainted with the requirements of Horticulture and Botany, and did his best to supply them. Dr. TRELEASE is now the head of the establishment, which has rapidly become one of the most important establishments of its kind. American journals report that great damage was done to the garden by the late cyclone, but our promised report has not yet arrived. We shall take an early opportunity of alluding to the subject again.

HORTICULTURAL CLUB.—The annual excursion of the club, to which ladies are especially invited, will take place on Thursday, July 30, under the superintendence of Mr. HARRY J. VEITCH, who has kindly consented to make all the arrangements. The members will meet in the waiting room at Euston Station, London & North-Western Railway, at 9·50 A.M., and will proceed *viâ* Bletchley by the 10·10 A.M. train to Leighton, where breaks will be in waiting to convey them to Ascott, the seat of Mr. LEOPOLD DE ROTHSCHILD, who has most kindly invited the members to luncheon; they will then drive across Buckinghamshire, twelve miles, to Halton, the seat of Mr. A. DE ROTHSCHILD, where they are invited to partake of tea and light refreshments, returning to town from Wendover Station at 7.55 P.M.

NATIONAL CHRYSANTHEMUM SOCIETY'S ANNUAL OUTING.—Mr. R. DEAN, Hon. Sec., Ealing,



Aquatic Garden, Tower Grove Park, St. Louis, Missouri.

requests us to announce that the annual pic-nic and outing will take place on Monday, July 20 next. The members will travel to Elstree Station by the Midland Railway, to visit the gardens and grounds of Aldenham House, Elstree, by the kind permission of Lord Aldenham. His lordship has granted permission to members to fish in the lake, and, provided the family are not in residence, permission also to play lawn tennis in the tennis-courts, but those desirous of playing must take their racquets. There will also be ample provision for cricket. Dinner and tea will be provided in a spacious marquee on the lawn. As this is certain to be a popular trip, early application must be made for tickets, so that necessary arrangements may be made. Members must state whether they require tickets from Mansion House or St. Pancras, so that ample accommodation may be provided.

The Gardeners' Orphan Fund is benefited by many means, and we are glad to hear that in connection with the Croydon Rose Show the efforts made by well-wishers and supporters of the Fund were rewarded to the amount of £7 10*s*. Not more than 10*s*. of this, Mr. Cummins informs us, is likely to be required to cover the expenses. At other shows a Rose-fair in aid of the Fund might do similar service to "our orphans."

Outing of the Forest-Gate and Stratford Amateur Chrysanthemum Society.—Mr. W. A. Sturrock, the Hon. Sec. of this Society, desires to inform our readers that the annual excursion of members and friends (ladies invited) will take place on our day of issue to Easton Lodge, Dunmow, by kind permission of the Countess of Warwick. The train leaves Liverpool Street at half-past 2 P.M., arriving at Dunmow at twenty-five minutes past 3 P.M. The Countess has arranged to drive the members to Bishop's Stortford Station in time to catch the eighteen minutes past 10 P.M. train for Liverpool Street.

Royal Horticultural Society.—The next Fruit and Floral and Scientific Meetings of the Royal Horticultural Society will be held on Tuesday, July 14, in the Drill Hall, James Street, Westminster, 1 to 5 P.M. Special prizes will be offered for Roses. At 3 o'clock a lecture will be given by the Rev. J. H. Pemberton on "New Roses."

Woburn Fruit Farm.—We are asked to state that Mr. Spencer Pickering will be very pleased to meet any horticulturists at the Woburn Experimental Fruit Farm, Ridgmont, on L. & N. W. Ry., on either the 20th or the 24th of this month. Visitors are requested to send a notice of their intentions to Mr. Pickering, Harpenden, Herts, not less than three days before their proposed visit.

The British Produce Supply Association.—The association has been formed in order to bring the growers of British produce into direct relation with consumers, especially in large towns. It is proposed to open the central depôt for business on October 1, 1896. The association will either deal through tradesmen, or it will deliver to customers direct. In either case, all goods will bear the brand and trade mark of the association, so that purchasers will have an absolute guarantee both of origin and quality. Eventually it is hoped to deal in all kinds of British produce, but at first the following will be obtainable: Meat, poultry, game, hams, bacon, eggs, cheese, butter, tongues, sausages, fruit, vegetables, flowers, jams, preserves, pickles, &c. All sales will be for cash with order, or on delivery, but deposit accounts may be opened. By dealing with the association great encouragement may be given, and help afforded to farmers and others who grow British produce; and, at the same time, a guarantee obtained that the article is really what it professes to be. It is not necessary to be a member of the association in order to deal with it. The Earl and Countess of Winchelsea held a reception at the depôt Winchelsea House, Long Acre on Thursday, as these notes were passing through the press.

Stock-taking for June.—There is one reward for working away through a mass of figures such as those contained in the Board of Trade Returns for the past month, or any other period, which is that of proving that "our side" is right, that British enterprise and energy are receiving their reward, as is the case to-day, when we find the Imperial revenue of the past quarter exceeding that for the same period last year by nearly 1¾ millions, the increase being contributed to by all items on the sheet with only one exception—the "Estates" column; and these Board of Trade Returns now under notice show an increase in imports amounting to £1,334,671 for the month of June, and the exports in excess of those for June of last year by exactly £2,729,953. But just here may be introduced the usual excerpt from the monthly summary table of imports for the past month:—

Imports.	1895.	1896.	Difference.
	£	£	£
Total value of imports	33,844,584	35,229,255	+1,384,671
(A.) Articles of food and drink - duty free	12,595,318	12,504,956	—90,362
(B.) Articles of food and drink dutiable	1,551,788	1,606,009	+54,221
Raw materials for textile manufactures	5,219,880	4,646,048	—573,832
Raw materials for sundry industries and manufactures	3,676,176	4,499,017	+822,841
(A.) Miscellaneous articles	1,213,218	1,246,702	+33,484
(B.) Parcel Post ..	70,571	92,424	+22,053

Whilst noting the imports of to-day, giving an eye to those of the future is allowable—this in connection with the terrible storms which have recently swept over the fair lands known as Southern Russia, which have torn up, or otherwise ruined the corn crops, vineyards, orchards, and Tobacco-lands; ruin remains where a month since plenty smiled. The accounts to hand of the wide-spread devastation are very pitiable, and we can only hope they have been exaggerated—at any rate, they form a factor in the estimate of expectations from that quarter of the globe. The figures relating to fruits, roots, and vegetables, are always of interest. The following partake of the old character:—

Imports.		1895.	1896.	Difference.
Fruits, raw:—				
Apples ...	...bush.	50,553	37,917	—12,639
Cherries ...	... ,,	115,670	116,356	+686
Plums ...	... ,,	4,660	7,466	+2,806
Pears ...	... ,,	13	8	—5
Grapes ...	.. ,,	3,035	3,987	+952
Unenumerated	.. ,,	155,451	159,512	+4,061
Onions ...	... ,,	318,021	366,339	+48,318
Potatos ...	... cwt.	954,735	1,151,731	+196,996
Vegetables, raw, unenumerated ...	...value	£199,746	£192,259	—£7,487

By the way, we may just note here that the imports for the six months ending on the 30th ult., amount to £216,481,035, an increase of £12,793,335 for the same period of time last year. Turning to—

Exports,

we find these reach the sum of £20,530,053, showing an excess of £2,729,953 over the figures for June, 1895; the figures for the six months are given at £119,002,722, an increase of £12,885,206 in the same period last year. The only decrease recorded in the month is £315 in raw materials—there is no decrease whatever in the six months record.

Carnations.—A large quantity of excellent blooms, cut with the entire stems, come from Mr. A. Pentney, Worton Hall Gardens, Isleworth. The finest were Leander, Yellow Queen, and Germania, yellow-coloured varieties, the first two named from plants growing in pots; Mary Godfrey, a perfect wall or tree variety, white. With flowers not quite so fine as these, were Queen of Bedders, purple in colour, with robust growth, and very free; Countess of Paris, blush-coloured border variety; Border Maid, very floriferous, colour cerise; Rose of Rutland, and Ketton Rose, two famous varieties for the border, of two different shades of pink.

Royal Botanic Society.—The experimental series of musical promenades in the Regent's Park Gardens on Saturday afternoons have proved so successful, and have been so largely attended by the public and the Fellows, that a resolution will be brought forward at the Fellows' meeting on Saturday next in favour of continuing the promenades until further notice. The suggestion made at the last meeting, that recognised societies and institutions should be encouraged to hold receptions and garden parties in the gardens is already being acted upon—the Council of "The Salon" having arranged to give a Reception on the 15th inst.

Roses at the National Rose Society's Exhibition.—A few particulars respecting the recent exhibition of the National Rose Society at the Crystal Palace, writes Mr. Edward Mawley, Hon. Secretary of the Society, may be of interest to some of the readers of the *Gardeners' Chronicle*. Owing to the trying nature of the weather, and the extremely forward season, the number of blooms of exhibition Roses staged in competition was 5064, or nearly 800 less than the average for the eight previous metropolitan shows of the Society, and less than at any of the last twelve exhibitions except 1893. England Scotland, and Ireland were all represented, and for the first time a Scotch firm competed for the Nurserymen's Champion Challenge Trophy. Roses came from no fewer than twenty-one different English counties, while the total number of exhibitors amounted to seventy-three, sixty-one of whom were prize winners.

The Carnation and its Culture in pots and borders formed the subject of a paper delivered by Mr. J. Davis before the St. Barnabas, Sutton, Carshalton, and District Cottage Gardeners' Society on the 3rd inst. This new society is likely to do much good in the neighbourhood it is intended to serve.

Utrecht.—Dr. Went has been appointed Director of the Botanic Gardens at Utrecht.

Nurserymen's Picnic.—The *employés* of Messrs. W. P. Laird & Sinclair, Dundee, held their annual picnic on Wednesday, July 1. The party, in number over sixty, drove in brakes to Kinclaven Castle, where a very pleasant day was spent in good weather. The whole of the expenses were defrayed by the firm.

Tropæolum speciosum has proved itself very difficult of cultivation in most southern gardens, especially upon south walls. An instance to the contrary we have had recently the opportunity of noticing in the gardens at Dover House, Roehampton. Mr. McLeod has planted it in four places at the foot of a wall there having a south aspect. All of them are doing well, and one in particular is exceedingly bright at the present time, with hundreds of its brilliant blossoms. They were not planted in the staple soil, but in loam.

Gladiolus Königin [Queen] Wilhelmina.—Messrs. Krelage have kindly sent us from Haarlem flowers of this novelty, a coloured plate of which is given in a recent number of the *Tijdschrift voor Tuinbouw*. The spikes are many-flowered, the flowers facing one way, and of moderate size. The three upper segments of the perianth are broadly oblong-acute, pale flesh-coloured; the three lower segments are narrower, of a similar ground-colour, but marked in the centre with a very pale yellow spatulate blotch, surrounded by a distinct rosy-carmine band, extending nearly the whole length of the petal. The throat of the flower is also marked internally with a pale reddish-orange blotch. Messrs. Krelage describe it as an early, free-flowering variety, well adapted for cutting. To those who may chance to see only the

coloured plate, we may say that it gives but a poor representation of the elegance of the flower, and purity of its colour.

"BOTANICAL MAGAZINE."—Some plants of unusual interest are figured in the present number. Among them are:—

Lourya campanulata, Baillon, t. 7482.—This is a plant like an Aspidistra, but with racemes of pale yellow flowers, which are succeeded by ovoid blueberries, about 1 inch in length. It belongs to the tribe Ophiopogoneæ of Hæmadoraceæ, and is a plant certain to interest the plant-lover.

Pilocarpus Jaborandi, Holmes, t. 7483, is a Rutaceous tree, the leaves of which are used medicinally to promote the secretion of saliva. It is a native of Pernambuco.

Aspidistra typica, Baillon, t. 7484.—A native of Tonkin, differing from its congeners in having the parts of the flower in three instead of in fours.

Akebia lobata, Decaisne, t. 7485.—A Japanese species occurring also in China, and differing from the old A. quinata in having the lobes of the leaves crenated, and in the smaller flowers.

Hæmaria Dawsoniana, Hook. fil., t. 7486, better known in gardens as Anœctochilus Dawsonianus: see *Gard. Chron.*, 1868, p. 1038.

PHENOLOGICAL REPORT FOR 1895.—The Report on the Phenological Observations for 1895, by Mr. EDWARD MAWLEY, from the *Quarterly Journal of the Royal Meteorological Society* (*April*, 1896), is now to hand. Over a hundred observers in different districts of Great Britain contributed their notes on the climate and its effects on vegetation and on animal life, and these, collated into tabular form, are here presented. Making due allowance for varying localities, the general climatic conditions during 1895 were, stated briefly, the following—a very cold winter, followed by a dry spring and early summer:—"The yield of all the farm crops, except Potatos, was exceedingly poor. The one redeeming feature of the year, from an agricultural point of view, was the autumn, the glorious weather of which greatly favoured the completion of the harvest, the growth of the grass and roots, and the cultivation of the land. As regards vegetation generally, seldom did a year end under conditions so favourable for the one succeeding it."

THE RASPBERRY SUPERLATIVE.—Our correspondent and writer of Calendarial articles, Mr. G. Woodgate, the gardener at Rolleston Hall, Burton-on-Trent, in sending a few fruits of the varieties of Superlative Raspberry for inspection, states that "it is one of the best for dessert or culinary uses. The canes continue to bear fruits for a long period of time, and in warm years the current season's canes bear fruits freely. Last season good fruit in quantity was picked from July 5 till September 7. This year he began to pick for preserving 55 lb. on July 1. The canes are robust, and average about 7 feet in height." The fruits sent were fine specimens, but they arrived mostly in a state of pulp.

"LE JARDIN DU CREST."—In a handsome volume of over 200 pages, M. MARC MICHELI has published a list of the plants cultivated in the open air in his beautiful garden near Geneva. About 2000 species are cultivated, 1300 of which are Dicotyledons, and 700 Monocotyledons. The plants are grown in beds and borders; the rarer ones are placed in pockets of slate, well drained, and in which the character of the soil can be adapted to suit the requirements of particular plants. These can be covered in winter with glass or any protecting material, which can be removed in summer. Special arrangements are made for Ericaceous plants, succulents, and water plants. M. MICHELI enumerates thirty-three species of Tulipa, thirty-nine of Fritillary, twenty of Calochortus, whilst Irids are represented by no fewer than 250 species. Twenty-five per cent. of the plants are of European origin, 12 to 15 from Oriental sources; Central Asia and temperate Himalaya furnish each 5 per cent.; China and Japan, 10 per cent.; the United States supply 12 per cent., Mexico 6 per cent. From Australia and New Zealand come 3 per cent., and from South Africa 9 to 10 per cent. In his catalogue, which is arranged alphabetically, M. MICHELI gives first the name of the species, then the authority for it (a matter of detail generally omitted by horticulturists), the natural order, the reference to the book where the original description may be found, and indications of plates or other illustrations. The native country and the date of introduction are also mentioned. In addition there are numerous short remarks botanical and cultural, which add greatly to the value of the work.

SWEET BRIARS AT BURFORD LODGE.—"I lately saw a long line of Lord Penzance's Briars in Sir TREVOR LAWRENCE'S garden," remarks a correspondent, "the plants occupying a space against a wall, a position in which they grow and flower freely. A considerable range of colour was observed in the blossoms of these plants. Among them Janet's Pride was noticed, a variety exhibited by Messrs. PAUL & SON, The Old Nurseries, Cheshunt, and said to have been found in an old rectory garden—a chance seedling, probably. The Briars of Lord Penzance's raising are admirable acquisitions to all who possess a garden, and they should always find a place where the climatic conditions are favourable, the grateful fragrance of the foliage apart from the beauty of the bushes when smothered with blossoms sufficing to make them favourites.

WARMINSTER AMATEUR ROSE CLUB SHOW.—The twenty-eighth annual exhibition in connection with this club took place in the grounds attached to East End House, the gardens of which were thrown open to visitors. In spite of the adverse season, there was a meritorious collection of Roses. Prize list:—First division, twenty-four distinct varieties of Roses, single blooms, 1st and Challenge Cup, Mr. S. P. Budd, Bath; 2nd, Rev. R. Powley, Upton Scudamore. Twelve distinct varieties of Roses, three blooms of each variety, 1st, Rev. R. Powley; 2nd, Mr. W. Chapman, Sambourne House. Twelve Roses, distinct varieties, single blooms, 1st, Rev. R. Powley; 2nd, Mr. J. Smith, East End House. Six Roses, Tea or Noisette, distinct varieties, single blooms, 1st, Rev. R. Powley; 2nd, Mr. Hinton. Second division, twelve Roses, distinct varieties, single blooms, 1st, Mr. S. Smith, Henford Cottage; 2nd, Mr. C. A. Bleeck, Manor House. Six varieties of garden Roses, Briar and any non-exhibition variety, not fewer than three bunches of each variety, 1st, Mr. S. Smith. There were many small classes for six Roses, single Rose-blooms, garden Roses, bouquets, Strawberries, for size and flavour, &c. Arrangement of Roses shown in a basket, 1st, Miss Chapman, Sambourne House. Arrangement of Roses shown in a vase, 1st, Miss Gillett.

YORKSHIRE NATURALISTS' UNION.—The 125th meeting will be held at Roche Abbey, for the investigation of Maltby Common and Woods, on the present Saturday. We glean from the circular kindly forwarded by the Secretary, Mr. W. DENISON ROEBUCK, that through return tickets at pleasure-party rates will be issued at all stations on the G. N., H. & B., L. & Y., L. & N.W., M., S. & L., Midland, and N.E. Railways, which have booking arrangements for Rotherham or Masborough, to Members and Associate of the Y.N.U. producing their signed card of membership. Tickets taken on Friday or Saturday, July 10 or 11, will be available for return any day up to Tuesday, July 14. Members will find accomodation at the White Swan Inn, Maltby, and the Black Lion Inn, Pirbeck. Private lodgings might also be obtained at some of the cottages in Maltby for a limited number of visitors desiring to prolong their stay for a few days. Permission to visit their properties has been kindly granted by the Earl of SCARBOROUGH and the Rev. H. G. JEBB, M.A., J.P., Firbeck Hall. The garden and grounds at Firbeck will be open for the inspection of the members. Books and maps:—The district for investigation is included in sheet 82 N.E. 1-inch Ordnance Map (also published geologically coloured, as also are the 6-inch sheets, 290 and 296). Reference may be made to BÖHLER'S list of plants given in AVELING'S *History of Roche Abbey*.

PUBLICATIONS RECEIVED.—*Strawberry Culture* (the "Salisbury" series), GEO. TUCKER, at the offices of *The Fruit Grower, Fruiterer, Florist, and Market Gardener*, 2-5, Salisbury Court, Fleet Street, E.C.

ROSE GROWING IN INDIA.

"THE first and most important point to be considered in making a rosary in India is the watering of the plants. Hand watering is useless. They must be flooded, and the well should be close at hand. Roses are thirsty, hungry things, and need lots of water, for they love to be kept cool at the root in the heat of summer.

To ensure flooding with facility, the beds should be 3 inches below the general level, with a slight fall from the drain. Simplicity is much to be desired in the plan of a rosary. As an example of extreme simplicity, I mention a plan of the Rose garden I have made at Chuprah and Dinapore, which has answered admirably at each place. It consists of oblong beds, 2 feet wide, with grass-turfed walks 3 feet wide, between which are always green from the moisture they obtain from the flooding of the beds on either side. The beds can be made any length (and this will depend on the extent the water can be carried) on either side of the centre walk, which should not be less than 5 feet in width.

Another matter of importance is to have no trees in or near the rosary, as the roots of large trees absorb the moisture, and throw shade, which is not desirable. All plants, both flower and vegetable, thrive best in the open.

Rose plants should be allowed to grow as they like, and make as much wood as possible during the rainy season, and should not be pruned until it is quite certain that the cold weather has set in, and this will entirely depend upon the place one is in. I used to prune in the beginning of October when I commenced Rose gardening, and learnt from experience that it was a mistake, as I found one year that the half of my plants which were pruned a fortnight later than the others flowered the best, and since then I have never pruned till the beginning of November, generally the 10th, which I consider the proper time in these parts. If the plants are pruned before the cold weather has actually set in, a few days warm weather, which I have often known about the end of October, will scorch the new shoots. After pruning, I expose the roots till the new shoots are well out, and then fill in with well-sifted and decayed horse-manure, the older it is the better, and flood twice a week until the buds are well out and full, when watering should be discontinued. In the hot and dry weather the plants should be flooded at least three times a week.

I have found that opening the earth round the plants at least twice a week makes them grow more than anything; it allows the air and manure to get at the roots. The malee should not be allowed to break the clods opened with the 'kurpee,' but should let them remain as they are.

The greater the above attention is paid to the plants during the hot weather and rains, the greater will be the satisfaction in the cold weather."

This note was accompanied by a diagram, which we do not give, showing long, narrow beds arranged crosswise in an oblong area, with narrow, grassy, sunken alleys to serve as water-carriers, for the purpose of flooding the beds with water, just such as are found in water-meadows. A border skirted by a path runs all round, enclosing the whole. Hybrid perpetuals, light and dark-coloured varieties alternating, were planted in the inner beds, and Teas and Noisettes on the outer border.

"The drains can be covered from view by placing pots on them. The drains can be made for 2 annas a running-foot; all that is necessary is to lay one brick flat as a foundation, and two bricks on edge, and

merely point them. The plants in the square should be 4 feet apart. *"A Few Hints on the Cultivation of Roses,' by Major-General J. May. From the Journal of the Agricultural and Horticultural Society of India, Vol. VI., Part 4, New Series.*

A GROUP OF RESEDA ALBA.

In the group depicted in fig. 11 is shown a number of plants of a species of Reseda as yet not common in gardens, though an old inhabitant. As will be seen, the flower-spikes are elevated on tall stalks, and they are much longer than those of Reseda odorata, making the plant of much greater effect when employed in floral arrangements. We are indebted to the kindness of Messrs. H. Cannell & Sons, Swanley, for the opportunity of figuring the plant.



Fig. 11.—Group of plants of Reseda alba, with ferns and grasses.

HOME CORRESPONDENCE.

THE BIRDS AND THE GARDENER.—There is a great deal of nonsense being written by those who, having perhaps a mere patch of garden ground, would like to exterminate all the birds which are found therein, as they are believed to come, out of *malice prepense*, to devour the fruits of his labours. These owners of small gardens are, I fear, not very cognisant of the habits of the commonest of our wild birds, and so cannot distinguish their good deeds from those reputed bad ones. My advice to these much-plagued individuals is to scare the birds away when they are doing injury to seeds, buds, plants, &c., by clappers moved by the wind, if they have not a boy handy to do this for them; by hanging white threads over seedling plants in a small and tender stage; putting nets over the wall-fruit trees and bushes, and over the Gooseberry bushes also in the late winter and early spring; netting seeds in lines and beds, or hanging threads furnished with chicken's feathers over them. I was a gardener for more than thirty years, and mostly on estates abounding with woods, game coverts, shrubberies, &c., and beyond killing bullfinches at the season when these birds devour the buds of the Plum, Gooseberry, &c., and wood-pigeons in the winter, when the Cabbages, Broccolis, &c., form desirable food for them, I made it a practice never to destroy small birds. My reward was found in the comparative freedom of the gardens from vermin and insect plagues. I never killed an owl, hawk, crow, kestrel, or stoat, these being Nature's creatures, intended, as we may suppose, to keep rats, mice, voles, rabbits, &c., in due bounds; consequently the true gardener, who should know his friends, never kills them, although the gamekeeper does. The rook is sometimes troublesome in big kitchen gardens, and is a wary, artful bird; but he has a wholesome respect for a gun—if it really be one—only then. *M.*

MADRESFIELD COURT GRAPE. — An amateur friend of mine, who not only knows how to grow, but actually does grow and finish without a cracked berry, the above Grape, asks me whether Mr. Pope is in earnest when he recommends (p. 186) the boring of laterals as a sure preventive of splitting of the berries. My reply was that I am astonished to find a grower like Mr. Pope unearthing this bogey, which I thought well and safely laid years ago, by recommending in his Calendar such barbarous practices, which I am positive are unnecessary, to say the least. The cracking of the berries is entirely owing to atmospheric conditions, and no checking of sap is required. If those who are troubled with cracking will always, from the time when the first berry commences to colour until ripe, maintain warmth in the pipes when the sun does not shine on the roof, and keep the top ventilators always unclosed, but regulated in accordance with outdoor conditions, he will have no need to bore the laterals. The object is to keep the atmosphere of the interior buoyant and in circulation; the warm pipes will do this if the warmed air is able to escape. Mr. Barron, in his *Vines and Vine Culture*, says—"If allowed to hang long the berries are somewhat liable to crack," also "that it requires less heat than Black Hamburgh." These statements are not quite accurate, for it is well known cracking only takes place during its final swelling, and no amount of keeping will cause cracking. *Wm. Crump, Madresfield Court.*

BRITISH HERBS AND THEIR USES.—It appears to be an accepted fact, without any reason which I can discover, that certain herbs and berries, which are used to an enormous extent in this country, can only be grown abroad, and that no substitute equal to them is to be found here. I may take as familiar instances Tea, Coffee, Cocoa, and Maté or Paraguay Tea. Is it a fact that no plants grown in Britain contain the active principles of these in an equally agreeable form? I very much doubt it. Take as an example the Paraguay Tea which, taken cold, is one of the most refreshing drinks in existence—do none of our

English grown Hollies contain the same active principles? It would appear probable that some, if not all, would be equal to the Paraguay Holly. The difficulty is to test these; ours is a free country, and there are no slaves or bondsmen to experiment on. The average Briton considers himself too valuable to be used for experiments, especially where there is a chance of being poisoned, and losing his insurance money in the bargain. I can remember the time when our favourite Scarlet Runner Beans were grown as an ornament in the flower garden, and the daring individual who risked his life by eating the pods, had yet to be made famous. No doubt some of your readers will remember a similar experience with Tomatos. The person who first tried these not only risked eating the fruit of a plant belonging to a poisonous family, but his first bite must have been as astonishing as it was unpleasant. I remember my first bite at a Tomato, and why I ever tried another I am at a total loss to imagine—yet they have become both pleasant and desirable. The first expenditure of a valued threepence on a beautiful "Love-apple," whilst I was a small boy at school, and the first bite, is a memory which still causes internal qualms after a lapse of forty years. *Thos. Fletcher, Grappenhall, Cheshire.*

TOMATO DISEASE.—Like your correspondent, "J. B.," whose note I read in the *Gardeners' Chronicle* for June 27, I have had some experience of this disease during recent years. I find that it only attacks the early plants, which are grown to fruit in May and June, and are more or less forced. In the later batches of Tomato plants I have never had disease, and have formed the opinion that it is caused by the atmospheric conditions, and not by applying bottom-heat. I would advise the discontinuance of overhead syringing as soon as the flowers begin to show, and to leave a moderate amount of top and bottom ventilation on during the night, so that the foliage is dry in the morning instead of dripping with moisture, as is the case if a house is closed in the usual manner. When treated in this manner, the disease gives no trouble. *Wm. W.*

THE ALEXANDER PEACH.—It may be of interest to some of the readers of this journal to learn that ripe fruits of this early American variety were gathered on July 2 from a tree planted against a south wall. The fruits had not been hastened in any other manner than by the warmth of the wall. *A. Methven, Bayham Abbey Gardens, Kent.*

WELL-KEPT APPLES.—In reference to a note which appeared in your columns recently on the collection of Apples we exhibited at the Temple Show, allow us to state that they were kept in our new and enlarged fruit-house, on the open shelves, with a mat hung before them, since April. This fruit-house is on the same plan as that figured in the *Gardeners' Chronicle* at the time of the Pear Conference, and was fully described and particulars given for construction (by request) in the Report of the Royal Horticultural Society with papers read at the Crystal Palace, September, 1894. No artificial means were used to keep the fruit, care was taken to store fully-ripened fruit, and the floor being earthen the air is kept moist. *George Bunyard & Co., Maidstone.*

SPARROWS.—It would be marvellous in our eyes—if it did not get there every day—that people who have merely read about a subject, should stand up (as if they knew all about it) against those who have studied it with keen regard. Can such a man as Harrison Weir require confirmation upon a question which he has made so especially his own? Yet the ignorance of any sentimental child makes more impression on the public mind—mood, perhaps, is the truer word—than the accurate knowledge of a great observer. Little as I know, in comparison with him, every little is a help; and this I can say positively (from my own observation), that sparrows are of very small service to us as against the race of caterpillars A few years ago, a triangular flower-plot (close to the window where I generally sit) was infested, I might say smothered, with thousands of semi-hairy caterpillars. I know their name as well as my own, but cannot stop to think about it now. Being touched up lately by some stuff similar to that which you air occasionally—though of course, you do it from politeness alone—I kept close watch upon that grand supply of innumerable delicacies, offered gratis by benevolent—or pestilent—Nature to good birds. Good birds came, and hopped merrily among all this heaven-sent manna (combining also the luscious wealth of the quail), and they never touched one of the sample. Sparrows there were by the dozen, robins also, and the gentle thrush, and the spry blackbird. I love birds, and watch them by the hour, and try not to grudge them their 50 per cent. of my fruit. Some of them are helpful in their way; but to talk as if they descended from heaven for our special benefit is, sir, in simple English, "rot." *R. D. Blackmore.*

DYOSPYROS.—The Persimmon (Diospyros virginiana) is perfectly hardy at Kew. There is a well-known specimen 60 feet high near the Temple of the Sun, at Kew, of which an account with an excellent portrait was given in the *Gardeners' Chronicle* for November 3, 1888. It is unfortunately the staminate form, and therefore does not fruit. The European Date Palm (Diospyros Lotus) is equally hardy. It is represented by numerous specimens, of no great size at present, but one of these bears fruit tolerably freely. *W. T. Thiselton-Dyer.*

PHYLLOXERA RESTRICTIONS.—The present moment for approaching the Foreign Office to remove the disadvantages attending the trade of plants between England and Italy is most opportune. Owing to the entire failure of the Phylloxera laws to prevent the introduction or extension of the pest which unfortunately now prevails in, I believe, not less than 300 communes, from north to south, the Adriatic and Mediterranean shores, Sicily and Sardinia, the Italian Government has addressed the other signatories of the Berne Convention to so far abrogate the Phylloxera laws as to permit the free exchange of plants between them, with the sole exception of Vines. I have little doubt, therefore, that our Government would have no difficulty in obtaining the same conditions for English horticulturists. *H. J. Ross.* [We did our best at the Florence Congress and elsewhere to get these stupid laws abrogated or modified and have never ceased to protest against them, but we cannot say that at any time we received much encouragement from the English traders. ED.]

VICOMTESSE HÉRICART DU THURY SYN. GARIBALDI STRAWBERRY.—Since the introduction of that valuable Strawberry, Vicomtesse Héricart du Thury, several attempts have been made to establish a supposed difference between it and the popular variety grown in Scotland under the name of "Garibaldi." The varieties so named have been cultivated side by side by many good growers within the past quarter of a century, and have invariably proved identical; and they are recognised as synonymous by Dr. Hogg in his *Fruit Manual*, by the Royal Horticultural Society, and by all the authorities on the culture of the Strawberry, who have investigated the subject, and given their opinion for the public benefit. However, in an interesting account given by Mr. D. T. Fish, at p. 5 of the *Gardeners' Chronicle* of the 4th inst., of the contents of Mr. William (not "John") Carmichael's garden at Edinburgh, it is stated—"The varieties here are true to name, and quite distinct; they were sent out in the same year as Garibaldi, by Dickson & Co., Edinburgh, and Vicomtesse H. du Thury by Vilmorin of Paris." The same assertion is repeated on the next page in a quotation from Mr. Carmichael, who says:—"They are considered synonymous by many, but they are quite distinct, and both excellent preserving varieties of Strawberries, and very productive and good in flavour. Garibaldi is a week earlier, and dwarfer in foliage than Vicomtesse H. du Thury." Mr. Mathieson, gardener at Meikleour House, Perthshire, is named as furnishing corroborative evidence. There are here three gardeners of known repute making a definite statement as to the variety known as "Garibaldi," and that it is "quite distinct" from Vicomtesse Héricart du Thury. Mr. Carmichael pins his faith on Garibaldi being "quite distinct," because apparently in his garden it is a week earlier, and dwarfer in foliage, as above quoted. Granted that these differences exist in the small garden at Edinburgh (and there is no reason to doubt it), do they characterise the varieties when grown under ordinary circumstances, in all soils, and by various methods of culture? The general experience of the past quarter of a century answers "No." Could the doubt not be finally set at rest by Mr. Carmichael submitting his "quite distinct" varieties for trial in the Royal Horticultural Society's garden at Chiswick? *Fragaria.*

THE COMING FRUIT.

I HAVE been asked more than once lately whether there is no fruit yet unknown to most English palates which might be introduced into this country, and form a pleasant article of food. As there seems to be some general interest in the subject, your readers may, perhaps, like to hear of some fruits which have come under my notice.

The Pumelow of India, one of the giant members of the Orange tribe, is well known to people who have lived in the East. Some very large specimens have been known to attain a circumference of more than two feet, and to weigh from fifteen to twenty pounds. Generally Pumelows are not held in high esteem in India and Ceylon, except by those who have lived long there, and know how to select the best sorts by their size and colour. The best Bombay Pumelows are said to be exceptionally good. They have a pink pulp of a juicy character, sweet in flavour, with a slight but agreeable bitter taste. The first Pumelows were brought to the West Indies by Captain Shaddock about 150 years ago. Since that time the fruit has always been known in that part of the world as the Shaddock, in compliment to the person who introduced it. Owing to circumstances of soil and climate, and to the raising of plants almost exclusively by seed, many varieties have sprung up that have become recognised by distinct names. Of the larger fruits, the Pumelow or Shaddock proper, there are two well-marked forms; the first is the Apple-shaped Shaddock, usually with a whitish or a pale pink pulp; the other is a Pear-shaped fruit, with a pink, and sometimes a deep crimson pulp. Both these are large fruits, weighing from 3 to 6 lb. in weight; they have the characteristic pale yellow skin, and inside there is a white pithy layer more or less thick; then comes the pulp with the vesicles or juice-bags very prominent—indeed, the latter are so distinct that they can be easily separated the one from the other. The bitter flavour is very marked in the inferior sorts; in some instances it becomes quite acrid. The best sorts have a sweetish flavour and only a slight taste of bitter. Of the smaller fruits, to which Macfadyen has given the name of Paradise fruits, there are in the West Indies two well-marked forms. The Apple-shaped fruits are known as Forbidden Fruit, while the Pear-shaped sorts are known as Barbados Grape-fruit. Both these are very attractive-looking fruits; they have a pale yellow skin, usually very thin, are soft and silky to the touch, while the pulp is sweet and refreshing. The slightly bitter flavour is regarded as giving them tonic properties of great value in dyspepsia and allied ailments.

During the last fifteen years the Paradise fruits, generally known as Grape-fruit [!], have been in great demand in the United States. They have been very strongly recommended by the medical faculty, and in consequence their use has become an important feature in the diet of a large number of the American people. The consumption of them has increased by leaps and bounds, and every year for the past few years it has more than doubled. A few days ago (says *Garden and Forest*) two barrels of small-sized Grape-fruit realised the extraordinary price of £5 each in New York; and seven barrels of similar fruit were sold in Philadelphia for £5 10*s.* each. Such fruit would retail at more than a dollar apiece. This is probably the highest price ever paid for specimens of the Orange tribe. It shows very clearly how keen is the demand for Grape-fruit, and what importance is attached to it as a refreshing and healthful adjunct to the food-supply of the United States. At one time there was a better market for Grape-fruit—or, rather, Forbidden-fruit, as it was called—in the United Kingdom than in America. But the tables are now turned. America, especially since the destructive frosts in Florida, has now absorbed almost the whole supply from the West Indies. Sooner or later, however, English people will realise the special merits of the Grape-fruit, and a demand will arise for it, to the possible advantage of those West Indian Islands which are in a position to supply it. It would be well, therefore, for the people in that part of the world to establish small orchards of Grape-fruit trees of the best quality, and to be prepared to ship the fruit in such a condition that they may get the best price for it. This would be one way of alleviating, to some extent, the depression under which they are now suffering owing to the unremunerative character of the sugar industry. *D. Morris.*

Plant Notes.

FLOWERING OF AGAVE FEROX.*

A magnificent specimen of this remarkable Agave is now in flower at La Mortola, when unfortunately (the season being over) scarcely a visitor is left to see it. As Mr. J. G. Baker says in his valuable handbook on the Amaryllideæ, the inflorescence of this species is unknown. I append a description in case none has yet appeared in print; and later I may be able to send you a photograph of this remarkable plant. *Kurt Dinter, Curator, La Mortola, June* 17, 1896.

Nursery Notes.

NEW EARLY PEAS AT MESSRS. SUTTON AND SONS.

That in raising new varieties of early Peas, some illustrations of which Messrs. Sutton & Sons of Reading had in pots at the last Temple Show, they have brought about a revolution in the early varieties there can be no doubt. Hitherto the type known as Ringleader, a very early selection of the Dillestone's Early Prolific type, and Suttons' Earliest Blue, both small-podded, round-seeded varieties, have represented the earliest types, with William Hurst, its variety Chelsea Gem, and American Wonder, in close company. But, thanks to this enterprising firm, we have now Early Dwarf, large and full-podded varieties of Marrowfat flavour; Peas of the quality of Telephone and Duke of Albany, and almost their size of pod, which are among the earliest, and they can scarcely fail to become valuable to the private garden and market garden. I have just seen them in their seed-farm at Reading, growing under ordinary field-culture, without special treatment, beyond having the assistance of stakes, and by their side the earliest of the older types for comparison; thus affording opportunity for drawing fair and trustworthy comparisons. I am dealing only with the earliest varieties in this paper. To save repetitions of the name of the firm, it will suffice to say that the prefix Sutton comes before each varietal name of 1896. Foremost among them, and a most valuable acquisition, is the new dwarf-wrinkled Sutton's Forcing Pea, a singularly dwarf-branching form, growing to a height of 9 inches, a high-flavoured Marrowfat, producing large well-filled pods, averaging seven large Peas in a pod, the pods somewhat pointed. This is quite as early as American Wonder, but excels it in all other respects. It came from a cross made by Mr. Culverwell between American Wonder and Sutton's Royal Jubilee, and while retaining the dwarf habit of the former, there is added the longer pods of Jubilee and its fine quality. Sown out-of-doors on March 30, the crop was ready to gather on June 11. It is very prolific, and it appears to be well named—a forcing Pea. A stump podded form of it is also being tried, both have a strong constitution. Sutton's Seedling Marrowfat (1895), is from the same cross, it is a strong growing, very prolific variety, 1 foot in height, producing straight-pointed pods, as large as those of Telephone, and well filled; the height of the plant 1 foot. For an early crop, and for small gardens, this is a valuable variety, and especially for producing pods to exhibit the last week in June and the first in July.

Excelsior (1896) is another Early Marrowfat, a cross between Early Paragon and American Wonder, a robust grower, very prolific, producing large blunt-tipped pods, freely-branching habit, height 15 inches, pods of the character of Triumph, seven and eight large Peas in each; a very valuable variety for early exhibitions, as well as for garden purposes.

Very interesting was a group of dwarf varieties from a cross between A 1 and Chelsea Gem, all first earlies, varying in pod, some light green, some dark green, some with pointed pods, and some blunt-tipped. The very best plant found in each type is saved for seed, for a further proof. The practice observed by Messrs. Sutton & Sons of thoroughly fixing the character of a type before it is distributed is one to be highly commended. Seedling Peas will vary even into the third and fourth year, and sometimes for a longer period, and it is only those who have gone through the labour of selecting and fixing the character of seedling Peas who know aught of the patience and time expended on the process.

Favourite Marrowfat (1895) is a very free-branching variety, an early second, growing to the height of 2 feet, producing large, broad, medium-pointed pods, really a wonderfully free cropper; and when it becomes more widely distributed is certain to be largely grown as a market-garden Pea for the earliest work.

Next came a very promising seedling, something in the way of English Wonder, but a great improvement in the size of pod, which is also of a deep green colour.

Early Giant, is remarkable for its long, broad, pointed, slightly-curved pods, greatly resembling in general characteristics an early Duke of Albany, but dwarfer in growth, reaching a height of 3 feet, and notwithstanding its height, it did appear as if a crop could be gathered from it as early as from any other. This may fairly be described as the largest podded early Pea.

May Queen is of the Exonian type, and about the same height. Exonian is a small-podded variety, pods freely produced and well filled: but May Queen is larger in the pod, of the same height (about 2½ feet), blunt podded, and quite early. Several rows of this was very uniform in character. As showing the time occupied in fixing the character of a seedling Pea, it may be mentioned that this variety was raised in 1884 by Mr. Culverwell from a cross between American Wonder and Early Paragon, but it was not distributed until nine years after.

A 1 (1891), 3 to 4 feet in height, produces large, long, blunt-tipped pods, well filled, and of excellent quality; a valuable garden variety, and for early exhibitions.

Next came another promising seedling 3 feet in height, with a dark haulm, bearing long, straight-pointed pods, quite early, and looking as if it would be valuable for exhibition at the end of June. Another, equally promising, grows to a height of 3½ feet, bearing very large, broad, blunt, pale pods, very handsome in appearance, it is also a great cropper, and will doubtless prove a fine garden variety. Another, of the same height, has rather smaller pods, but its productiveness is immense, and it should make a grand market variety. Another is 18 inches in height, and may be described as a dark-podded form of Favourite. It bears very handsome dark-green pods, flavour excellent, second early, robust. Another seedling, between Sutton's Early Giant and Duke of Albany, with very handsome green pods, is also highly promising. These are mentioned to show how large is the reserve of new varieties held by the firm. These will be subjected to further trial the next and following seasons.

Empress of India is a first early, though growing to a height of from 3 to 4 feet; it bears large, long, handsome light green pods, every way first-rate. This is rapidly making for itself a name as a standard variety. Bountiful came from a crop between Telephone and Early Champion, and though round-seeded, is yet of the flavour of the wrinkled types; it is as early as Early Champion, with a Telephone pod, not quite so large in size, but it is a wonderfully free cropper, a blue round, the pods handsome, slightly curved—an excellent market variety.

To show how closely and persistently the Peas are selected here, it may be stated that a stock of Ringleader was among the trials, with pods twice the size of the old type. This is preferred to the old form, though a little taller in growth. The productive property is very great, and it is much approved by gardeners.

In looking over these new types of Peas, the visitor sees in all the rows a few plants specially marked, and these represent the very finest type or character of the variety. The pods of these selected plants are carefully gathered, and the seeds sown next year for the production of seed for stock. It is in this way that the firm are enabled to keep their varieties so uniformly true. It means expense, and a great amount of labour, but it is a real investment, for the uniform character of the rows of a certain variety, sometimes from eight to twelve in number, are singularly manifest. The value of a rigid selection in maintaining the purity of stocks is beyond calculation. *R. D.*

Double Begonias at Reading.

These plants are now in the finest form at the London Road Trial-ground of Messrs. Sutton & Sons, Reading. Two points have been kept steadily in view in improving the strain: one is, that the blossoms while being fully double, shall also be medium-sized, and finely symmetrical, in opposition to the larger, loose, "pocketty" blooms (to use a term employed by the old school of Hollyhock-raisers), which appear to find favour with some growers—a large, loose bloom of a Double Begonia is a floricultural eyesore. Another quality possessed by the Double Begonias of Messrs. Sutton & Sons is, that they are erect-flowered, a quality gained after the exercise of the most rigid selection. A Double Begonia becomes a decorative agent of enhanced value when it displays its blooms in a horizontal instead of a pendent position, as many of the large-flowered varieties do. It is irksome to have to stoop to examine the surface of one of these flowers; to hold it up by the hand, however carefully, is to risk the danger of snapping off its somewhat brittle flower-stem. Double Begonias are exhibited in finely-developed character at some of the West of England flower-shows, at Trowbridge and Taunton in particular; but the plants, though large and generally profusely bloomed, lose half their effectiveness by the blossoms being so pendent, that when they are staged upon a table, it is only the backs of the flowers which are seen. To remedy this defect as far as possible is the obvious duty of raisers. *R. D.*

Messrs. J. Veitch & Sons.

Admirers of the Carnation and Picotee coming to London would miss a treat if they failed to inspect the fine collection of new and old varieties now in full flower at this nursery. A good many of the varieties are grown in pots under glass, as well as in beds in the open air, so that the visitor has an opportunity seldom afforded in a trade establishment of observing their behaviour under two distinct methods of cultivation. It may here be said that any good Carnation will grow as well under glass as in the open air provided it is afforded ample ventilation and is kept free from aphis, and its wants in regard to water are properly met. A good many of the novelties are kept in pots and cultivated in this manner, and amongst these we noted the following Picotees:—Brunette, a flower of neat form, with a crimson edge; Thos. Williams, with wire edge of similar colour; Amy Robsart, a purple-edged flower; Norman Carr, a nice large flower, with an edge of scarlet—the variety not quite new; Edith D'Ombrain, with a pink edge running deeply into the petals; Amalia, with a wire edge of purple colour; J. B. Bryant, a deep, full flower with a purple edge; and Dr. Epps, a crimson edge of great width, petals of much substance, and flower full, and very double.

The finest novelties in Carnations observed were Mephisto, a deep crimson-coloured, full flower; King

* *A. ferox*, K. Koch.—Acaulescent. Leaves forty to fifty in a rosette, oblong-spatulate, 3½ to 4 feet long, 14 inches broad in the middle, narrowed to 10 inches above the dilated convex base; middle flat, top concave, dull green, the very strong pungent point 2 inches long, edge bordered with recurved horny grey teeth, ⅞ inch long at the base, 1 inch broad, leaf edge deeply sinuate between them. Peduncle, including the 10-feet long thyrsoid panicle, 25 feet long. Bracts triangular, 1 foot long, the peduncle half surrounding, finely toothed on the top. Branches twenty-four, very stout, horizontal, the longest of them 2 feet long. Flowers greenish-yellow, 4 inches long; tube short, funnel-shaped; filaments 3½ inches long (2½ the length of the outside slightly orange-coloured segments); anthers 10 lines long pistil equal the segments.

Arthur, of deep scarlet colour, very showy when well cultivated, doing well in pots; Sir Audrey Campbell, of canary-yellow, good of its colour, but, like all the yellows, lacking in fragrance; Corunna is of sulphur-yellow, and Duke of Orleans buff-yellow. All of the above were raised by Martin Smith, Esq., Hayes, Kent.

Queen Anne (Gibbon's) is a fine flower, of a variety that is not new. It is a full flower, of deep pink colour, with petals somewhat curled. Miss Eric Hambro (Martin Smith) is white, and the perfection of form, the petals being nearly flat, and their edges quite smooth; Waterwitch, a flower of pale flesh, very double and full; W. A. Thompson, a flower having a centre of rosy buff colour and edge of crimson; Cardinal Wolsey is of the same shade of colour, but it grows more strongly, and the bloom is of greater size. Miss Helen Terry is a fine white bloom, very well filled in the centre—a fine thing; Snowdon, still considered a good white variety, the edge of the petals smooth and regular; Bendigo, well-known to Carnation growers as a fine variety, with a rich, purple-coloured bloom; Eudoxia, a flower that might not please many—a good, full, pink-coloured variety; Hayes Scarlet (M. Smith), with a pretty filbert-like bud, warranted not to burst the segments, colour bright, form perfection; Uncle Tom resembles Mephisto, but it is darker in colour; Sweetheart, a showy fancy buff with a cerise flaking; Canary Bird, of a singular colour, with an edging of crimson; James Douglas, a flower of light-purple colour, a fine variety; and lastly, Mrs. Hayes Fisher, in which there is an excellent white border Carnation.

We observed besides the above, Lady Ridley, white, a good grower; G. Cruikshank, similar to Cardinal Wolsey; The Dey, a rosy buff-coloured fancy, furnished with crimson and white stripes; Horace Trelawney, a flower of a deep shade of rose-pink, full, and regular-formed; The Pacha, like to, but better than Mrs. Reynolds Hole; Magpie, crimson; the unsurpassed Joe Willett, Mrs. Frank Watts, and Magnum Bonum; Primrose Day has bright yellow flowers, a neat habit of growth; it is new. St. Gatien is a most desirable blush-coloured flower, with a pink stripe. There is a nice collection of fancy Carnations under name.

In the Caladium-pit there is a feast of remarkable beauty in foliage, the plants naturally dwarf, and kept so by having them inured to full sunshine, and keeping close to the glass. The collection consists almost wholly of the late Mr. Bause's seedlings. A choice gem is Lady Mosley, which has a leaf of rosy-crimson, and veins of a deeper hue, with a "wire" edge of dark-green, and removed from this by about ¼ inch, a thin line of the same colour encircling the leaf. Cannas find a place at this nursery, and the collection at the present time brought together consists of the pick of continental varieties. C. Austria is the most recent introduction, and nothing finer in golden yellow Cannas has been produced, the flower being very large and the tint soft, clear, and bright. The splendid variety, C. Italia, was likewise observed in flower.

The ever-blooming Streptocarpus have received an additional new strain, with larger flowers, of deeper blue, violet, &c., and stouter footstalks. There are great hopes entertained of these new efforts of Mr. Heales' hybridistic skill, and it is certain that they will become favourites.

In the Cattleya-house the display made of C. Mendeli, C. gigas, and C. Mossiæ was very fine. Whole groups and lines of these plants being in capital blooms, especially the line of plants of C. gigas of recent importation.

The plants in the Nepenthes-house give excellent promise of pitchers later on. We were shown a cross between N. Veitchi and N. Curtisi superba whose operculum is larger than those of N. Veitchi or Curtisi superba, with short petioles, and pitchers dark brown and green in colour. The short petiole of the pitcher admits of the plants being used in table decorations, &c., where a long one would be inadmissable.

The rockery-house is looking at its best, the mosses and Ferns being perfect as a setting for the few flowering plants disposed amongst them. Among the latter we noticed Hymenocallis macrostephana, Streptocarpus, Clerodendron fallax, Allamandas, Crinums, Bilbergias, &c.

SOCIETIES.

ROMFORD AND ESSEX HORTICULTURAL.

July 2.—The annual summer show of the Romford and Essex Horticultural Society was held in the beautiful park attached to Gidea Hall on Thursday. Though not nearly so large or important as some of the East Anglian exhibitions, the committee may be congratulated on the success of their efforts.

Noted Mid and South Essex winners were well represented, Mrs. Willmott, of Warley Place, Mr. George Alexander, Warley Lodge, Mr. Tasker, Middleton Hall, and Alderman W. W. Duffield, of Chelmsford, carrying off a number of the highest awards. No fewer than seven firsts went to the former for flowers—foliage plants, collection of plants, Begonias in pots, zonal Pelargoniums, Ivy-leaved Pelargoniums, plants for table decoration, and the best decorated fireplace Alderman Duffield was 1st for stove and greenhouse plants and Coleus, 2nd for specimen foliage plants and Caladiums, and 3rd for plants for table decoration.

Mr. Alexander was 1st for the most tastefully-arranged basket of pot plants, and best small collection of plants, Achimenes, Gloxinias, Begonias (divided with Mrs. Willmott), and Caladiums. Mr. Tasker secured two 2nds—one for Gloxinias, and another for plants for table decoration. Mr. W. Bose, of "Balgores," also got 1sts for stove and greenhouse plants in flower, and Ferns; and 2nd for decorated fire-place and foliage plants.

Roses and cut flowers were not a big show, the principal winners being Messrs. Prior & Son, of Colchester; the Rev. J. Pemberton, Havering; Mr. Alexander, Mr. Tasker, Mrs. W. Green, Harold Wood; Mrs. J. W. Smith, Romford; Mr. H. B. Michell, Eastbury, Romford; and Mrs. Willmott.

The best *Fruit Prizes* went to Mrs. Willmott, Mr Green (four 1sts), Mr. Farrance, Chadwell Heath (three 1sts); the Rev. F. Allen, and Lady Neave. Mr. Green's Strawberries were grand specimens of the Gunton Park and Dr. Hogg varieties. Mr. F. Chapman, of Colchester, was placed 2nd and 3rd for Strawberries, and 3rd for Black Cherries, Gooseberries, and White and Black Currants; and Alderman Duffield 2nd for Gooseberries. *East Anglian Daily Times.*

WOLVERHAMPTON FLORAL FETE.

July 7, 8, 9.—This Exhibition was opened on Tuesday last in the Public Park. It is several years since the town originated an annual fixture on the lines of those at Shrewsbury and York, and since then, the extent and importance of the display have materially and satisfactorily increased. In many particulars the schedule has close relations to the one issued from Shrewsbury, notably in the liberal prizes offered for specimen plants and for groups. In the Rose classes, however, there is a feature that, in the case of exhibitions held in August, is impossible of attainment. The park is a very pretty rendezvous of about fifty acres, but most of it is maintained as a pleasure ground, and on the recreation site alone there is not room (shall we say fortunately?) for the amount of variety entertainments there are at some of these fêtes. There is sufficient space though for a much larger horticultural show than has yet taken place. There were five tents of good size set up on this occasion, and most of the space was well filled, if we except that in which the amateurs' exhibits were placed, and that also where the cottagers' produce was displayed. The last-named class did not exhibit so generally as could have been wished. Specimen plants and groups in the open classes were good, and, together with the Roses, were the principal features of the show. The exhibition of Pinks usually held in conjunction with this fixture was abandoned this year owing to the early character of the season.

In the afternoon, after the luncheon, at which the Mayor presided, was over, a new conservatory that has been recently built at a cost of about £1,500, provided by the Floral Fêtes Committee, was formally opened. This forms an important addition to the Park, and it is satisfactory that the profits which have arisen from the Fêtes should be devoted to the embellishment of the open spaces in the town, and to the provision of others.

PLANTS.

The largest class in this section was one for sixteen stove and greenhouse plants, and the 1st prize was won by Mr. J. Cypher, nurseryman, Cheltenham. He had excellent specimens in bloom of Allamanda nobilis, Bougainvillea Sanderiana, B. glabra, Statice profusa, Phœnocoma prolifera Barnesii, Allamanda grandiflora, Ixora Williamsii, and rather less good specimens of Erica Kingsteniensis, E. Parmentieriana, and E. tricolor Holfordii. His foliage plants included Thrinax elegans, Cycas circinalis, Kentia Fosteriana, Livistona chinensis, Croton Sunset, and C. Williamsii; Mr. Wm. Finch, Coventry, who was 2nd, also showed well. He had magnificent specimens of Livistona chinensis, and Crotons Queen Victoria and angustifolius. 3rd, Mr. Lewis Fewkes, gr. to Thos. Clayton, Esq., Castlebromwich.

Of six exotic Ferns there was only one exhibit, viz., that from Mr. J. V. Macdonald, gr. to G. H. Kenrick, Esq., Edgbaston.

Six plants in flower were best from Mr. J. Cypher. He had fine specimens of varieties similar to some in the larger class noticed. Mr. W. Finch was 2nd. Mr. Cypher won also for six fine foliage plants, his Croton Chelsoni in this class being very good. 2nd Mr. W. Finch. A class for five exotic Orchids was also won by Mr. Cypher, and he was 1st, too, for six specimen Palms; Mr. W. Finch being 2nd.

Mr. Lewis Fewkes, gr. to Thos. Clayton, Esq., was 2nd for six stove and greenhouse plants, his best plants being Croton Majestic, and Ixora Pilgrimi; and Mr. S. Postings, gr. to Mrs. Wight Boycott, Rudge Hall, was 3rd.

In the gentleman's gardeners' or amateurs' classes, the best six Caladiums were shown by Mr. R. Sharpe, gr. to H Lovatt, Esq., Bushbury; and the best collection of Begonias by J. W. Kenrick, Esq. (gr., Mr. A. Cryer).

Thos. Clayton, Esq., had the best group of six exotic Ferns.

Groups of Plants (open).—One of the tents was exclusively occupied by the groups of miscellaneous plants arranged for effect on a space not exceeding 450 square feet. Seven exhibits were arranged on the grass in the centre, the promenades being on either side and at the ends. Though all the collections were of good appearance, the 1st prize was awarded undoubtedly rightly to Mr. J. Cypher, Cheltenham. In the centre of this group a graceful Palm resting on a rustic stand several feet high, supported by four pillars at the corners covered with cork-bark, and containing numerous pockets in which were Ferns, Fuchsias, Caladiums, Odontoglossums, &c. Numerous specimens of Cattleya citrina on rafts also were suspended, and were very effective. At the base was a series of smaller groups, and at each corner of the exhibit a larger cone-shaped group of plants. The plants used were choice and good, Crotons being especially well coloured. The only possible objection there can be to this form of grouping, would be that the rustic arrangements, and the system of making most of the plants appear to be growing from rockwork, necessitate the exclusion of almost all plants of specimen size one might expect to find in such a group. The 2nd prize was won by Mr. W. Finch, nurseryman, Coventry. Messrs. Tom B. Dobbs & Co., 32, Queen Square, Wolverhampton, were good as 3rd; and Mr. J. V. Macdonald, gr. to G. H. Kenrick, Esq, was 4th.

The best group of plants (Amateurs) arranged for effect on a space of 400 square feet was from H. Lovatt, Esq., a very satisfactory arrangement.

ROSES.

The principal class for Roses was of the same extent as the largest at the Crystal Palace Show, and seventy-two distinct single trusses were required. There were only three competitors, and prizes therefore fell to each of them. It was not surprising that Messrs. Harkness & Sons, Bedale and Hitchin, after winning the similar class in the Metropolis, should be the best exhibitors so much nearer their northern establishment. Indeed, they staged a fairly good collection, in which the following varieties were of excellent quality. Of those in the back row, Marie Baumann, Dr. Sewell, Beauty of Waltham, Star of Waltham, and Comte de Raimbaud. Centre row: A. K. Williams, Comtesse de Ludre, Lady Sheffield, Chas. Lefebvre, Sénateur Vaisse, Horace Vernet, Edouard André and Mrs. Jno. Laing. Front row: Duc de Rohan. Some of the blooms, as for instance, Heinrich Schultheiss and Captain Hayward, were of a nature that illustrated the difficulty there had been to show so extensive a collection upon this date in the present season. Messrs. Mack & Sons, York, were 2nd, and Messrs. Perkins & Sons, Coventry, 3rd.

In the class for forty-eight single blooms distinct, the premier prize was taken by Messrs. A. Dickson & Sons, Newtownards, Ireland. The best blooms in this exhibit were Mrs. John Laing, Marie Rady, Duke of Albany, Ferdinand de Lesseps, Marie Baumann, Earl of Dufferin, Camille Bernardin, Madame Pereire, and Bessie Brown. Messrs. Harkness & Sons were 2nd, and H. Merryweather, Esq., Southwell, 3rd. There were three other exhibitors in this class, of whom Messrs. Perkins were awarded 4th prize.

Messrs. Harkness & Sons were first also in the class for thirty-six single blooms distinct, and in this class the quality of the blooms was better. Alfred Colomb, Fisher Holmes, Comte de Raimbaud, Marie Baumann, Comtesse de Ludre, Chas. Darwin, Dr. Andry, May Quenell, and E. Y. Teas were good. H. Merryweather, Esq., Southwell, was a fairly good 2nd; and Messrs. Dicksons 3rd. There were three or four other exhibitors in this class.

The class for twenty-four distinct blooms was won by Messrs. Dicksons, and in this competition the firm exhibited a stand of fresh good quality flowers. The best were Captain Hayward, Marchioness of Dufferin, Alfred Colomb, Oliver Delhomme, and a pretty cream-coloured seedling. Messrs. Townsend & Sons, Worcester, were 2nd, and Messrs. Harkness & Sons 3rd. There were four other collections.

The class for twelve new Roses had but one exhibitor, viz., Messrs. Dicksons, and they showed varieties similar to those noticed at the Crystal Palace in the same class.

The best dozen of any dark coloured Rose was one of Captain Hayward, from Messrs. DICKSONS; Messrs. D. & W. CROLL being 2nd with M. E. Y. Teas; and D. PRIOR & SONS 3rd, with Horace Vernet.

Messrs. DICKSONS had also the best dozen of any light Rose in Marchioness of Londonderry; H. V. MACHIN, Esq., Worksop, coming next with Her Majesty; and Messrs. MACK & SON, Yorks, 3rd, with Caroline Testout.

Twelve blooms of Tea Roses distinct, were only exhibited by three competitors, of whom Mr. JNO. MATTOCK, Oxford, was 1st with small pretty blooms, especially the specimens of Comtesse de Nadaillac, Ernest Metz, and Madame de Watteville. Messrs. D. PRIOR & SONS, Colchester, were 2nd; and Messrs. JAS. TOWNSEND & Sons, 3rd.

Mr. JNO. MATTOCK was also 1st for the most decorative arrangement of Roses, exhibited in the same method as at the Palace Messrs. TOWNSEND & SONS were 2nd.

AMATEUR CLASSES.—The best collections of thirty-six Roses and twenty-four Roses were from the Rev. J. H. PEMBERTON, Havering-atte-Bower, Essex, who was 1st, and in both classes H. V. MACHIN, was 2nd.

H. V. MACHIN, Esq., was the only exhibitor of twelve blooms of Tea Roses. There were other classes of minor extent.

CUT-FLOWERS AND BOUQUETS.

This section included the usual classes for stove and greenhouse flowers, bouquets, and arrangements of certain cut-flowers. The best twelve bunches of stove and greenhouse plants were from Mr. CYPHER, Cheltenham. All of the varieties were choice, but the flowers were not so fresh-looking as they might have been, though the Cattleyas and Dipladenias were very good.

The best hand-bouquet was from Messrs. M. JENKINS & SON, Newcastle-under-Lyme, beating the celebrated Coventry firm of PERKINS, who, however, excelled Messrs. JENKINS for a bridal bouquet and for a bridesmaid's bouquet, the latter being very pretty.

The most tasteful arrangement of cut Pansies and Violas was made by Mr. JNO. SMELLIE, Bushby, near Glasgow, who was awarded a Silver Cup or £5 in money; M. CAMPBELL, Esq., Blantyre, was 2nd.

Twenty-four Fancy Pansies (*amateurs*) were best from MRS. H. LOVATT, Newport, Salop, and the best twelve blooms also.

M. CAMPBELL, Esq., Blantyre, was first for twenty-four Pansies in the open classes, and Mr. JNO. SMELLIE, 2nd, though we think the positions should have been reversed. M. CAMPBELL, Esq., was, however, rightly 1st for eighteen blooms.

The best collection of twelve bunches of Sweet Peas was shown by U. B. JOHNSTON, Esq., Tettenhall, and there were several pretty collections.

FRUITS AND VEGETABLES.

The class for four bunches of Grapes distinct was won by Mr. J. Read, gr. to the EARL of CARNARVON, Bretby Hall, Burton-on-Trent. He showed Madresfield Court, Muscat of Alexandria, Black Hamburgh and Buckland Sweetwater. The black grapes were very good. Mr. J. H. Goodacre, gr. to the EARL of HARRINGTON, Elvaston Castle, Derby, was 2nd. He had fine black Hamburgh and Muscat Hamburgh, but his Muscats were poor. Mr. Bannerman, gr. to LORD BAGOT, Blithfield, Rugeley, was 3rd.

The best two bunches of white Grapes were of Foster's seedling, shown by Mr. Sidney Bremmell, gr. to H. H. FRANCE HAYHURST, Esq., Shropshire Mr BANNERMAN was 2nd with Buckland Sweetwater, and Mr. R. READ 3rd with Foster's Seedling.

Black grapes were shown best by Mr. J. Gray, gr. to Sir Geo. E. MEYRICK, Bt., Bodorgan, Anglesey, who had two extra good bunches of Black Hamburgh, berries especially fine, Mr. BANNERMAN showing Black Hamburgh was 2nd, and Mr. J. Read 3rd with the same variety.

The best green-fleshed Melon was one from Mr. Thomas Wilkins, gr. to Lady THEODORE GUEST, Henstridge, and Mr. J. Wilkes, gr. to Mrs MEAKIN, Cresswell Hall, Stafford, had the best scarlet-fleshed Melon.

Peaches and Nectarines were good. The best dish of six fruits was from Mr. Frank Harris, gr. to Lady H. SOMERSET, Ledbury, who showed Eastnor Bellegarde; Mr. GRAY was 2nd with large Galande; and Mr. John Wallis, gr. to R. SNEYD, Esq., Keele Hall, Staffs, 3rd, with finely coloured Stirling Castle.

Mr. GOODACRE, had the best Nectarines in Lord Napier; Mr. J. READ was 2nd.

There were a few good dishes of Strawberries, and a few of Tomatos.

A capital collection of fruit in nine dishes was shown by Mr. F. HARRIS. His grapes (Foster's Seedling) were unripe, but Brown Turkey Figs, Golden Perfection Melon, Smooth Cayenne Pine, Hales Earley and Bellegarde Peaches, Pitmaston Orange Nectarine, Bigarreau Napoleon Cherries, and Black Hamburgh Grapes were capital. Mr. Geo. Reynolds, gr. to the Messrs. de ROTHSCHILD, Gunnersbury Parks, Acton, Middlesex, was only a very few points inferior to the collection just noticed; Mr. J. H. GOODACRE was 3rd.

Collections of Vegetables were not numerous, but several good ones were staged. Messrs. SUTTON's prize was won by Mr. C. J. Waite, gr. to the Hon. W. P. TALBOT, Surrey, Lady THEODORE GUEST being 2nd.

Mr. C. J. WAITE also won the 1st prize in Messrs. WEBBS class, and in Messrs CARTERS class. Another prize offered by Messrs. DOBBS (a local firm), was won by Lady THEODORE GUEST.

In the gentlemen's gardeners, or amateurs classes, the best collection of fruit, of six varieties, was shown by the EARL of CARNARVON, Bretby Hall. His Grapes, Pineapple, Figs and Peaches, were capital fruits. LORD BAGOT was 2nd, and had very fine grapes, the EARL of HARRINGTON being 3rd. The best collection of vegetables came also from the EARL OF CARNARVON.

MISCELLANEOUS.

Messrs. BARR & SON, King Street, Covent Garden, London, made one of their usual exhibitions of hardy flowers, herbaceous and annual. Pretty bunches of Lilium testaceum, L. pardalinum, Michauxi, and other Lilies were noticeable.

An exhibit of Mushroom Spawn, made as attractive as its nature would allow, was made by Mr. WM. D. BASON, spawn manufacturer, Finchfield, Wolverhampton.

A large group of tuberous Begonias in double and single-flowered varieties was made by Mr. H. J. JONES, Ryecroft Nursery, Lewisham, S. E., and awarded a Gold Medal. Although the plants had been all brought from London, the group presented a capital appearance, most of the varieties being of good quality and the arrangement tasteful.

An exhibit of herbaceous flowers, and annuals from Mr. J. H. WHITE, 51, Broad Street, Worcester, contained some capital flowers of varieties of Gaillardias.

Messrs. THOMSON, Spark Hill Nurseries, Birmingham, showed a group of flowering plants.

Messrs. JARMAN & Co., Chard, Somerset, exhibited Roses and Sweet Peas.

Messrs. HEWITT & Co., Solihull, Edgbaston, Birmingham, exhibited herbaceous and hardy flowers, and some first-class blooms of tuberous-rooting Begonias.

A large display of herbaceous flowers, Roses, &c., in neat bunches in earthenware bottles from Messrs. DICKSONS, Chester, was excellent. Eschscholtzias and Gladiolus and Lilies made the collection very bright. The Hawley Challenge Cup offered for the best display of plants, floral arrangements, and fruit among honorary exhibits was awarded to this collection.

Mr. H. ECKFORD's Sweet Peas were well represented, and were awarded a Gold Medal.

Messrs. E. WEBB & SONS, Stourbridge, exhibited vegetable produce and flowers, and a large collection of Ferns was shown by Messrs. W. & J. BIRKENHEAD, Sale, near Manchester, in their usual style (Gold Medal).

Messrs. PRITCHARD & SONS, Shrewsbury, had a fine lot of Carnations and Picotees, and Mr. ROBT. SYDENHAM, Tenby Street, Birmingham, furnished a table with cut-flowers and Smilax, arranged in rustic, silvered gates.

Messrs EDWARDS & SON, Sherwood, Nottingham, displayed their Edwardian ware in the shape of baskets for plants and epergnes for cut-flowers.

Miscellaneous plants were shown by TOM B. DOBBS & Co., Wolverhampton, Mr. S HARPER, Tettenhall, Mr. R. LOWE, Wolverhampton, and Gloxinias by Mr. F. A. GODFREY, Stourbridge.

Mr. M CAMPBELL, High Blantyre, had cut-flowers of Carnations, Pansies, &c., and Mr. H. BROWNBILL, Sale, a fine lot of summer-flowering Chrysanthemums (Gold Medal).

Roses were shown by the ENGLISH FRUIT & ROSE Co., Hereford.

WIMBLEDON AND DISTRICT HORTICULTURAL.

JULY 8.—This, the twenty-fourth annual exhibition, was held in the grounds of Ricards' Lodge, Wimbledon Park, the residence of PERCY MORTIMER, Esq., President of the Society. Three tents were placed on the slope, which falls away to a pleasant valley. The tents were well filled, and an attractive exhibition was provided, which reflected much credit on Mr. W. S. Thomson, the Hon. Secretary of the Society and the stewards.

Groups made a good feature, the 1st prize being awarded to Mr. J. Law, gr. to R. S. DEAN, Esq., the Priory, Wimbledon, Palms, Crotons, and various foliaged and flowering plants being surrounded by the long spikes of plants of Francoa ramosa; Mr. Thornton, gr. to E. CROCKER, Esq., Wimbledon Hill, was 2nd, his being a rich group, gay with tuberous Begonias and variegated-leaved plants, but rather heavy in the matter of arrangement.

The best four stove and greenhouse plants came from Mr. Hutton, gr. to G. E. FRERE, Esq., Wimbledon Park, and included a good bush of Clerodendron Thompsoniana, var. Balfouri.

Mr. H. Alderman, gr. to G HATFIELD, Esq., Wimbledon, had the best six foliaged plants, staging good specimens of Phœnix reclinata, Alocasia metallica, A. macrorhiza variegata, Kentia Fosteriana, Dracæna Youngii, and one other.

Mr. T. Methven, gr. to W. KEILLER, Esq., Fernwood, Wimbledon Park, had the best six stove and greenhouse plants in flower, in 9-inch pots, having among them two nice pieces of Cattleya.

Some very good Fuchsias were shown, the collection of four which won the 1st prize for Mr. W. THORNTON were indeed highly creditable; Mr. H. Wells, gr. to G. D. CARVER, Esq., Ingresby, Wimbledon, was a good 2nd. Mr. THORNTON had the best six Coleus.

Zonal Pelargoniums were well grown and flowered; the 1st and 2nd prizes for six plants were taken by Messrs. JONES and Chandler, the latter gr. to the Rev. Canon HAYGARTH, The Vicarage, Wimbledon. Mr. J. French, gr. to Mrs. BARCLAY, Wimbledon Park, had the best twelve zonal Pelargoniums, restricted to a certain size of pot, small, but admirably grown and flowered specimens; Mr LAW was 2nd. These were the leading plant classes, though plants were shown in various classes by amateurs and others.

CUT FLOWERS.

The leading class for these was that for which Mrs. PERCY MORTIMER offered a special 1st prize for twenty-four cut Roses, this was won by Mr. WILL TAYLOR, Hampton Hill, who had bright, clean blooms, the best being, Victor Hugo, Suzanne M. Rodocanachi, Prince Arthur, Harrison Weir, A. K. Williams, The Bride, and Madame Hoste. Roses were also shown in other classes, but they were much past their best. Special prizes were also offered for eighteen distinct bunches of hardy plants, the best coming from Mr. A. Newell, gr. to Sir E. SAUNDERS, Fairlawn, Wimbledon Common. Delphiniums, Lilies, and such like were in good character. Special prizes were also offered for table plants, and these were admirably shown, small, compact, well-grown examples being the rule. Lady SAUNDERS offered prizes for ladies' sprays and buttonholes, Mr. NEWELL being the most successful exhibitor.

FRUIT, ETC.

The best four dishes of fruit came from Mr. C. Bentley, gr. to Captain BOSWORTH, Cedar Court, Roehampton, who had Black Hamburgh Grapes, Stirling Castle Peaches, Pine-apple Nectarine, and a Melon; Mr. H. ALDERMAN was 2nd, gaining a point in Grapes, but losing on other subjects.

Melons were also shown, Countess being the best-flavoured.

Mr. C. Knowles, gr. to the Hon. Mrs. EGERTON, Roehampton, had the best three bunches of black Grapes, and also of white; the latter were Buckland Sweetwater.

Mr. A. NEWELL had the best brace of Cucumbers showing Suttons' Progress in fine character.

Vegetables made a good feature, the special prizes offered by certain trade houses bringing very creditable examples. The best were shown for those offered by Messrs. D. S. THOMSON & SON, the Nurseries, Wimbledon, Mr. FRENCH taking the 1st prize. Mr THORNTON was 2nd.

Messrs. James Carter & Co., Holborn, were also donors of prizes. Mr. C. Bentley, gr. to Captain BOSWORTH, Cedar Court, Roehampton, was 1st in this class; and Mr. J. HUTTON 2nd.

The 1st prize for Messrs. Sutton & Son's collection was won by Mr. Mills, gr. to G. D. CARVER, Esq., Ingresby.

There were several classes for vegetables, but these were not of sufficient importance to call for further mention.

MISCELLANEOUS.

Messrs D. S. THOMSON & SON contributed a very fine group of foliaged and flowering plants, and Messrs. J. LAING & SONS the same; and the former also had a large collection of hardy and other flowers.

NEWCASTLE-ON-TYNE HORTICULTURAL.

JULY 8, 9, 10.—This annual exhibition was this year held about fourteen days earlier than usual, an alteration which has certainly not been any disadvantage, seeing that the high-class character of the show was fully maintained when the exhibits were taken as a whole.

Roses, amongst cut flowers, were wonderfully fine and northernmost growers having certainly the advantage, notably, Messrs. CROLL & SONS of Dundee.

Hardy herbaceous cut flowers, too, were surprisingly good, these alone making a fine display. Violas and Pansies were, as usual, of first-class quality. Specimen-plants certainly showed a falling off, but groups and smaller plants are improving.

Fruit was also good, if not quite so plentiful as on former occasions.

Miscellaneous trade and other exhibits were present in large numbers, adding much to the general effect.

Table decorations and other floral arrangements were again well to the front; these have been well shown at Newcastle for many years past.

For the past few seasons this Society has been unfortunate in selecting days which have proved unpropitious as regards weather. It is to be hoped on this occasion it will be more fortunate, and thus recoup its previous losses.

PLANTS.

For a group of plants arranged for effect, Mr. McIntyre, gr. to Mrs. PEASE, Darlington, was an easy winner his group being put up with great taste, and not in any way crowded or too showy. Bamboos and light Palms (chiefly Cocos plumosus), with well-coloured Crotons, were the chief foliage plants, whilst Anthurium Andreanum, Amaryllis aulica, and a few Orchids were the best-flowering examples. Mr. F. EDMONDSON, florist, Newcastle-on-Tyne, was placed 2nd, but the fault of covering rather too much ground with the material used was noticeable; usually it is the opposite to this.

For six specimen plants, Mr. Nicholas, gr. to the MARQUIS of ZETLAND, was the winner in a very easy fashion, his best examples being Erica depressa multiflora and Dipladenia amabilis, both extremely well-flowered.

Mr. NICHOLAS was also 1st with four plants, which were all good, owing to the next competing collection being very close. Mr. Nicholas showed a finely-flowered Ixora and a splendid example of Anthurium Scherzerianum, here. Mr. WYLAM, Shankhouse, Framlington, who came a near 2nd, had Stephanotis floribunda, covered with flowers, and a good plant of Phœnocoma prolifera, in fresh condition.

The best six foliage plants were staged by Mr. NICHOLAS, who had a grand plant of Kentia australis, and a finely-coloured Croton Queen Victoria; Mr. MCINTYRE, who followed closely, had Crotons and Cycads as his leading plants.

Mr. M'INTYRE was 1st, however, with six Exotic Ferns, staging immense plants of Davallia Mooreana and D. fijiensis plumosa. The same exhibitor was also 1st for four Crotons, good plants of medium size, and well coloured.

The best specimen Palm was a fine example of Kentia Fosteriana, from Mr. F. J. JENNINGS, florist, Newcastle-on-Tyne.

The best singleflowered tuberous Begonias were those from Mr. Pitt, gr. to C. S. BELL, Esq., Wolsington, and the best double from Mr. Wm. LAWS, Ponteland, each exhibit consisting of a dozen freely flowering plants.

The best arrangement of plants for fireplace decoration was by Mr. MCINTYRE, but it lacked decided features.

CUT FLOWERS, ROSES, ETC.

For seventy-two blooms in thirty-six varieties, Messrs. D. & W. CROLL, Dundee, was an advanced 1st, the flowers being remarkable alike for size and colour, light kinds predominated amongst the finest examples; the best throughout being Mrs. John Laing, Spenser, Mrs. R. G. Sharman Crawford, White Lady, General Jacqueminot, Prince Arthur, and Duke of Edinburgh. This exhibit also gained the Silver Medal of the Royal Horticultural Society. Messrs. R. MACK & SONS, Catterick, were 2nd, having G. Piganeau, A. K. Williams, and Caroline Testout as their best blooms. Messrs. HARKNESS & SON were 3rd.

Messrs. CROLL & SON repeated their success in the next class, for forty-eight varieties, most decisively; here were to be noted Gustave Piganeau, Captain Hayward, Prince C. de Rohan, and other kinds as in the previous class. Messrs. HARKNESS & SON in this instance were 2nd, showing very bright flowers of medium size.

For thirty-six varieties Messrs. J. & A. MAY, Bedale, were 1st, dark varieties predominating; Prince Arthur, Harrison Weir, Horace Vernet, and General Jacqueminot being first-class examples. In this class Messrs. CROLL were 2nd with light kinds as in contrast to the preceding, two of the best being Marquis of Downshire, and Merveille de Lyon.

With twenty-four trebles Messrs. CROLL were again 1st with a very bright exhibit of splendid flowers; some of the best of these were Madame Hoste, Luciole, Viscountess Folkestone, Souvenir d'un Ami, Marie Van Houtte, and Innocente Pirola, the Teas being a striking feature here. The premier award went to the same exhibitors for twelve flowers of any one variety, Mrs. John Laing being thus honoured; the blooms were extra fine, and of deep colour. They were also 1st for twelve Teas. Here the best were Madame Lambard, Jean Ducher, and Marie Van Houtte, good colour again being a leading feature. Messrs. MACK & SON were 2nd in this latter class.

In the amateur classes, the competition was likewise good. The most successful being Mr. Finlay, gr. to Mrs. MAYNARD, Proud, Darlington, who was 1st for twelve trebles, staging a very even set of flowers, also bright and fresh. The best were Barmecide, A. Rothschild, and Etienne Levet. To this exhibit was awarded a Silver Cup, offered by the Turner Memorial Trustees, and of the value of £5.

Mr. W. HUTCHINSON, Kirby Moorside, was 1st for twelve Teas, Ethel Brownlow and Madame Hoste being two of the best. For twelve in variety the same exhibitor was also 1st, Dr. Hogg and Victor Hugo being the best blooms.

Hardy Herbaceous Cut Flowers. In this section there was an extensive display in the two classes, the best kinds now in season being shown. Unfortunately, through not complying with the terms of the schedule, several exhibits were disqualified. At the head of the cut flower section are the following words—"Set up in water and named, *otherwise disqualified.*" These plain instructions were infringed in several cases, some not having any names whatever, and others not completely named. This was most unfortunate, but the exhibitors who did comply should certainly have the preference in the awards. In the class for eighteen varieties, no prize was consequently awarded; but special note should, however, be made of at least two fine exhibits, viz., those of Mr. F. EDMONDSON, florist, Newcastle-on-Tyne, and Messrs. HARKNESS & SONS; these were both first-class displays.

The same failing occurred in the class for twelve varieties, but not to the same degree, there being sufficient number of persons showing in compliance with the schedule to take the prizes. In this class, Mr. W. HUTCHINSON was 1st with a very fresh and bright display, some of the best bunches being those of Coreopsis grandiflora, Gaillardia grandiflora, and a fine bunch of Alstrœmeria chilensis; Mr. J. G. McKenzie, gr. to Rev. R. BURDON, Wylam-on-Tyne, was a near 2nd; and Mr. MCINDOE 3rd, in whose exhibit were Tropæolum speciosum and Sparaxis pulcherrima.

PANSIES AND VIOLAS, ETC.

For forty-eight Fancy Pansies, Mr. M. CAMPBELL, High Blantyre, N.B., was 1st, with blooms fine in colour and quite fresh. Mr J. SMELLIE, Busby, near Glasgow, being a close 2nd.

With twenty-four Fancy Pansies Mr. CAMPBELL was also 1st, being in this instance followed by Mr. DAVISON, Dalton, Newcastle.

For twenty-four sprays of Violas, six blooms in each spray, Mr. CAMPBELL was once more 1st, and that in keen competition, a few of his best being Charm, Magic, Lemon Queen, and Countess of Kintore; Messrs. W. PAUL & Co., Bridge of Weir, Glasgow, was 2nd in this class, two of his best being A. J. Rowberry, a deep yellow, and Archie Grant, a rich purple.

Carnations are always shown well at Newcastle, this occasion being no exception to the rule. Mr. J. CAVINS, Tunstall Road, Sunderland, was 1st for twelve varieties with clear, fresh blooms.

Mr. CAMPBELL was 1st for twelve varieties in bunches of not more than six blooms each; and the best forms of the Malmaison here told heavily. Mr. CAVINS came 2nd with the tree and ordinary forms, the whole being a very fresh, clean exhibit.

Mr. NICHOLAS was a good 1st for twelve varieties of stove and greenhouse cut flowers, showing amongst other good things, Ixora Duffi and Dracophyllum gracile. Mr. McIndoe, gr. to Sir JOSEPH PEASE, Hutton Hall, Guisborough, was a good 2nd.

TABLE DECORATIONS, ETC.

For a single stand for the drawing-room, Mr. F. EDMONDSON was 1st with a light, tasteful arrangement, the only exception being that the base was rather too massive. Miss EDMONDSON followed in this class closely. Messrs. PERKINS & SON, Leamington, were very successful in this section, showing in their usual artistic style, and taking 1st for hand-bouquets (which also gained the Silver Banksian Medal as the best exhibit in this section for bridal bouquets), for a basket of Roses—a most pleasing and effective arrangement, far away the best in its class.

Miss EDMONDSON was 2nd for a basket of Roses; Mr. JENNINGS occupying the same position for a bridal bouquet, and Mr. F. EDMONDSON for a hand-bouquet, the latter a very free and and informal arrangement.

FRUIT.

For a collection of eight dishes, Mr. Kirk, gr. to J. THOMPSON PATON, Esq., Norwood, Alloa, was worthily to the fore with a fine exhibit, consisting of some fine Black, and Golden Hamburgh Grapes, a good Queen Pine, Royal George Peaches, Lord Napier Nectarines, Brown Turkey Figs, and Windsor Castle Melon: Mr. MCINDOE who was 2nd, had strong points in his Muscat Grapes, Early Transparent Gage Plums, and Pine-apple Nectarines.

Mr. MCINDOE turned the tables on his opponent in the class for four varieties, having as his best Stanwick Elruge Nectarines and Muscat Grapes; Mr. KIRK following with good Grapes and Peaches.

For four bunches of Grapes, not less than two varieties, Mr. MCINDOE was again 1st, Muscats and Black Alicantes being his choice.

In the class for Muscats only, Mr. MCINDOE was again 1st, his exhibit being first-class, colour and maturity being conspicuous points.

The best Black Hamburgh came from Mr. Tullett, gr. to Lord BARNARD, Raby Castle, Darlington. The best Peaches were a fine dish of Royal George from Mr. Luke Thompson, gr. to A. GUTHRIE, Esq., and the next best, one of Bellegarde, from Mr. MCINDOE, who was, however, 1st with a dish of Nectarines or Pine-apple; the 2nd going to Mr. MCKENZIE with Lord Napier.

A fine dish of black Tartarian Cherries gained for Mr. MCINDOE the 1st prize, as did, in its class, another excellent exhibit of Tomato Invincible.

MISCELLANEOUS.

The Silver Medal of the Society was offered for the most meritorious exhibit by florists and nurserymen not in the competitive classes. This was awarded to Messrs. W. FELL & Co., Hexham, the chief features in which were the finely grown Conifers, and the hardy flowers. Mr. JAS. DOUGLAS staged several choice and new kinds of Carnations and Picotees, the best of which were Mrs. Douglas, rosy-salmon and of fine form; Pandelli Ralli, clear yellow; Winifred, deep terra-cotta (better than Reynolds Hole); Mr. Eric Hambro, the best white; Waterwitch and Miss Audray Campbell, as well as Voltaire, a yellow-ground Picotee with a very bright rosy margin.

Messrs. DOBBIE & Co., Rothesay, showed an extensive lot of Pansies, Violas, Sweet Peas, hardy border flowers, and other specialties.

Messrs. KENT & BRYDON, Darlington, showed hardy herbaceous and other flowers, including their fine new form of Chrysanthemum maximum. Messrs. J. W. BIRKENHEAD, of Manchester, had a large display of choice small Ferns. Mr CUTHBERTSON, of Rothesay, another of hardy flowers; and Messrs. JOSEPH ROBSON & SONS a large group of Conifers, &c.

TRADE NOTICES.

THE Belgian Syndical Chamber at a recent meeting unanimously adopted the following proposition:—"The trade in plants in Belgium shall, in the absence of any express stipulation to the contrary, be thus regulated.—1. Plants are despatched and travel at the risk of the consignee. 2. Payment shall be made at the residence of the consignor. 3. Accounts between nurserymen living in the same horticultural centre (Antwerp, Bruges, Brussels, Ghent, Liège, are presented twice a year (in January and July). 4. Business transactions between town and town, or with foreign countries, are conducted for cash, with a discount of 2 per cent., or at the expiration of three months without discount.

THE firm of Cross & Donaldson, whose specialty is grass and Clover seeds, having been dissolved by mutual consent, the business will, we understand, be carried on as Cross & Cross, at 8, North Bank Street, Edinburgh, and in the old premises at Belfast, in which are fitted up an extensive range of cleaning machines of the most complete description.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Accumulated. Above (+) or below (−) the Mean for the week ending July 4.	Above 42° for the Week.	Below 42° for the Week.	Above 42°, difference from Mean since December 29, 1895.	Below 42°, difference from Mean since December 29, 1895.	Rainfall. More (+) or less (−) than Mean for the Week.	No. of Rainy Days since Dec. 29, 1895.	Total Fall since Jan. 1, 1896.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Dec. 29, 1895.
	Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.			
0	2 −	74	0	+ 228	− 318	1 +	127	27·8	16	25
1	1 −	90	0	+ 250	− 241	2 −	97	10·4	34	32
2	0 aver	109	0	+ 257	− 222	4 −	79	7·4	40	32
3	0 aver	121	0	+ 197	− 229	4 −	83	8·9	38	36
4	0 aver	116	0	+ 251	− 247	2 −	79	8·7	33	33
5	1 +	132	0	+ 246	− 240	1 −	74	7·8	36	37
6	1 −	94	0	+ 277	− 228	0 aver	103	19·3	27	33
7	1 −	109	0	+ 329	− 258	0 aver	94	13·4	27	35
8	1 +	127	0	+ 336	− 206	3 −	78	10·1	45	41
9	0 aver	102	0	+ 211	− 233	2 +	106	16·2	25	30
10	1 +	122	0	+ 303	− 210	3 −	89	13·1	35	35
*	2 +	137	0	+ 417	− 109	2 −	85	7·6	51	46

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending July 4, is furnished from the Meteorological Office:—

"The *weather* was generally changeable, with frequent falls of rain over the western and northern parts of the kingdom, and occasionally similar conditions were experienced over the southern and eastern districts also.

"The *temperature* did not differ materially from the mean. The highest of the maxima were recorded either at the commencement or towards the end of the week, and ranged from 78° in 'England, S.,' and 77° in 'England, E. and S.W., to 68° in 'England, N.W.,' and to 64° in 'Scotland, N.' The lowest of the minima were registered on rather irregular dates over England and Ireland, but occurred on July 1 at most of the Scotch stations; they ranged from 41° in 'Scotland, N. and E.,' and in 'England, E.,' to 50° in 'England, N.W.,' and to 55° in the 'Channel Islands.'

"The *rainfall* was less than the mean over the greater part of the kingdom, but slightly exceeded it in 'Scotland, N.' and 'Ireland, N.,' and just equalled in 'Scotland, W.' and 'England, N.W.'

"The *bright sunshine* was somewhat deficient in most places, but slightly exceeded the normal in 'Scotland, E.,' 'England, N.E. and S.W.,' 'Ireland, S.,' and the 'Channel Islands.' The percentage of the possible amount of duration ranged from 51 in the 'Channel Islands,' and 45 in 'England, S.W.,' to 25 in 'Ireland, N.,' and 16 in 'Scotland, N.'"

MARKETS.

COVENT GARDEN, JULY 9.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Adiantum, per doz.	4 0	12 0	Foliage plants, doz.	12 0	36 0
Aspidistra, per doz.	12 0	30 0	Heliotrope, per doz.	4 0	6 0
— specimen, each	5 0	15 0	Hydrangea, various per doz.	6 0	18 0
Calceolaria, p. doz.	4 0	6 0	Ivy Geraniums per dozen	4 0	6 0
Cock's-combs, doz.	4 0	6 0	Lilium Harrisii, pr.		
Coleus, per doz. ...	2 0	4 0	dozen pots ...	9 0	18 0
Crassula, each ...	1 6	3 0	Lobelias, per doz....	3 0	4 0
Dracæna, each ...	1 0	7 6	Marguerites, p. doz.	6 0	10 0
— various, p. doz.	12 0	24 0	Mignonette, p. doz.	4 0	6 0
Ericas, various, per doz.	9 0	18 0	Palms, various, ea.	2 0	10 0
Evergreen Shrubs, in variety, doz....	6 0	24 0	— specimens, ea.	10 6	84 0
Ferns, small, doz....	1 0	2 0	Pelargoniums, doz.	6 0	10 0
Ferns, various, doz.	5 0	12 0	— Scarlets, p. doz.	3 0	6 0
Ficus elastica, each	1 0	7 6	Spiræas, per doz. ...	8 0	12 0

Bedding Plants in variety.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arums, p. 12 blooms	2 0	4 0	Mignonette, p. doz. bunches	3 0	4 0
Bouvardias, per bn.	0 6	0 9	Pansies, doz. bun.	1 0	2 0
Carnations, 12 bun.	4 0	6 0	Pelargoniums, scar-		
— 12 blooms ...	0 6	2 0	let, per 12 bun.	3 0	6 0
Eucharis, per dozen	2 0	4 0	— per 12 sprays...	4 0	6 0
Forget-me-nots, p. doz. bunches ...	1 6	3 0	Poppy, doz. bun.	0 6	1 0
Gardenias, per doz.	2 0	4 0	Pyrethrums, 12 bn.	2 0	4 0
Lilium Harrisii, per bunch	2 0	4 0	Roses, Tea, per doz.	0 9	1 6
— Candidum, per bunch	1 0	2 0	— coloured, per dozen... ...	0 9	1 6
12 blooms	0 4	0 6	— yellow (Maré-		
Maidenhair Fern,			chal), per doz.	3 0	6 0
per 12 bunches ...	4 0	8 0	— red, per dozen	0 6	1 0
Marguerites, per 12			— red, doz. bun.	4 0	6 0
bunches	1 0	2 0	— Gloire, doz. bn.	4 0	6 0
Orchids :—			— Safrano, p. doz.	1 0	2 0
Cattleya, 12 blms.	6 0	12 0	— Moss, doz. bns	0 6	1 0
Odontoglossum			Spiræa, doz. bun.	2 0	4 0
crispum, 12 bm.	2 0	6 0	Stephanotis, 12 sps.	1 6	2 0
			Tuberoses, 12 blms.	0 2	0 4

ORCHID-BLOOM in variety.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples, per sieve ...	4 0	5 0	Grapes, Muscat, Channel Islands, lb.	1 0	2 0
Cherries, whites, in variety, ½-sieve	7 0	10 0	Melons, each ...	1 6	2 0
— Blacks, do., do.	7 0	9 0	Nectarines, 1st size per doz. ...	12 0	
Currants, Black, ½-sieve... ...	6 6	6 9	— 2nd do., p. doz.	3 0	6 0
Red, ½-sieve ...	3 6	4 0	Peaches, 1st size, per doz. ..	10 0	12 0
Figs, per doz. ...	2 0	2 6	— 2nd do., doz.	3 0	4 0
Gooseberries, per half-sieve ...	2 0	2 6	— 3rd do., doz.	1 6	2 0
— dessert, in variety, per half-sieve ...	7 0	8 0	Pine-apples, St. Michael, each ...	2 0	5 0
Grapes, Alicante, per lb. ...	1 6	2 0	Raspberries, p. doz. punnets	2 0	2 6
— Hamburgh, lb.	1 6	2 6	Strawberries, (Queen's), per doz. 1 lb. punnets	18 0	21 0
— Muscats, English, per lb. ...	2 6	3 0			

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Beans, English, per ½-sieve ...	4 0		Peas, per sieve ...	3 0	4 0
Cucumbers, per dz.	2 0	3 0	Tomatos, home-grown, smooth, p. doz. lb. ..	4 6	5 6
Marrows, Vegetable, per doz.	1 0	1 6	— ordinary kinds, per doz. ...	3 0	4 0
Mushrooms, per lb.	0 6	0 8			
— (Outdoor), per half-sieve ...	3 6	4 6			

POTATOS.

Our market is now well supplied with home-grown. Prices vary between 5*s.* to 7*s.* per cwt. according to sample. At the moment demand is sluggish. *J. B. Thomas.*

SEEDS.

LONDON: *July 8.* — Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that to-day's seed market, as usual at this time of year, was as nearly stagnant as possible Fine new home-grown Trifolium, is now obtainable at very moderate figures. French prices for this article, are several shillings per cwt. above English. Small sowing orders come to hand for Mustard and Rape seed. Canary seed, being now cheaper than ever before known, attracts some speculative attention. Hempseed keeps dull. Peas and Haricots, in the absence of any demand for same, are well held. Linseed is flat.

POTATOS.

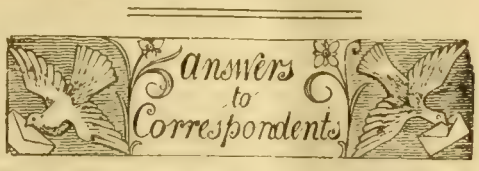
BOROUGH: *July 7.*—Quotations ranged from 4*s.* 6*d.* to 7*s.* per cwt, with a quiet trade.

SPITALFIELDS: *July 7.*— Quotations: — Hebrons, 90*s.* to 100*s.*; Dunbars, 100*s.* to 120*s.*; Early Rose, 90*s.* to 100*s.*; Jersey Kidneys, 100*s.* to 110*s.*; do., Flukes, 110*s.* to 120*s.*; do., Rounds, 90*s.* to 100*s.* per ton.

STRATFORD: *July 7.*—Quotations:—New: English, 4*s.* to 5*s.* 6*d.*; Jersey Kidneys, 4*s.* to 5*s.* 6*d.*; do. Flukes, 6*s.* to 7*s.*; Cherbourg, 5*s.* to 6*s.* 6*d.*; St. Malo Flukes, 5*s.* to 5*s.* 6*d.* and 7*s.*; Lisbon, 4*s.* to 5*s.* 6*d.*; Canary, 4*s.* to 6*s.* per cwt. Old: light-soil, 20*s.* to 40*s.*; Canary, 4*s.* to 6*s.* per cwt.

FARRINGDON: *July 9.*—Quotations:—Bedford Puritans, 5*s.* to 5*s.* 6*d.*; do., white Hebrons, 5*s.* to 6*s.*; do., reds, 5*s.* to 5*s.* 6*d.* per cwt.

LONDON MARKET AVERAGES: *July 8.*—Snowdrops, 110*s.* to 130*s.*; Hebrons, 100*s.* to 110*s.*; Early Regents, 100*s.* to 110*s.*; Early Roses, 100*s.* to 110*s.* per ton.



BINE OF CUCUMBER WITH FASCIATION: *W. W.* This appearance is usually the result of extreme vigour in the plants, for which, owing to the denudation of many of the shoots when the plants are cultivated under glass, there are but few outlets left. It seldom appears after the fertile ingredients in the soil are partially exhausted. Twin fruits are due to the same cause.

CHRYSANTHEMUM MANURE: *Chrysant.* The formula given would be suitable for using at the rate of 2 oz. to the square yard, or, say, a teaspoonful to a 10-inch pot once a fortnight from the time the pots are filled with the roots till colour be remarked in the buds. Fowls'-manure should be heated by throwing it in a heap against a wall under cover, covering it up with dry earth. It will in a few months lose much of its moisture, and decay will have set in. Fresh fowl's-dung is dangerous in use. When decayed it should be finely sifted and used as a top-dressing, but not heavily applied. Guano (Peruvian) may be used in the same manner, or a bag may be filled with it and suspended in a cistern or water-butt, along with another filled with soot. The water when used should be of a light-brown colour, and not muddy. Your third question is answered in these replies. Get *Artificial Manures*, by Ville, published by Longmans & Co., London.

COMPLETE INSTRUCTION IN CULTIVATING STRAWBERRIES, MELONS, AND CUCUMBERS, AND THE CONSTRUCTION OF GLASSHOUSES, &C.: *Prowie.* Such a *vade mecum* is the new edition of the *Gardeners' Assistant*, shortly to be published by Messrs. Blackie & Sons, London and Glasgow. The price will probably be under the sum named in your note.

CORRECTION.—Messrs. W. W. Johnson & Son, Limited, of Boston, the raisers of a new Pea, selected among a few others to receive an Award of Merit by the Fruit Committee of the Royal Horticultural Society which met at Chiswick on the 29th ult., inform us that their new Pea is called, and will be distributed as, "Boston Unrivalled," not as "Boston Unequalled," the name given in our note of the meeting appearing on p. 15.

ELECTRIC LIGHT, &C.: *Austria.* The reason why no other communications have appeared is probably because our growers do not see their way to make it pay. Something also must be attributed to our national apathy in the matter of the reception of new ideas and novel practices. Our American cousins find in some cases that it does pay for early forcing purposes. 2. The fertiliser you name seems deficient in potash, unless some is contained in the porphyry. Experience is the only test.

FOREST-GATE AND STRATFORD AMATEUR CHRYSANTHEMUM SOCIETY: *W. A. S.* The schedule of your monthly meetings for the current year is a satisfactory one, and calculated to produce some very interesting and instructive exhibitions at the various meetings. We may suggest that, instead of offering money-prizes at such meetings, it would be better to substitute medals or such like, that may be kept as souvenirs of the members' success. Thanks for the photos. We shall most likely reproduce one or both of them for the interest of our readers.

HYBRID PERPETUAL ROSES: *X. L.* Such a list as you require would be readily furnished by any good Rose nurseryman. It would occupy too much of our valuable space to be given here.

INSECTS: *J. W. T. Conistone.* The large caterpillar is that of the "Puss-moth" (Cerura vinula). *R. McL. —L. B. G.* The insect attacking your Dendrobiums is Xyleborus morigerus—in its perfect state a beetle. There is no better means of getting rid of it than by cutting away the parts affected and burning them.

JERUSALEM ARTICHOKE: *P. N.* You will find at p. 151 of the *Gardeners' Chronicle*, January 31, 1891, a note from Canon Ellacombe, which shows that in the seventeenth century the name Girasole was applied to the Ricinus or Palma Christi, and not to the Jerusalem Artichoke.

MALFORMED FUCHSIA BLOSSOM: *G. W. W.* The malformation is due to some check in an earlier stage of growth.

MELON FOLIAGE DISCOLOURED: *G. W. W.* The appearances are not of fungoid origin, but they point to either lack of timely ventilation after the sun has come out brightly, or to fumes from fermenting stable-litter, or to defective panes of glass.

NAMES OF FRUIT: *Tho. Kyte.* 1, is probably Elton Cherry; 2, Waterloo do.; 4, Black Eagle do.; 6, Werder's Black Heart do.; 8, Bigarreau Napoleon do. Cherries, unless they are seen on the tree, are difficult of recognition.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to be so good as to consult the following number.* — *R. W. W.* Vanda teres. — *W. W.* Tillandsia (Anoplophytum) stricta.— *W. H. D.* 1, Indigofera Gerardiana; 2, Cedronella triphylla (true Balm of Gilead); 3, Achillea decolorans; 4, Delphinium cashmirianum; 5, Cotyledon orbiculata; 6, Sedum oppositifolium.— *C. W. C.* 1, Carpinus Betulus, Hornbeam; 2, Potentilla fruticosa; 3, Genista radiata; 4, perhaps Gaultheria procumbens; 5, Alnus cordifolia.— *K. D.* Next week.—*A. L.* Next week.—*C. Walker.* Malva moschata, white variety.—*C. M.* 1, Magnolia conspicua, so far as we can tell without the flower; 2, Liriodendron tulipiferum, the so-called Tulip tree.—*Chester.* Euphorbia Lathyris, the Caper spurge.—*F. F.* 1, Funckia ovata; 2, Potentilla atrosanguinea var.; 3, Cytisus capitatus; 4, Acer pictum var. rubrum, the A. colchicum rubrum of gardens; 5, Acer dasycarpum var.; 6, Epilobium lancifolium, white.—*X. Y.* Schizanthus pinnatus. — *X. Y.* Allium Moly. — *W. J. W.* Utricularia vulgaris.—*C. H. J.* 1, Thalictrum minus; 2, Campanula next week; 3, Dactylis glomerata variegata; 4, Geranium pratense, double; 5, Lysimachia vulgaris; 6, Œnothera Fraseri; 7, Hesperis matronalis.

POOR-FLAVOURED MELONS: *E. A. M.* The fruits were either not true to name or the cultivation was at fault, or both. Good varieties are very frequently spoiled in flavour by the excessive application of water at the root, made with the idea of obtaining great size in the fruits, and this end is reached at the expense of flavour.

REPORTS OF MEETINGS: *J. D. S.* Brief accounts of such society meetings are very acceptable.

SPRUCE-GALLS: *A. P. H.* The galls are the work of an insect—Chermes abietis. They greatly disfigure and injure the tree. Cut off the affected shoots so far as possible, and burn them.

STRAWBERRIES: *Sir C. S.* Carolina superba.

"TOMATO CULTIVATION," BY MR. GRAY: *P. F. S.* We cannot inform you if the paper you mention will be published; and we should advise your applying to the secretary of the society for information on this head.

VRIESEA—VRIESIA: *O., Amsterdam.* The *Index Kewensis*, which is henceforth our guide till a more excellent way is shown, writes Vriesia, which we presume, was the original spelling of the founder of genus, and which is perhaps more classical. Vriesea is more in accordance with the vernacular. *Utrum horum mavis accipe!*

COMMUNICATIONS RECEIVED. — M. C. C.—Laxton Bros. — A. W. S.—E. A. Chambésy.—R. G. J. D.—R. D.—G. H.— E. M.—J. H.—J. W.—J. M.—J. C. H.—A. D. & Sons.— R. L. H.—W. K.—T. B.—J. C. H.—D. R. W.—J. D.—J. A. J. O'B.—A. D.—M. E. M.

PHOTOGRAPHS, SPECIMENS, &C., RECEIVED WITH THANKS.— C. Collett.—A. W. S., the photograph will not bear reproduction.—Mrs. D. W., many thanks, already figured at p. 186, August 12, 1893.—W. A. S.—R. L. H.—J. B.— F. H. M.—C. C.

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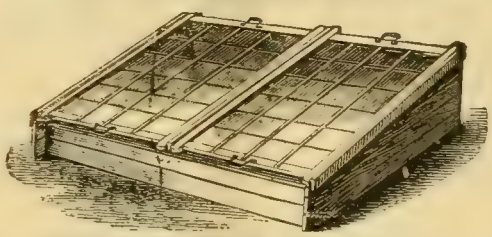
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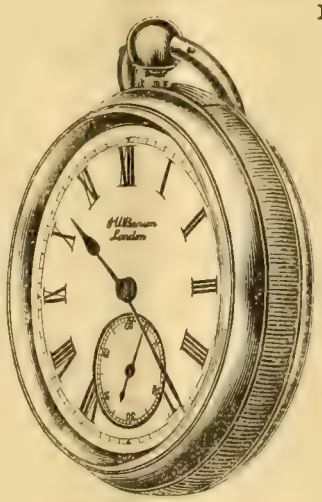
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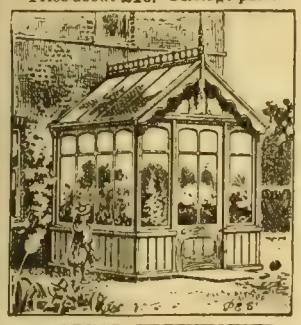
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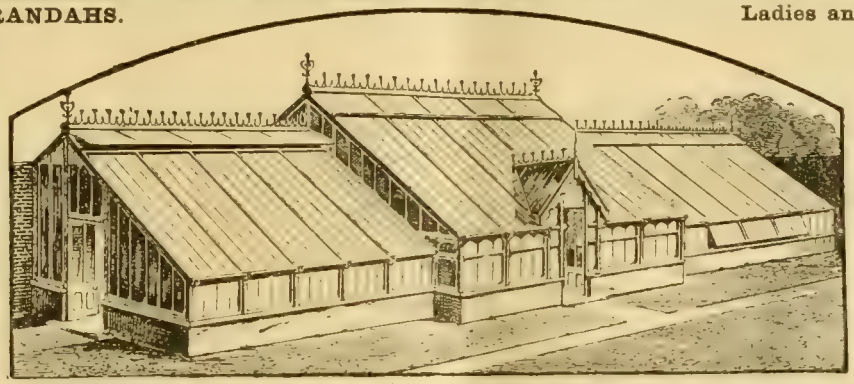
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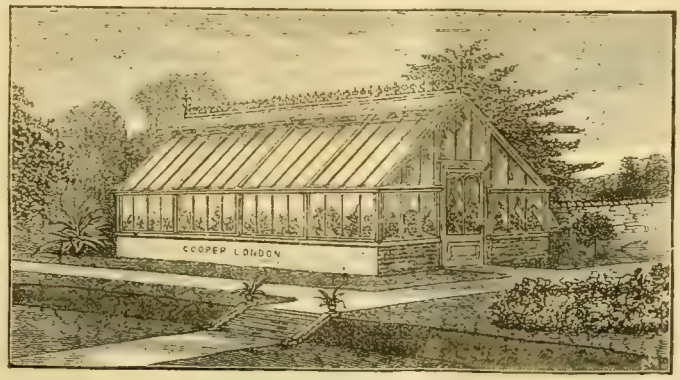
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W. COOPER, LTD., HORTICULTURAL PROVIDERS, 755, OLD KENT ROAD LONDON, S.E.

GARDEN NETTING, Tanned, Rotless, and Weather-proof.
Protect your Gardens from the Ravages of Birds.

100 yards by 1 yard wide,			3s.	200 yards by 2 yards wide,			12s.
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ANDREW POTTER, Melbourne Works, Wolverhampton.

EPPS'S A1 PEAT
(SELECTED specially for ORCHIDS),
Also for Stove & Greenhouse Plants, Hardwood Ferns and Rhododendron do. (Trade supplied).
LOAM, SAND, LEAF MOULD, C. N. FIBRE, CHARCOAL, SPHAGNUM MOSS, &c. PEAT sent to all parts of the world at Special Through Rates. Large or small quantities.
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THE GARDENERS' CHRONICLE

PUBLISHER'S NOTICES.

GARDENERS' CHRONICLE TELEGRAMS.—*The Registered Address for Foreign and Inland Telegrams is "Gardchron, London."*

ADVERTISEMENTS.

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8	,, ..	0	5	0	19	,, ..	0	10	6
9	,, ..	0	5	6	20	,, ..	0	11	0
10	,, ..	0	6	0	21	,, ..	0	11	6
11	,, ..	0	6	6	22	,, ..	0	12	0
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GARDENERS AND OTHERS WANTING SITUATIONS. *26 words, including name and address, 1s. 6d., and 6d. for every additional line (about nine words) or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, which are charged at the ordinary scale.*

NOTICE TO ADVERTISERS.—*In many instances Remittances in Payment of Repeat Advertisements are received without name, address, or anything beyond the postmark on envelope by which to identify the sender; this in all cases causes a very great deal of trouble, and frequently the sender cannot be identified at all.*

Advertisers are requested when Remitting to give their Names and Addresses, and also a Reference to the Advertisements which they wish repeated.

POSTAL ORDERS.—*To Advertisers, Subscribers, and Others.—It is very important in remitting by Postal Order that it should be filled in payable at GREAT QUEEN STREET, London, W.C., to* H. G. COVE, *as, unless the number of a Postal Order is known, and it has been made payable at a particular office, and to a particular person, it is impossible to prevent any person into whose hands it may fall from negotiating it.*

N.B.—The best and safest means of Remitting is by POST-OFFICE MONEY ORDER.

Advertisements for the current week MUST *reach the Office by first post, Thursday morning.*

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements, 41, WELLINGTON STREET, STRAND, W.C.

ROYAL HORTICULTURAL SOCIETY'S
EXAMINATIONS IN GARDENING.
"Coaching" by Correspondence arranged for intending Candidates unaccustomed to write papers. Fees moderate, to suit Practical Gardeners.
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TWO-AND-A-HALF per Cent. INTEREST allowed on DEPOSITS, repayable on demand.
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The BIRKBECK ALMANACK, with full particulars, post-free. FRANCIS RAVENSCROFT, Manager.

W. H. DIVERS, Belvoir Castle Gardens, THANKS the NUMEROUS APPLICANTS for JOURNEYMAN'S SITUATION, which is NOW FILLED, and regrets that, owing to the large number, he is quite unable to reply to each one separately.

PARTNER WANTED, with £1,500, by a Gentleman, in a NURSERY BUSINESS (Orchids a specialty). South Coast watering-place. First charge given as security. — Apply to R. GRAHAM, Esq., 8, Drapers' Gardens, London, E.C.

County Borough of Wolverhampton.
PARKS and BATHS COMMITTEE.
WANTED, a PARK-KEEPER, for the New East Park. Wages, 25s. per week, with Lodge and Uniform. Applications, with three recent testimonials, to be sent in to the undersigned by Saturday, July 18, 1896.
J. W. BRADLEY, C.E., Borough Engineer and Surveyor. Town Hall, Wolverhampton, July 8, 1896.

WANTED, AT ONCE, a KITCHEN GARDENER, with knowledge of Horses, Cows, and Poultry. Assistance given. Age under 40. Wife good Laundress. Without family preferred.—Mr. B., 6, Queen's Road, Clapham Park, S.W.

WANTED, TWO young MEN, as UNDER GARDENERS, for Inside and Out. An Improver, 13s. per week; the other must thoroughly understand Cows, make himself generally useful, 16s. Both must be able to Milk.—Apply to The GARDENER, Fairhill, Coventry.

WANTED, FOREMAN ORCHID CULTIVATOR.—Must have large experience Good salary to competent Man.—Apply to A. B., 41, Wellington Street, Strand, W.C.

WANTED, middle-aged MAN, as WORKING FOREMAN (Married), to take charge of Nursery.—Must thoroughly understand Outdoor Stock and Glass. One from a nursery preferred. Two good references required. —Address, YOUNG AND DOBINSON, Holmesdale Nurseries, Stevenage, Herts.

WANTED, as FOREMAN, experienced grower of Stove and Greenhouse plants, &c.—Apply by letter only, giving full particulars to W. HAWKINS, Wooburn House, Maidenhead.

WANTED, practical MUSHROOM GROWER for Market. — Apply, stating age and wages, to BARRON, The Moat, Ponders End, N.

WANTED, an Assistant ROSE GROWER, at once.—Apply, with references, &c., to ENGLISH FRUIT AND ROSE COMPANY (CRANSTON'S), Ltd., King's Acre Nurseries, Hereford.

WANTED, AT ONCE, a MAN for a small Nursery. Must understand Stove and Greenhouse Plants, and a few Orchids.—Apply to H. NEWMAN, Florist, Gorleston, Great Yarmouth.

WANTED, a MAN accustomed to Propagation of Heaths in large quantities. State where previously employed and wages required.—Apply to E. ROCHFORD, Mill Lane Nurseries, Cheshunt, Herts.

WANTED, an active young MAN, to take charge of a set of Plant Houses under the Principal. One with a fair knowledge of Propagating and Fern Raising, from a market nursery preferred; state age, wages, and experience, with testimonials, to—TURNER BROS., Nurserymen, Garston, Liverpool.

WANTED, in a small Nursery, experienced and energetic young MAN, well up in Herbaceous Plants and Shrubs, and able to Propagate extensively. With some knowledge of the trade preferred. State age and wages. —Z., 41, Wellington Street, Strand, W.C.

WANTED, TWO Good JOURNEYMEN, for Inside and Out, age about 20, with good reference. Wages, about 13s. to 14s. a week, with bothy.—J. McPHUN, Isleworth House, Maidenhead.

WANTED, at ONCE, a reliable young HANDY-MAN, to take entire charge of a Small Garden and Greenhouse, not under 35, married, and without encumbrance. Wife must undertake a little plain Laundry-work. No kitchen garden. Cottage provided.—Apply, stating references and wages expected, by letter only, MANAGER, Queen's Hotel, Richmond, Surrey.

WANTED, strong, willing YOUTH for Vineries and Conservatory. Under Foreman; 13s. per week with bothy, milk, and vegetables. Age and particulars to J. LEE, Gopsall Gardens, Atherstone.

A VACANCY has arisen for an active, energetic Young Man, of good address, to Assist in a CORN and SEED BUSINESS, and make himself generally useful. Good references will be necessary, and a knowledge of the Turnip Seed Trade is desirable. A liberal salary would be given to a suitable applicant.—Address, "B. D." Subscription Room, Old Corn Exchange, Mark Lane, E.C.

WANTED, HEAD SHOPMAN, for an old-established Retail Nursery and Seed Business in the West of Scotland.—Must be a man of experience, who can take charge of the Seed Department, and travel when required. To a person capable of extending the business every encouragement and a liberal salary will be given.—Address applications to SEEDSMAN, care of Peter Lawson & Son, Limited, Edinburgh.

WANTED, an energetic young MAN, in a Florist, Fruiterer, and Seedsman's Shop in the Provinces. Must have had good general experience, as he would have to superintend some branches, and assist in others.—Full particulars to "GOAHEAD," 41, Wellington Street, Strand.

WANTED, a smart YOUTH, to look after Horse and Trap, and make himself generally useful in the Nursery. Wages, 12s., and bothy. Also, an IMPROVER, for Outside. Wages, 12s., and Bothy.—Apply, TURNER BROS., Nurserymen, Hale, near Liverpool.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

Advertisers are cautioned against having Letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

THOMAS BUTCHER can recommend several HEAD and UNDER GARDENERS of first-rate character and proved ability. Gentlemen seeking such may have particulars free.—Apply to THOMAS BUTCHER, Seed Merchant and Nurseryman, Croydon.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

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DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. All particulars on application.
Telegraphic and Postal Address—"DICKSONS, CHESTER."

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—
F. SANDER AND CO., St. Albans.

GARDENER (HEAD).—Situation required, by a thoroughly experienced man, in all branches of Gardening. Land and Stock if required. Excellent character. —R. H., Crow Nest Park, Lightcliffe, Halifax.

GARDENER (HEAD).—Age 40, single; thoroughly experienced; or Foreman not objected to for Private or Nursery.—C. S., Lindon Villa, Gruneisen Road, Finchley, N.

GARDENER (HEAD). — Thoroughly experienced; six years at Berwick Gardens in same capacity. Technical Instruction could be given to young Gardeners in Practical and Scientific Horticulture, &c. Young men at Berwick gained fourteen Science Certificates chiefly under advertiser's tuition.—ALFRED GAUT, 13, Benyon Street, Shrewsbury.

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GEO. ABBEY, Avery Hill Gardens, Eltham, Kent, can with every confidence highly recommend his General Foreman as HEAD GARDENER, who has had six years thorough practical experience in every branch of the profession here, and nine years in two other first-rate situations.

GARDENER (HEAD WORKING).—Age 33, married; eighteen years' practical experience in all branches. Copies of references forwarded. — KEMP, care of J. Russel, The Old Nurseries, Brentwood,

GARDENER (HEAD WORKING), where more are kept. — Married, no family; thorough practical experience in all branches, Inside and Out. Good character. —A. B., County Oak, Crawley, Sussex.

GARDENER (HEAD WORKING).—Middle-aged, no family; thoroughly understands Forcing all kinds of Fruits (Inside and Out), also Kitchen and Flower, and Meadow Land. Six years' good character. No Circulars. —L. M., 54, Burlington Road, Enfield.

GARDENER (HEAD WORKING), where three or more are kept.—WM. GARMAN, Manager, Frythesden Gardens, Great Berkhamsted, highly recommends his Foreman, CHARLES HOWARD, age 30, married, one child, to any Lady or Gentleman requiring the services of a practical Gardener. Two years in present place. Experienced in all branches.

GARDENER (HEAD WORKING, or good SINGLE-HANDED).—Age 26, married, no family; life experience, Inside and Out. Good character.—H. DALE, 30, London Road, Boxmoor, Herts.

GARDENER (HEAD WORKING).—Practical, energetic, and reliable Man, with high references, for either private or Market Growing of all classes of Flowers, Fruit, and Vegetables. High moral character.—E. N., Grosvenor House, Western Road, Mitcham, Surrey.

GARDENER (HEAD WORKING), where two or more are kept.—Age 26, single; twelve years' experience. Good character.—T. JACKSON, Weston Park, Stevenage, Herts.

GARDENER (HEAD WORKING, where not less than four are kept).—Age 35, married, no family; thoroughly experienced in all branches. Abstainer. Good references.—B. H., 87, Waldeck Street, Reading.

GARDENER (HEAD WORKING); age 28.—WM. CRUMP, Steward to the Misses Goldsmid, Tongswood, Hawkhurst, Kent, desires to recommend his general Foreman to any Lady or Gentleman requiring the services of a steady, persevering, reliable man.

GARDENER (HEAD WORKING.)—Thoroughly experienced in all branches of the profession; first-class Rose-grower; twelve years' present situation.—J. GROVESTOCK, Ayot Green, near Welwyn, Herts.

GARDENER (good SINGLE-HANDED, or where help is given). — Six years' good character. Well recommended.—R. WEST, 1, Belmont Cottages, Bisley Old Road, Stroud, Gloucestershire.

GARDENER (SINGLE-HANDED, or where one or two are kept.)—Age 29; well up in the cultivation of Fruit, Flowers, and Vegetables; Inside and Out. Excels in Cyclamens, Ferns, Pelargoniums, Roses, and Chrysanthemums. Highly recommended.—G. GREEN, Green Lane, Datchet.

GARDENER (SINGLE-HANDED, or where help is given).—Age 27, single; twelve years' experience Inside and Out; one year and ten months' good character, five years previous.—C. ALLEN, 6, Beechfield Cottages, Widmore Road, Bromley, Kent.

GARDENER (SINGLE-HANDED, or where help is given.—Age 27, married; good general experience. Total abstainer.—X. Y., 5, Riverdale Cottages, Hanworth, Middlesex.

GARDENER (good SINGLE-HANDED, where help is given).—Age 30, single; life experience in all its branches; also Glass. Good character.—H. B., 164, Iverson Road, West Hampstead, N.W.

GARDENER (SINGLE-HANDED). — Age 25, single; five years in last situation; good references; steady.—J. STAPLES, W. Barkwith, Wragby, Lincoln.

GARDENER (SINGLE-HANDED), or otherwise.—Age 24, single; thorough knowledge of good all-round Gardening. Excellent characters from last and previous employers. Abstainer.—W. BUTCHER, 3, Denzil Road, Neasden, London.

GARDENER (SINGLE-HANDED).—W. J. PREWETT, Frensham Place Gardens, Farnham, can highly recommend a young man as above, age 27, single; good knowlege of Fruit, Flowers, and Vegetables; excellent character.

GARDENER.—Age 28; good character. Experienced.—E. WRIGHT, Market Weston, near Thetford, Norfolk.

GARDENER.—Age 27; life experience in Soft-wood, Ferns, Stove, Carnations, Tomatos, Lily of the Valley Forcing, other Bulbs, &c. Good testimonials.—C. C., 3, Edward Road, Hampton Hill.

GARDENER, where one or more is kept.—Married; experienced in all branches. Good recommendations.—CHARLES SKINNER, Pinkney, near Malmesbury, Wilts.

GARDENER (SECOND), wants situation.—Five years' experience, Inside and Out.—H. WARREN, Mamhead Garden, near Exeter, South Devon.

GARDENER (SECOND), in a good establishment. Age 26; two years' character from present situation.—C. DUNN, The West Lodge, Eversley Park, Winchmore Hill, London, N.

GARDENER (SECOND, or otherwise). — Age 27, single; eleven years' practical experience in the general routine of Gardening, including two years as First Journeyman Inside. Well recommended. Abstainer. No circulars. — BEESON, 87, High Street, Notting Hill Gate, London, W.

GARDENER (SECOND), where four or five are kept.—Age 26, single. Three years Inside and Out, Eight years previous. Kitchen Garden.—C. THORNTON, Albury, Guildford, Surrey.

GARDENER (SECOND), where two or three are kept.—Married, no family; thoroughly understands his work. Good character. — W., Chapel Cottage, Thames Ditton, Surrey.

GARDENER (SECOND), or JOURNEYMAN (FIRST).—Age 28; well up in Vines, Cucumbers, Tomatos, Stove and Greenhouse Plants, &c. Fourteen years' experience; highest references.—H. R., West Street, Ewell, Surrey.

GARDENER (UNDER, or SINGLE-HANDED).—Age 20. Five years' experience. Good character.—W. HILL, near the "Rose and Crown," Enfield Highway, Middlesex.

GARDENER (UNDER).—Young Man, age 20, seeks situation in the Houses; good reference.—A. BRANCH, The Gardens, West Leigh, Havant, Hants.

GARDENER (UNDER), Inside and Out.—A Lady wishes to recommend young man (age 19), as above. Strong and willing. Four years' character.—Miss H. KERRICH, Arnolds, Hayward's Heath.

GARDENER (UNDER).—Age 20; good reference. Total abstainer; experienced both Inside and Out.—J. LINIS, 109, Durham Road, Tollington Park, London, N.

GARDENER (UNDER), or JOURNEYMAN (FIRST), Inside or Inside and out.—Age 22; good characters. Disengaged.—E. ROGERS, 158, Sunny Hill Road, Streatham, S.W.

N. SUTTON, Gardener, Brandfold, Goudhurst, Kent, will be pleased to highly recommend GEORGE WHITE to any Gardener requiring a thorough practical and trustworthy man. Well up in Plant and Fruit-growing, &c.

To Nurserymen.

GROWER.—Age 27; life experience; Ferns and Palms a specialty. Good reference.—SOLOMON, 1, Shakespeare Cottages, Church End, Finchley.

GROWER and PROPAGATOR, or General Foreman where large quantities of Plants and Cut Flowers are grown for Market.—F. WEBB, Hillingdon Heath, near Uxbridge, Middlesex.

PROPAGATOR and GROWER, or MANAGER of Branch Establishment.—Advertiser, age 30, pushing and energetic, desires provincial re-engagement. Well-up in Tomatos, Cucumbers, Bulbs, Lily of Valley, Double Primulas, Cyclamen, Mignonette, and general collection of Stove and Greenhouse, Pot and Cut Stuff.—ENERGY, 41, Wellington Street, Strand, London, W.C.

KNIFESMAN, General, Outside.—Age 23; successful Budder and Grafter. Eight years' experience. Situation must be permanent.—A. B., 48, Portland Street, Northampton.

ROSE and FRUIT BUDDERS.—Two young men (Danes), with good experience in above; also in Grafting, Pruning, &c., want situations. — KRAGH, Ivy Cottage, Ham, Surrey.

PROPAGATOR (GENERAL) and FOREMAN (Working), SALESMAN if required. — Thirty years' practical experience in Rhododendrons, Coniferæ, Clematis, Roses, and all kinds of Shrubs, &c.—T. C., Rose Cottages, Ottershaw, Chertsey.

GROWER (or SECOND), in Ferns, Palms, General Market Stuff, &c.—A young man, age 25, ten years' experience, seeks situation as above. First-class testimonials.—W. DYHR, 2, Barry Road, East Dulwich, S.E.

CUCUMBER GROWER.—Also understands Tomatos, Grapes, Chrysanthemums. Age 21. Eighteen months in last situation.—Apply by letter, with full particulars, to W. G., care of Miss Chinnock, Brighton Road, Worthing, Sussex.

NURSERY FOREMAN, PROPAGATOR, and GROWER.—Thirty years' practical experience in Roses, Clematis, Chrysanthemums, Ferns, Palms, Carnations, Forcings for Cut Flowers, Cucumbers, Tomatos, Melons, and General Nursery Stuff.—Replies in first instance to B. M., 4, Rock Terrace, Clifton Hill, Bristol.

FOREMAN, in a good establishment.—Mr. W. BIRKINSHAW, The Gardens, Bridehead, Dorchester, can highly recommend his late Foreman as above, who has had thorough practical experience.—S. BAKER, Broad Clyst, Exeter.

FOREMAN (GENERAL).—Protestant, age 28; has excellent training in Fruit Growing, Furnishing, and Growing Plants for same; previous in a good establishment as above.—H. HARRIS, West Clandon, Guildford, Surrey.

FOREMAN, in good establishment.—Age 26. T. PATTISON, Head Gardener to the late Major Gray, Esq., Tunstall Hill, West Hartlepool, highly recommends his Foreman, G. Frost. Thirteen years' experience in first-class places. Highest references.—Please apply as above.

JOURNEYMAN, in the Houses, under Foreman.—Age 21; seven years' experience. Good references. Five years' in present situation.—A. H., 56, Eastbourne Road, Birkdale, Southport.

JOURNEYMAN, in the Houses, under Foreman.—Age 21; six years' experience. Good references. Disengaged. — HENRY SKITT, Providence Grove, Upper Pulley, Shrewsbury.

JOURNEYMAN, Inside, or Inside and Out.—Age 21; seven years' experience.—T. OLIVER, Church Place, Great Bookham, Leatherhead.

JOURNEYMAN (FIRST).—Inside. Age 21; about two years' good reference from Mr. C. MARTIN, Head Gardener to Viscount HAMPDEN.—E. HAYWOOD, Melbourn Road, Royston, Cambs.

JOURNEYMAN, in good Establishment, or as SECOND of four.—Young man requires situation as above. Good character from present and previous employers. Inside, or Inside and Out.—PYEL, Under Gardener, Thorne House, Yeovil.

JOURNEYMAN, Inside and Out.—Age 22; eight years' experience. Over two years in last situation. Good references.—F. C., 2, Burleigh Terrace, Winchmore Hill, Middlesex.

JOURNEYMAN; age 20. — W. REDDEN, care of Mr. TIBBLES, Werneth Park, Oldham, seeks situation as above. Well up in Plants and Fruit. Excellent references. Willing and obliging.

JOURNEYMAN.—Mr. COATES, Darnhall Hall Gardens, Winsford, Cheshire, would be pleased to recommend a young man, age 22, as above. Six years' experience.

APPRENTICE. — A GENTLEMAN wishes to Apprentice his Son, aged 16½, in some establisnment where he would learn Market Gardening, Fruit Growing, &c., for profit. Please state all particulars, premium, and references. —JOSEPH ROGERS, Esq., Martley, Worcester, England.

APPRENTICE.—To place a young Man as an Apprentice in a good Gardening Establishment.—Apply with terms to J. FAIRWEATHER, Havistock, Kelvedon Common, Brentwood.

IMPROVER (age 19), seeks situation Inside, or Inside and Out, in Nursery or Private Establishment. Bothy preferred.—A. WESTWOOD, Theydon Bois, Epping.

IMPROVER, Inside and Out.—Age 20; last situation ten months, and five years previous. Can be well recommended.—V. ROBINSON, Essex Road, Hoddesdon, Herts.

IMPROVER.—Young Man, aged 18, desires situation in General Gardening. Slight knowledge of Greenhouse. Good references.—H. S., Dulce House, Bath Road, Banbury.

TO HEAD GARDENERS.—Young Man, age 22, six years' good experience Inside and Out, seeks situation as UNDER GARDENER.—Kindly apply to K., 1, St. James's Cottages, Squirrels Heath, Romford.

TO GARDENERS.—Young man wants place in Garden. Age 21.—J. SKINNER, 3, York Villas, Birkbeck, Enfield, Middlesex.

TO GARDENERS.—Gardener's son (age 21), strong and obliging, life experience Inside and Out, desires re-engagement in a good private establishment or Nursery. Well recommended.—J. COOK, 9, Argyll Street, Bedford.

TO NURSERYMEN.—Situation wanted, by young man, age 22, Inside; seven years' experience; good references.—7, Dagmar Street, Worthing.

TO NURSERYMEN.—Young Man (age 26). Good experience amongst Ferns, Palms, &c. Eleven years' in foreign Nurseries; twelve months in London Market. —A. STANFERT, Mr. G. Lange, Hampton, Middlesex.

PAINTER, GLAZIER, &c. — Young Man seeks employment as above. Permanency. Please state wages. Can have a good character.—ALLEN ANSELL, Manning Heath, near Horsham, Sussex.

To Horticultural Builders and Heating Engineers.

CLERK, DRAUGHTSMAN, or MANAGER. —A Gentleman of long experience, thoroughly efficient in all branches, requires an appointment as above. Moderate salary.—EXPERT, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

TO FLORISTS.—Situation wanted by a respectable youth in a Florist's; age 17; willing to make himself useful. Wages 10s. per week.—R. J. P., 41, Wellington Street, Strand, W.C.

TO FLORISTS.—A young Lady seeks situation in a good Florist's as SECOND HAND. City experience, and knowledge of Book-keeping. State wages. London preferred.—E. HOPTROFF, Langton Green, Tunbridge Wells.

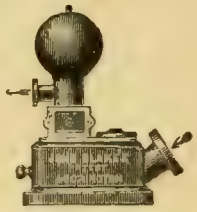
Send for Illustrated List (No. 27) of

JOHN BLAKE'S PATENT SELF-ACTING HYDRAULIC RAMS.

FOR
RAISING WATER
FOR THE
Supply of Towns, Villages, Irrigation, Railway Stations, Mansions, Fountains, Farms, &c.

No cost for Motive Power, which is obtained from a Stream of Water passing through the Ram. No Oiling or Packing required. Made in Sizes to raise from **300 to 300,000 gallons per day.** Will force to a **Height of 800 feet.**

FIG. A.

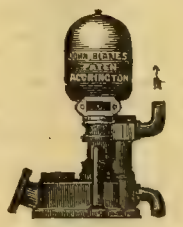


This Ram raises a portion of the same water that works it.



View of Ram worked by Water from a spring, and supplying the house and garden on the hill.

FIG. B.



This Ram, whilst worked by a stream of impure water, will pump clean water from a well or spring.

FOR
RAISING WATER
FOR THE
Supply of Towns, Villages, Irrigation, Railway Stations, Mansions, Fountains, Farms, &c.

No cost for Motive Power, which is obtained from a Stream of Water passing through the Ram. No Oiling or Packing required. Made in Sizes to raise from **300 to 300,000 gallons per day.** Will force to a **Height of 800 feet.**

BLAKE'S HYDRAULIC RAMS have been supplied to the following amongst others:—

His Royal Highness the Duke of Connaught
His Highness the Maharajah of Kashmir
His Grace the Duke of Devonshire
His Grace the Duke of Westminster
His Grace the Duke of Cleveland
His Grace the Duke of Portland
His Grace the Duke of Sutherland
His Grace the Duke of Leeds
His Grace the Duke of Marlborough
His Grace the Duke of Grafton
The Most Hon. the Marquess of Ripon
The Most Hon. the Marquess of Downshire
The Most Hon. the Marquess of Abergavenny
The Most Hon. the Marquess of Londonderry
The Most Hon. the Marquess of Cholmondeley
The Right Hon. the Earl of Derby
The Right Hon. the Earl of Devon
The Right Hon. the Earl of Gainsborough
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The Right Hon. Lord Hampton (Trustees of)
The Right Hon. Lord Burton
The Right Hon. Lord Abinger (Executors of)
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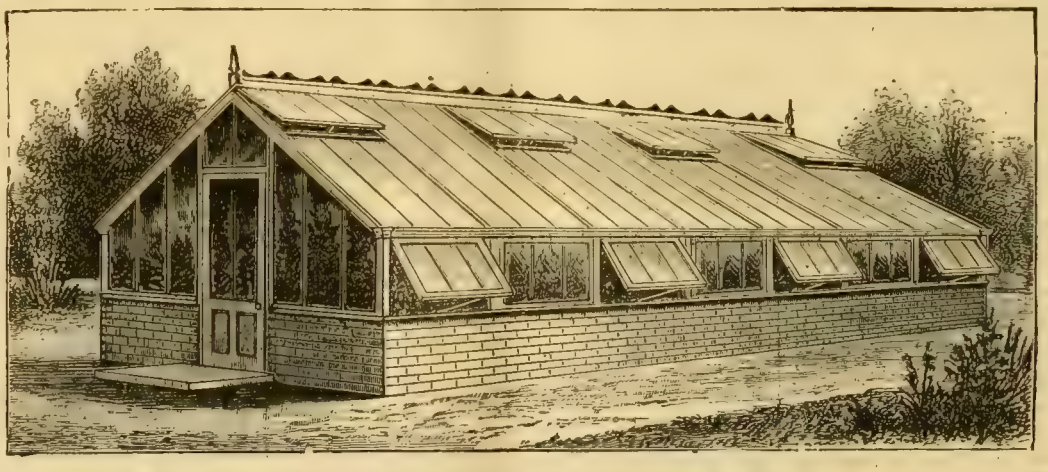
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The Gardeners' Chronicle

ESTABLISHED 1841.

No. 2899.

No. 499.—Vol. XX. { Third Series. } SATURDAY, JULY 18, 1896. [Regt. as a Newspaper. { PRICE 3d. Post-free, 3½d.

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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

THE TWO GRAND NEW VIOLETS, CALIFORNIA, PRINCESS OF WALES.
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Friday Next.

By order of Mr. J. W. Moore, Eldon Nursery, Bradford.

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MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, July 24, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY NEXT, July 24, at half-past 12 o'Clock, IMPORTED ORCHIDS, by order of Messrs. W. L. Lewis & Co., Southgate, CATTLEYA ACLANDIÆ, a nice lot; C. CRISPA; CYCNOCHES CHLOROCHILON, in good order; ONCIDIUM PAPILIO MAJUS; O. FORBESII; SOPHRONITES GRANDIFLORA; ODONTOGLOSSUM ROSSII MAJUS; O. MADRENSE, &c. The Sale will also include 200 lots from Mr. P. McArthur, 4, Maida Vale, W.

On view morning of Sale, and Catalogues had.

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270,000 KENTIA FORSTERIANA.

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Friday Next.

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MESSRS. PROTHEROE AND MORRIS will include the above in their SALE on FRIDAY NEXT, July 24.

On view morning of Sale, and Catalogues had.

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19,500 Bulbs, 5 to 7 inches
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Compact Homestead, situate at Sutton, comprising a Detached Residence, with large Yard, Stabling, Lofts, Barn, Packing Sheds, Stores, Cart Houses, and Outbuildings, with Gardens, Meadow, Orchard, &c. Area about 1a. 3r. 26p. Copyhold of the Manor of Heston.

A tract of Land situated at Sutton. Area 6a. 0r. 0p. Planted with Fruit Trees and Bushes. Copyhold of the Manor of Heston.

Piece of Freehold Land adjoining last lot, containing about 9a. 2r. 37p., planted with Fruit Trees, Gooseberry Bushes, and Currants, possessing an immense frontage to main roads, within a few minutes of the Heston Hounslow District Railway Station.

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Beneficial Interests in Leases of Sutton Orchard, containing 9 acres.

Market Garden Land known as "Salmon's Ground," New Heston, containing about 5a. 1r. 24p., planted with young Fruit Trees and Bushes.

"The Rides," Heston, containing 12 acres, planted with young Fruit Trees and Bushes.

Pieces of Land with the Fruit Trees, Bushes, and Strawberries, situate at Lampton, containing 11a. 3r. 29p.; piece of Meadow Land adjoining the above, containing about 2a. 0r. 0p.

Pieces of Arable Land fronting Sutton Lane known as Sutton Fields, containing together about 10 acres.

Lyon's Close, containing about 3a. 0r. 28p.; also the Land adjoining, containing about 8a. 3r. 12p., with an approach from the Lampton Road.

Piece of Land, containing 8a. 2r. 26p., known as Barrack Field.

Holding situate at Sutton, Middlesex, and known as Hart's Farm, with Farmhouse-cottage, Farm-buildings, and Fruit and Arable Land; area about 47 acres.

Particulars, with conditions, had at the Red Lion Hotel, Hounslow; of HUGH R. PEAKE, Esq., Solicitor, 172, High Street, Hounslow, and at 2, Clement's Inn, Strand, London; and of Mr. WOODS, Auctioneer and Valuer, Hounslow.

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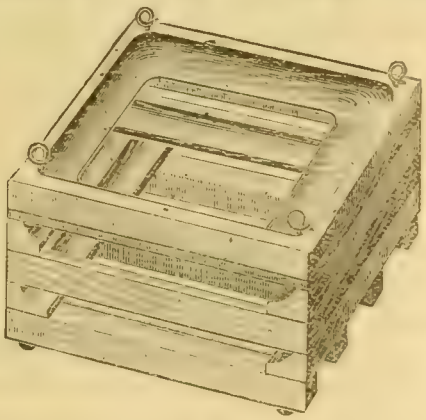
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ROYAL BOTANICAL GARDENS, MANCHESTER.
ANNUAL ROSE SHOW,
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Early Entries respectfully invited. Address, HON. SEC.

WELSHPOOL HORTICULTURAL SHOW and FETE, August 8, 1896.
In Powis Castle Park. Open to All.
J. LAMBERT, Secretary
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WESTON-SUPER-MARE FLOWER SHOW.—TUESDAY, August 11, 1896.
PRIZES—£200—PRIZES.
Schedules on application to—
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CARDIFF HORTICULTURAL SOCIETY.—The EIGHTH ANNUAL SHOW will be held in the Cardiff Exhibition Grounds on AUGUST 12 and 13.
PRIZES and SPECIALS, £300. Entries close August 4.
Space for Non-competitive Exhibits being limited, application must be made at once.
66, Woodville Road, Cardiff. H. GILLETT, Sec.

SHREWSBURY GREAT FLORAL FÊTE, August 19 and 20, 1896.
Schedules are now ready. The cash prizes offered in the Schedule amount to over £800.
H. W. ADNITT, W. W. NAUNTON } *Hon. Secs.*
The Square, Shrewsbury.

HUDDERSFIELD and DISTRICT CHRYSANTHEMUM SOCIETY.
The SIXTH EXHIBITION of the above Society will be held in the Town Hall, Huddersfield, on TUESDAY and WEDNESDAY, November 10 and 11, 1896. Schedules are now ready, and may be had on application.
Marsh, Huddersfield. JOHN BELL, Hon. Sec.

Excerpt from "Edinburgh Gazette" of July 3, 1896

NOTICE IS HEREBY GIVEN that the Firm of CROSS AND DONALDSON, SEED, OILCAKE, and MANURE MERCHANTS, Edinburgh and Belfast, of which the Subscribers were the sole Partners, has this day been DISSOLVED by mutual consent.
The Subscriber JOHN DONALDSON, is authorised to Collect all Debts due to, and will Pay all Debts due by, the Firm.
June 30, 1896.
ALEXANDER CROSS,
JOHN DONALDSON.
JOHN BLAIR, of 28, Charlotte Square, Edinburgh, Writer to the Signet, Witness.
ARCHD. OLIVER, of 28, Charlotte Square, Edinburgh, Solicitor Supreme Courts, Witness.

I take this opportunity of informing you that I intend carrying on the business of Wholesale Seed Merchant as hitherto, at my late firm's address, 24, St. Giles Street, Edinburgh, under the style of
JOHN DONALDSON & CO.,
and I trust to merit a continuance of your favours.—I am,
Yours faithfully, JOHN DONALDSON.

SPECIMEN GREENHOUSE TREES and PLANTS.—Noblemen or Gentlemen having in their possession Large Trees or Plants that have out-grown their available space, and which they would be willing to present to the New Public Winter Garden, lately completed at Sefton Park, Liverpool, about to be handed over as a gift to the Lord Mayor and Corporation of that city, are requested to communicate with Mr. H. HERBERT, Superintendent of Parks and Gardens, at Liverpool, who is authorised to defray all expenses attending the removal of any accepted plants.
The Plants most desired are the following:—Palms, 15 to 20 feet high; Tree Ferns, with good stems; Bamboos, Acacias, Araucaria excelsa, Rhododendrons, Eucalyptus, Yuccas, &c.
As the building is 70 feet high, and big in proportion, and has been built by Messrs. MACKENZIE & MONCUR, of Edinburgh, with every modern improvement, a happy home will be secured for any Trees or Plants presented as above
Address, Mr. HENRY HERBERT, Superintendent's Lodge, Sefton Park, Liverpool.

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Clean, healthy, well-grown plants at reasonable prices; many large specimens and rare varieties.

CHOICE DENDROBES A SPECIALTY.

PLEASE WRITE FOR LIST.

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"April 29, 1896. Dear Sir,—Accept my thanks for the tents, safely received to-day. I am very pleased with them.
"F. H. HILL, Duddingston Park, Portobello, Midlothian."
MARQUEES for Flower Shows, Sports, &c.—Made of best Tent Canvas, 30 feet by 16 feet, with Poles, Pegs, Runners Lines, Mallets, and Bags, all complete, ready for use, cash £14, cost £36.
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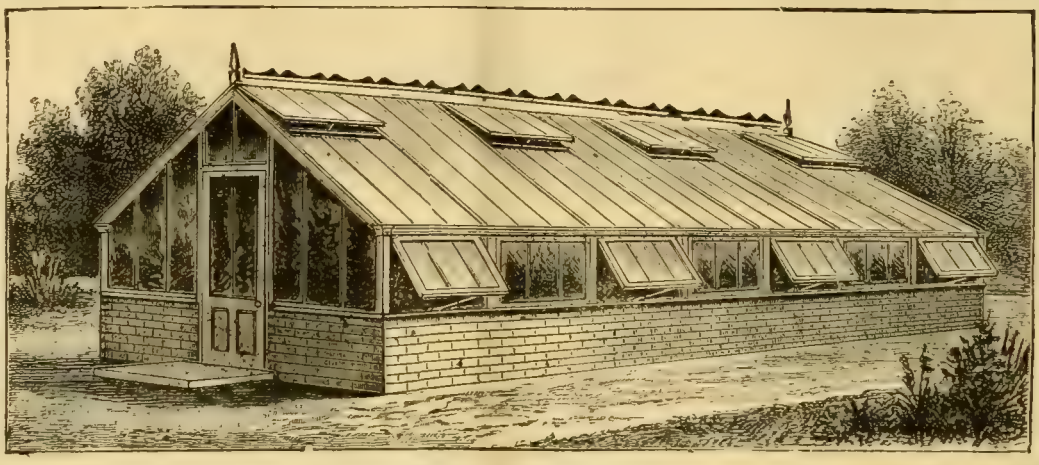
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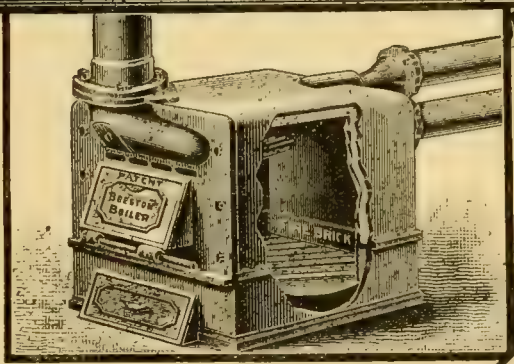
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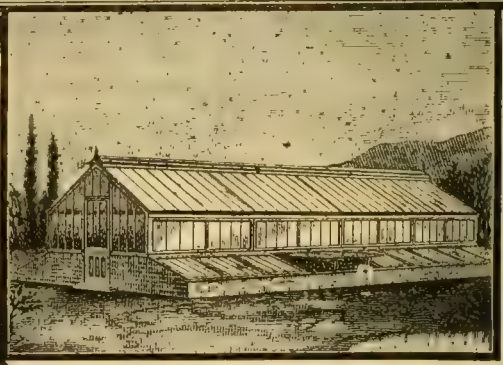


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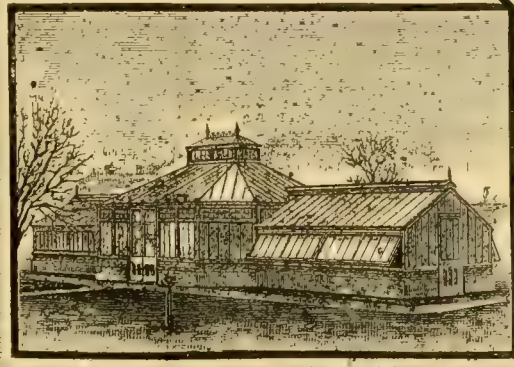
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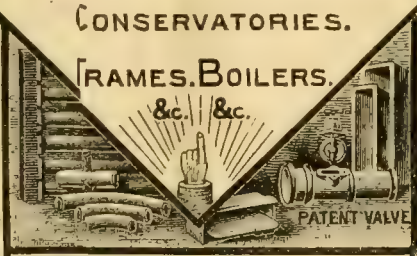
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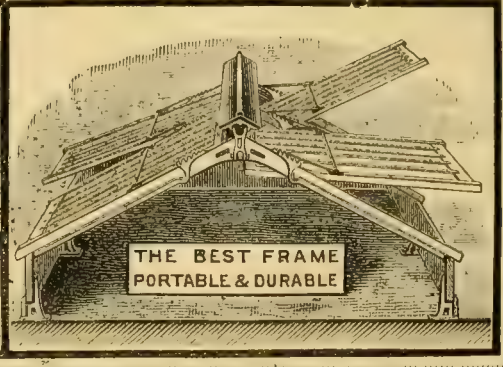


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BOUVARDIAS in great variety, 2s. per doz.

BEGONIAS.—The finest strains obtainable. Singles, 1s per dozen; Doubles, 3s. 6d per dozen.

GLOXINIAS.—Hethersett noted strains, and Emperor Frederick.

All packed on rail for cash with order.

JAMES GREEN, Reliance Nurseries, March.

FERNS!—FERNS!!

A large quantity of Small FERNS, nice bushy stuff, ready to pot on, or for decorative purposes, in 2½ inch pots.—Pteris cristata, nobilis, major, and tremula, at 9s. per 100; 500 and upwards, at 8s. 6d.

ADIANTUM CUNEATUM, in small thumbs, 10s. per 100.

In 48's, Pteris tremula, at 4s. 6d. per dozen.

Above prices are for cash with order. Packing Free.

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PTERIS TREMULA, in 48's ... ... 4s. per dozen.

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SAVAGE & SON, PLASHET NURSERY, EAST HAM.

MUNGO CHAPMAN, late of Easter Duddingston Lodge, Mid-Lothian, begs to intimate to his friends and acquaintances that he retires from his present situation on the 20th of the present month. He has arranged to reside at St. Ninians, near Stirling, where he intends to commence the Cultivation and Sale of Hardy Plants on his own account.

With the experience gained during twenty-four years in the management of one of the most choice private collections of plants to be found in the British Isles—that of the late Charles Jenner, Esq.—Mr. Chapman can confidently undertake to supply what is select and true to name of the most suitable plants for Borders and Rock-work.

He hopes to be able soon to issue a Plant Catalogue, from which customers may make their own selection. In the interval, he will be fully employed in getting up Stock.

May 19, 1896.

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All Garden Seeds Free by Post or Rail.

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PAPER-WHITE NARCISSUS	5s. ,,
DOUBLE ROMAN NARCISSUS	5s. ,,

For delivery in August.

UNNAMED, SECOND SIZE HYACINTHS, in separate colours	14s. 0d. per 100.
NAMED ditto, our selection	18s. 6d. ,,
SCARLET VAN THOL TULIPS	2s. 6d. ,,
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CHRYSOLORA TULIPS	7s. 6d. ,,
NARCISSUS, CYNOSURE	3s. 6d. ,,
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For August delivery. All orders over 5s. carriage paid.

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CATALOGUES ready in August.

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VAR. MARGUERITA MARWOOD.

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Awarded a First-class Certificate the only time exhibited.

Strong Plants in pots, 1s. 6d. each; 15s. per dozen.

Carriage and Packing free.

Sample Blooms sent on payment of Postage.

KENT and BRYDON, DARLINGTON.



THE

Gardeners' Chronicle.

SATURDAY, JULY 18, 1896.

RIDGEMONT FRUIT FARM.

ON the 9th inst., at the invitation of the Duke of Bedford and Mr. Spencer Pickering, a party of scientific men visited the experimental farm established by the Duke to settle various controverted points of practice, to ascertain which varieties are best adapted for commercial purposes and which most suited to local conditions. The cultural details are under the direction of Mr. Lewis Castle. The area occupied is about 20 acres, nearly level, rather exposed, and with a sandy loam soil overlying the Oxford clay. On a hot dry July day the soil was dusty, but in wet weather it is said to become pasty. The plantation has been established little more than a year, so that some considerable time must elapse before any definite results can be arrived at. In the meantime, the establishment is a model of good cultivation, and thus already affords an excellent object-lesson. The experiments have been planned and carried out, so far as circumstances will allow, with scientific precision. The soil has been analysed, and careful records taken, so that we shall ultimately have for fruit as exhaustive a mass of information as is now available at Rothamsted in the case of agricultural crops. Only a comparatively few varieties of each kind of fruit are grown (unless in the case of Strawberries). In this way the risk of the whole experiment breaking down under its own weight is partially obviated. But even under existing circumstances, the collation of the evidence obtained will be a serious undertaking. The general scheme of the experimental trials may be gleaned from the following notes.

At the present time the most striking features are those plots which are designed to show the effect of neglect. Two long plots are very conspicuous is this respect, the one where the planting has purposely been badly done and no care taken subsequently, the other where weeds of all kinds have been allowed to grow on the plots—the result of the struggle for existence in both cases is most striking throughout the whole length of the plots. The unfortunate fruit-trees are rapidly succumbing to starvation and other adverse circumstances.

A few miles off a series of experiments on agricultural crops has been carried on for some years under the auspices of the Royal Agricultural Society on the Duke of Bedford's land, under the direction of Prof. Voelcker, and on the same general lines as those at Rothamsted. So far as the action of manures is concerned, the results are broadly like those at Rothamsted, with slight variations from different local conditions.

Among other experiments are some made with a view of explaining the causes of Clover sickness, by inoculating the soil with bacteria from various leguminous plants, and then growing Clovers on the soil so treated. At

present the results are not conspicuous, but a crop of Lucerne is flourishing on land which will not at present carry Clovers. Considering the dearth of such experiment stations in this country, and the extreme importance of the results to be obtained, it is highly gratifying to see such work being carried out, work which will lay the cultivators in this country under profound obligation to the Duke, by whose enlightened direction the scheme has been thought out, and is in progress of realisation.

Apples.

Dwarf Trees. — For the following experiments (Nos. 1 to 180) dwarf Apple-trees on a broad-leaved Paradise stock have been planted. The trees were all three years old when planted, eighteen trees being taken for each experiment. Six of these are Bramley's Seedling, six Cox's Orange Pippin, and six Potts' Seedling, these three varieties showing marked differences of habit. The distance allowed between neighbouring trees is 11 feet in all cases, except in that of Bramley's Seedling, where the distance has been increased in one direction to 13 feet 6 inches to suit the more vigorous habit of this variety. Every set of eighteen trees devoted to each special method of treatment is planted in a line running across the three plots.

There are six experiments in which the treatment of the trees will be normal, and these are distributed at about equal intervals down the plots, so as to ascertain whether trees, when similarly treated, yield the same results, independent of their position in the plots.

Treatment of Branches.—The results to be compared here are those produced by different methods of dealing with the branches, as regards cutting-back, pruning, and pinching. Moderate and hard-pruning will be compared; some trees will have the growths pruned, but not pinched; others will be subjected to the reverse treatment; while in one experiment the branches will not be shortened in any way. The different effects of branch and shoot reduction in summer and autumn will also be compared.

Treatment of Roots.—Root-pruning is the subject of investigation in these plots. Some trees will be pruned annually, others every second or fourth year, and some only when it appears to be necessary. In one experiment, lifting the trees without (as far as it is possible) injuring the roots will be tried; and in another, the roots will be neither pruned nor disturbed in any way.

Treatment of Surface-soils. — In these five experiments it is intended to ascertain the effects on trees of loose or hard surface-soil, and also the differences produced by the soil being occupied with other plants. In one instance the ground is hoed and covered with straw, in another grass is grown and cut, in a third the surface is hardened, in the fourth the soil is dug close to the roots, and in the fifth weeds are allowed to grow.

Manures.—The different effects of artificial and farmyard-manure will be examined in these plots. As regards artificial manures, the separate and combined effects of the three chief food-substances—nitrogen, phosphorus, and potassium—will be examined, as well as that of other substances, the influence of which is at present less known.

Amount of Manure.—Here the amount of manure applied will be varied, and the results compared with those from an unmanured plot, and also from one in which the quantity of manure supplied is increased every year.

Time of Applying Manures.—In the majority of the experiments where artificial manures are supplied, the mineral manures will be used in the autumn, and the nitrogenous manures in the spring; but in these experiments the effect of the time of application of the dressings will be investigated by selecting different periods of the year for their application.

Methods of Planting. — Three experiments are devoted to the illustration of the effects of bad methods of planting and neglect. The first series of trees will receive ordinary treatment in all respects except in being badly planted; the second are badly planted and neglected, but will be manured; while the third are badly planted, neglected, and will not be manured. In the other plots, the effects of planting in ground dug only 1 spit deep, in ground dug 2 or 3 feet deep, and in holes with chalk bottoms, are investigated, as well as the effect of high and low planting.

Planting in Different Soils.—In these instances the stations for the trees were specially prepared and filled with earth mixed with chalk, stones, gravel, peat, or rich compost.

Times of Planting.—Comparison is here instituted between trees planted in autumn, winter, and spring.

Removing Flowers.—It is intended to remove all the flowers from these trees for several years to test the effect of so doing on their after-growth and produce.

Damaged Trees.—Some of the trees planted here were severely barked by hares, others were rejected from preceding experiments for various bark and wood injuries, indications of canker, &c. They will receive ordinary treatment, and be compared with healthy uninjured trees.

Some of the above-mentioned experiments are being repeated with a fourth variety of Apple—Stirling Castle—which is a weaker grower than any of the three varieties just mentioned. The distance between the neighbouring trees in this case is 6 feet 6 inches.

Standard Trees.—Similar experiments are also being made in some instances on standard Apple-trees grown on the Crab-stock. Each experiment in this case, is made on six trees of Bramley's Seedling (Nos. 189—199), six of Cox's Orange Pippin (Nos. 201—211), and six of Lane's Prince Albert (Nos. 213—215): these were all four years old when planted.

Different Methods of Training.— The irregular spaces at the top of the field have been utilised for experiments on different methods of training. From six to twelve trees of each of three varieties of Apples have been planted for each experiment. The varieties are :—Bramley's Seedling, Cox's Orange Pippin, and Stirling Castle—all on a broad-leaved English Paradise stock; but in this case the trees were planted as maidens, instead of three-year-olds. With the horizontal espaliers the trees will be trained so as to point in four different directions, in order to determine the effect of different aspects. Bushes, bowl-shaped and pyramidal trees; espaliers, cordons.

Varieties of Apples.—As it was found impossible to obtain the number of varieties of Apples required all of the same age, and all on both the Crab and broad-leaved Paradise stocks, a number of these stocks have been planted, which will be budded or grafted when ready for these operations. About 120 varieties of Apples have been selected, and of each of these there will eventually be eight trees, four on each of the two stocks. Two of these will, in every case, be subjected to severe pruning, and two to very slight pruning. The trees will also be so arranged that, by dividing the plots lengthwise, they will form two precisely similar halves, on which the effect of different insecticides may be tried.

Strawberries.

On the north-east border of the ground thirteen plants of each of eighty varieties of Strawberries have been planted. From these runners will be taken, and fresh rows planted annually 2 feet from the previous ones, so that ultimately each variety will be represented by plants of five different ages. Data will thus be obtained for the comparison, not only of different varieties under similar treatment, but also of the same variety at different periods of its life.

Supplementary plants of the different varieties have been planted between the Apple-plots in spaces which will eventually be used for paths. London manure, at the rate of 30 tons to the acre, has been used for all the Strawberries.

The different varieties are not at present in a strictly comparable condition, owing to their not having been planted at the same time, and owing to some of them, chiefly those planted late, having been weakly when planted.

Demonstration Plots.

Three half-acre plots are devoted to demonstrating how ground may be advantageously cropped with fruit by farmers, growers for market, and cottagers, respectively.

The Arrangement of Trees.

Near the garden-house three plantations of bush Plum-trees have been formed, with the object of ascertaining the respective merits of different systems in which the same number of trees may be arranged in a given space.

Each plantation consists of 36 trees—12 Monarch, 12 Czar, and 12 Victoria—surrounded by trees of Rivers' Early Prolific for protective purposes.

Each plantation represents an arrangement giving 1210 trees to the acre, and therefore, every tree has the same amount of space allotted to it.

Hedges.

About 3600 feet of hedgerows have been planted, with the primary object of forming a protection from the wind, and with the secondary object of ascertaining the economic value of different fruit-trees grown in this way. The distance between the trees in these hedges varies from 2 to 6 feet.

Local Apples.

Collections are being formed of varieties of Apples which are characteristic of particular localities, or which have originated in other countries, and are little known here, the object being to ascertain whether any of them are worthy of more extended cultivation in this country. Varieties of Scotch Apples, varieties of Irish Apples, Apples of Continental origin, comprising French, German, Italian, and Russian varieties.

The Nursery.

Part of the ground on the south side of the brook is laid out as a nursery, and planted with stocks for budding or grafting. These include Crab, Paradise, Pear, Quince, Hawthorn, and Cherry-plums. Other spare parts of the ground have been put to a similar use.

Trees and Shrubs.

A collection has been commenced of species and well-marked varieties of Prunus, Pyrus, and Cratægus, together with other members of the natural order of Rosaceæ, partly to form an ornamental border between the nursery and the brook, and partly with a view to experiments in raising seedlings for stocks, and for other purposes. The forms arranged under Prunus include Almonds, Peaches, Plums, and Cherries, representing the sections Amygdalus, Armeniaca, Prunus, Cerasus, Padus, and Laurocerasus.

The forms of Pyrus include Pears, Apples, Whitebeams, Mountain Ash, Quinces, and Medlars, representing the sections Pyrophorum, Malus, Aria, Adenorachis, Sorbus, Cydonia, and Mespilus.

The forms of Cratægus are planted near the north-west end of the border, and at intervals are collections of Ribes, Rubus, Spiræa, Berberis, Philadelphus, Syringa, and Laburnum, with other trees and shrubs valued chiefly for their flowers or foliage. The banks of the brook and the borders will be devoted to various plants adapted for such situations.

On the north-west side of the farm are planted a number of quick-growing trees for shelter, chiefly varieties of Poplar, Maple, and Lime.

Viola Beckiana (F. Fiala).—In the current number of the *Wiener Illustrirte Garten Zeitung* is a coloured figure of a new species of Viola from Bosnia. It has erect, slender stems, linear leaves, and very narrow stipules, with flowers suggestive of those of V. cornuta, but with a much shorter spur. There appear to be two forms, one with bluish-lilac flowers and a yellow eye, the other with sulphur-yellow flowers.

New or Noteworthy Plants.

EPIDENDRUM XIPHEROIDES, *Krzl., n. sp.**

Plate 111 in the highly esteemed *Refug. Botanicum*, represents under the name Epidendrum xipheres, Rchb. f., a plant from which our species differ by its much larger bulbs and the smaller flowers of a different colour, but with which it agrees very well in the most important botanical characters. The general shape of the bulbs, the narrow thick leathery leaves, the arrangement of the flower-stalk, also the peculiar glassy warts on the ovary, the most striking of all characters, are about the same in both species, but there end the affinities. The sepals are lanceolate, the petals linear, both of them dark green, with sordid purplish lines, the lip is very prettily golden-coloured with a thick whitish callus, hollowed on its surface, from which five thick elevated lines run through the anterior part of the lip. The side-lobes are very small and inconspicuous. The plant is said to be of Brazilian origin, and flowered with Messrs. F. Sander & Co., at St. Albans. *F. Kränzlin.*

Cyrtochilum micranthum, *Krzl., n. sp.*†

This plant resembles in every respect a small flowering form of the old Cyrtochilum maculatum, Lind. The lip, however, is quite different, its lateral lobes being well developed, and the middle one larger, obovate, and rounded at the top. In all specimens of true Cyrtochilum maculatum, the side-lobes are small and confluent with the lip itself, and the anterior or middle lobe goes out into a sharp point. As the crowd of varieties ranging under the collective name of Cyrtochilum maculatum has increased to the amount of a small genus, I believe it is better to establish a new species, if we have a tolerably good character to separate it from the typical forms. Such a character we find in the lip. The colour is not very pleasing; it is, in short, that of the paler-coloured varieties of Cyrtochilum maculatum; the lip, however, has also its peculiarity, the base being white, with two pale chocolate-brown blotches running sometimes together into a broad brownish band, the anterior half being pale yellow. The plant was introduced from Brazil; it flowered in June with Messrs. Sander & Co., at St. Albans. *F. Kränzlin.*

Odontoglossum luteo-purpureum Ashworthianum.

This is an extraordinarily beautiful variety, and one of the largest of the coloured Odontoglossums, its flowers being 5 inches across the sepals from tip to tip, and 4½ inches across the petals, all of the segments being broad, and of a similar thick texture to that usually found in O. triumphans, which in other particulars this variety resembles. So great is the resemblance that cursory examination of the flower would suggest a hybrid of that species. But the lip, although larger than usual, has the unmistakable crest of that form of O. luteo-purpureum known in gardens as O. hystrix. The sepals are of reddish-chestnut-brown, with clear citron-yellow tips, and one or two yellow spots at the base. The petals are of a creamy-yellow tint on the inner halves, and citron-yellow at the tips, and they bear three large and a few small red-brown spots, and a purple ray at the base. The large fringed lip is of primrose-yellow colour in the front, and red-brown in the middle, in front of the handsomely-toothed and fringed white, yellow, and purple crest. It flowered with Elijah Ashworth, Esq., Harefield Hall, Wilmslow, Cheshire. *James O'Brien.*

* *Epidendrum xipheroides*, Krzl., n. sp.—Aff. Epid. xipheri, Rchb f. Bulbis magnis ovoideis v. obpyriformibus, 7 cm. altis, 3·5 cm. diam., apice diphyllis; foliis lineari-bus acuminatis crassissimis cartilagineis canaliculatis ad 20 cm longis ad 1 cm. latis; racemo tenui pauciflore; bracteis submullis; ovariis brevi-pedicellatis cicatricibus hyalinis dense obtectis; sepalis lanceolatis acutis lateralibus latioribus; petalis linearibus apicem versus paulo latioribus æquilongis omnibus acutis; labelli lobis lateralibus brevibus obtusis, lobo intermedio late oblongo (fere quadrato) margine undulato callo disci elevato carnoso supra excavato antice in lineas 5 elevatas carnosas exeunte; gynostemio basi cum labello coalito supra late marginato, ceterum generis. Sep. petalaque, atro viridia obscure purpureo-lineata, labellum antice aureum, gynostemium album, omnia floris foliola 1·5 cm. longa. E. Brasilia allata dicitur, floruit Junio Verulamii. *F. Kränzlin.*

† *Cyrtochilum micranthum*, Krzl., n. sp.—Affine C. maculato, Lind., differt floribus minutis vix 2 cm. diametro et labello; labelli lobis lateralibus bene evolutis rotundatis, lobo intermedio obovato-oblongo antice rotundato lineis in disco 4 dentes æquales inter ipsos lobos laterales formantibus, lineis lateralibus brevioribus, callo didymo in ipsa basi; gynostemii alis subnullis. Sepala petalaque viridia apicem versus lutescentia maculis magnis bru eis notata, labellum basi album a medio apicem usque luteo macula magna brunnea utrinque, lineis elevatis violaceo marginatis. E. Brasilia importata dicitur; floruit Verulamii, Junio, 1896. *F. Kränzlin.*

Orchid Notes and Gleanings.

CATTLEYA WARSCEWICZII, var. SHUTTLEWORTHII.

This noble form of the plant, at one time known as C. gigas, made a great stir when it first flowered; and despite the large numbers since imported, it is pleasing to see that it maintains its good reputation. The flower is large, and the rich purplish-rose of the sepals and petals, and the dark, velvetty crimson-purple hue of the broad front lobe of the lip, make it a very gorgeous object, the bright dark purplish-rose veining of the exterior of the side lobes of the lip being additional beauties. The original plant, now in Lord Rothschild's collection at Tring Park, is carrying a grand six-flowered inflorescence. Other showy plants, viz., C. × Hardyana Laversinensis, and another very fine form of C. × Hardyana, are also in bloom at this place. *J. O'B.*

Cattleya Gaskelliana, Bank House Var.

This very fine variety is flowering in the collection of Mrs. Briggs-Bury, of Bank House, Accrington (Mr. J. Wilkinson, gr.). It is what is called in gardening phraseology, a "good square flower," well filled up in all its parts, and is remarkable among others for great substance and breadth of petal. The flower itself measures 7½ inches across, and the breadth of the petal just touches 3 inches. It is of a fine rosy-lilac shade, the sepals and petals being alike in colour. The colour of the lip differs from the type, in having a brilliant yellow (not lemon) blotch on the epichilium, surrounded by roseate-purple lines, and edged with blush-pink; the interior of the lobe has grand rayed crimson-purple lines, the expanded portion of the lip measuring 2 inches by 2 inches. A comparatively small plant is bearing on one spike three equally fine flowers, partaking of the mixed character of C. Mossiæ and C. Gaskelliana. This Gaskelliana division of the Labiate Cattleyas comes in after C. Mossiæ, which is preceded by C. Schroderi, and by C. Trianæi, and is generally followed by C. Rex, and by C. labiata itself, which, along with others, provide a continued cycle of Cattleya flowers in anything like a good collection. *J. A.*

CHEMISTRY OF THE APPLE.

The research work connected with the chemistry of the Apple was commenced at the Ottawa Experimental Station in 1889, and has been continued up to the present time under the direction of Mr. Frank T. Shutt, M.A., F.I.C., F.C.S. The investigation was undertaken with a view of eliciting such information as would assist the intelligent orchardist in a rational method of fertilising. When the nature and amount of plant-food required by the Apple tree in bearing is known, the first steps towards the manuring question will have been taken.

The analytical work began by taking the Apple-tree leaves of the following five varieties: Duchess of Oldenburg, Tetofsky, Wealthy, Fameuse and Northern Spy; these were plucked at two different stages of growth, and their composition determined. This investigation has been continued by the chemical examination of the Apple fruit of four of these varieties.

The mineral matter and nitrogen—which together constitute the plant food taken from the soil—annually assimilated are represented by the increase of wood, the leaves and fruit. That contained in the leaves is, or may be, practically all returned to the soil, that removed by the gathering and marketing of the crop is shown separately.

In order, however, to present the subject of orchard requirements and fertilisation in as complete a way as possible, as well as for the sake of comparison, the following table of the composition of Apple-tree leaves is first given.

Analyses of Apple-tree Leaves.

Composition of the leaf; Percentage composition of selected and important constituents in ash.

Composition of the Leaf.

Name.	When Gathered.	Moisture.	Organic Matter.	Ash.	Nitrogen in Organic Matter.
Duchess of Oldenburg	May 25, '89	70·94	26·67	2·39	2·87
Tetofsky	,,	72·11	25·40	2·49	2·84
Wealthy	,,	71·25	26·84	1·91	2·98
Fameuse	,,	75·45	22·01	2·54	3·01
Northern Spy ...	,,	72·04	25·62	2·34	2·99
Average	...	72·36	25·31	2·33	2·94
Duchess of Oldenburg	Sep. 20, '89	57·30	38·75	3·95	2·48
Tetofsky	,,	60·49	35·87	3·64	2·20
Wealthy	,,	60·02	36·53	3·45	2·38
Fameuse	,,	63·45	33·15	3·40	2·50
Northern Spy ...	,,	62·30	34·85	2·85	2·84
Average	...	60·71	35·83	3·46	2·48

The data thus given are very striking, and show that as maturation of the leaf progresses these organs of assimilation cease to store up moisture and nitrogen, but increase their organic matter and ash constituents. It will be seen that the moisture in the leaves has decreased between May 25 and September 20, on the average, 11·65 per cent., and the nitrogen has decreased about half a per cent. On the other hand, the organic matter has increased during the same period, on the average, 10·52 per cent., and the ash has increased 1·13 per cent.

The next division of the table illustrates the mineral composition of the leaves, as shown by the constituents in the ash.

Percentage Composition of Important Constituents in the Ash of Apple-tree Leaves.

Name.	When gathered.	Phosphoric Acid.	Potash.	Lime.	Magnesium.	Oxide of Iron.	Silica.
Duchess of Oldenburg ...	May 25	9·67	9·25	21·50	9·56	1·63	0·92
Tetofsky ...	,,	8·82	14·33	18·20	7·52	0·81	1·16
Wealthy ...	,,	8·95	10·19	16·02	8·49	1·44	0·93
Fameuse ...	,,	11·61	9·54	16·26	10·84	1·64	1·04
Northern Spy	,,	13·33	...	14 00	12·43	1·92	1·30
Average ...	...	0·47	10 82	17·40	9·77	1·49	1·07
Duchess of Oldenburg ...	Sept. 20	3·00	6·35	34·80	5·62	1·43	1·00
Tetofsky ...	,,	5·93	11·02	33·59	5 55	1·19	1·28
Wealthy ...	,,	5·23	13·09	22·40	5·22	1 08	0·80
Fameuse ...	,,	5·64	13·65	26 35	4·16	1·56	1·05
Northern Spy	,,	9·31	14·04	22·40	3·50	1·80	1·57
Average ...	...	5·82	11·63	27·91	4·81	1·41	1·14

The variation shown in the same constituent by the five different varieties of Apple-tree leaves gathered on the same day is very considerable, whether taken at the earlier or the later date; but the effects of exhaustion are very strikingly brought out by a study of the figures showing the amounts of lime taken up and accumulated, with a corresponding decrease of phosphoric acid and magnesia, these latter ingredients passing into the sap of the tree for the formation of fruit and the ripening non-nitrogenous constituents.

Passing over the enormous differences in the amounts of the various constituents taken up and retained by the different varieties of Apple-tree leaves, we see there is an average reduction in the phosphoric acid of 4·65 per cent., an average increase in lime of 10·51 per cent., and an average decrease in magnesia of 4·96 per cent, between one period of collection and the other.

These figures serve to show the absolute necessity of a complete and full supply in the soil of available mineral constituents in the earlier or merely vegetative stages of Apple-tree growth, if an abundant crop of fruit is to be obtained.

Composition of the Fruit.

The general composition, namely, the percentages of water, organic matter, and ash—which make up the whole, and the amount of nitrogen, are given for the four varieties of Apple examined in the following tabulated form :—

Analysis of Apples.

Variety of Apple.	Water.	Organic matter.	Ash.	Nitrogen.
Duchess of O denburg	88·61	11·14	0·25	·0382
Wealthy	87·00	12·71	0·29	·0375
Fameuse	85·22	14·46	0·32	·0·12
Northern Spy	87·08	12·65	0·27	·0445
Average ...	86·98	12·74	0·28	·0428

Although there is a great similarity in composition in the varieties examined, and none differ much from the average deduced from them all, it is of interest to note that the Fameuse is the richest in organic matter, in ash constituents, and in nitrogen. The Wealthy and Northern Spy contain almost identical amounts of organic matter and ash, and the Duchess of Oldenburg has the largest percentage of water, and lowest percentage of organic matter and ash.

Percentages of Important Constituents in Ash.

Variety of Apple.	Phosphoric Acid.	Potash.	Soda.	Iron Oxide.	Lime.	Magnesia.	Silica.
Duchess of Oldenburg	8·90	53 67	3·28	1·77	5·80	5·20	0·36
Wealthy	8·15	57·00	2·65	1·76	3·33	3·84	0·63
Fameuse	7·19	56 25	2·56	1·26	3 55	4·03	0·32
Northern Spy	11·68	54·11	1·94	2·13	3·86	3·99	1·11
Average ...	8·98	55·26	2·61	1·72	4·38	4 27	0·60

In this table the composition of the ash is given in detail. Of its components, phosphoric acid and potash are the principal. The latter constitutes over half of the ash (55·26 per cent.), while the former is about 9 per cent.

No great differences between the varieties are here to be noticed, though the Northern Spy presents some striking variations from the average. Its ash contains nearly 3 per cent. more phosphoric acid, nearly 1 per cent. less soda, about 0·5 per cent. more oxide of iron and alumina, and about 0·5 per cent. more silica than the ash of the other Apples.

The ratio of the potash to the phosphoric acid in the ash of the fruit is 6 to 1 ; in the ash of the older leaves (see Table II.) it is 2 to 1. Relatively, therefore, the demands of the leaf and the fruit on the soil for these two constituents are very different. It might here be remarked that the greater quantity of the ash ingredients of the fruit is contained in the seeds and walls of the ovary, comparatively little being found in the flesh of the Apple.

A comparison of the last table with that showing the composition of the ash of the leaf will reveal further interesting features. The total percentages of ash in similar weights of leaf and fruit are as 3·46 to 0·28. Lime is much more abundant in the ash of the leaf, while magnesia, oxide of iron, and silica are about the same, taking the older leaves for comparison. For the purpose of a practical presentation of the subject, the data given in the following table has been prepared :—

Weight of Important Fertilising Constituents withdrawn from the Soil in the Growth of Apples.

Variety of Apple.	Average weight per Bushel.	Lbs. per Acre, or 160 Barrels.		
		Nitrogen.	Phosphoric Acid.	Potash.
	Lb.	Lb.	Lb.	Lb.
Duchess of Oldenburg...	44	7·36	4·31	25·98
Wealthy	50	8·22	5· 18	36·23
Fameuse	50	11·22	5·04	39·46
Northern Spy	46	9·01	6·38	29·57
Average	47·5	8·95	5·23	32·81

In the above calculations the following data are used : Forty Apple-trees per acre in an orchard twenty-five years old yield, on an average, one hundred and sixty (160) barrels. One barrel contains 2 bushels and 3 pecks.

We have here shown the number of pounds of nitrogen, phosphoric acid, and potash estimated as contained in 160 barrels of Apples, and removed per acre by a good crop. None of the quantities are at all excessive, and the cost of returning them to the soil would not be great. The largest demand is on the potash in the soil ; next comes the nitrogen, and lastly the phosphoric acid. In the case of the leaves, the nitrogen stood first in order of requirement.

For the vigorous development of the tree and an abundant crop of fruit, the soil must contain these constituents in a more or less immediately available condition. It is for this reason, as well as to replace the exhausted plant-food, that fertilisers are necessary to profitable Apple-growing.

Nitrogen.— To supply nitrogen, some organic manure is perhaps the most economical. Farmyard or stable manure are to be recommended. Besides adding nitrogen, they furnish humus or decaying vegetable matter, which serves a useful function by liberating carbonic acid, and which in turn sets free locked-up forms of mineral food. Humus, moreover, has much to do in bringing about amelioration of the soil, and the retention of soil-moisture. As the period of growth and fruit-development in the Apple is comparatively long, organic manures in most instances will probably give better results than those containing more soluble forms of nitrogen, such as nitrate of soda or sulphate of ammonia.

Potash and Phosphoric Acid.—To furnish potash and phosphoric acid, we would first mention wood-ashes, where obtainable, as these possess the ingredients in the relative proportion best suited to fruit-tree requirements, and in a condition that renders them easily available.

If wood-ashes are not obtainable, kainit salt and sulphate of potash may be substituted to supply potash ; and bone-meal, basic slag, or superphosphate the phosphoric acid. Bone-meal contains from 2 to 3 per cent. of nitrogen, in addition to the phosphoric acid, but requires a greater length of time in the ground to give up its constituents ; its effects naturally last longer. For this very reason it is often advocated for orchard manuring.

Both wood-ashes and bone-meal furnish lime, which we have seen to be a necessary and somewhat important element. Soils differ so much in composition, that it is impossible to state definitely the amounts of the foregoing fertilisers that should be employed in all cases. The wants of the Apple tree for fruit and leaves have been given, and the principles for an economical return of these requirements indicated.

In conclusion it may be said that the best and most profitable crops can be obtained only when the soil contains what might be thought to be a large amount of plant-food, the greater part of which is more or less assimilable. An ameliorated soil, among other advantages, tends to a good root development. In such, the rootlets are able to procure food from a much larger area than otherwise ; but in every orchard, owing to the disposition of the roots, there must of necessity be much unoccupied soil, and hence the importance of supplying liberally and in excess of that which is absolutely needed for a season's growth and fruit, those forms of plant-food which we have been considering. *J. J. Willis, Harpenden.*

Colonial Notes.

CEYLON BOTANIC GARDENS.

Dr. Trimen, who has conducted these gardens with so much success for several years, is, we regret to say, compelled to resign his appointment by reason of his impaired health.

Tea.—This year has, according to the last Report, been a most favourable one for Tea ; the yield everywhere has been good, and the increase in exports greater than was anticipated. The total export was 98,581,061 lb., against 84,591,714 lb. last year, showing the very large increase of over 13,000,000 lb. (nearly as much as the whole crop of 1887). The area now covered with Tea is estimated at over 300,000 acres, and a small but steady extension is still going on. The average price remained much as in 1894, i.e., about 8½*d.* per lb., or perhaps a little more. It is gratifying to see a substantial increase in the export to Australia, which attained over 9,000,000 lb. (9,109,592 lb.) during the year.

Coffee.—A remarkable and interesting fact is a large increase in the export during 1895, this being more than double that of 1894, viz., 65,833 cwt. This is the first time for many years that this has occurred. A gratifying circumstance, too, is that 6,076 cwt. of this is "native" Coffee—nearly four times the amount of last year. It is to be understood that the increase is due not to any increased acreage, but to better crops ; probably with less chances of infection, Coffee has now to bear fewer "attacks" of leaf-disease, and so is able to ripen more fruit. Liberian Coffee, however, as yet shows no increase ; but this seems likely to be altered in the future, as a considerable area has been planted in recent years, and mostly appears to be doing well.

Wild animals—Monkeys.—A group of monkeys, six or seven (the large wanderoo) which frequented the gardens for some time without doing much damage, suddenly (in May) became destructive to the large Flame tree (Sterculia acerifolia) by breaking off the young succulent shoots. I tried shooting at them with small shot to drive them away, but they would persist in coming to this tree, so that I shot one with a bullet. They then remained away for a few days, but began their destructive work again, keeping out of my way, and I was unable to get another shot. They nearly ruined the tree, which was a fine one, and the largest we had in the gardens.

Sambur Deer were also very troublesome during May and June ; in fact, the damage done was serious, as they ate or broke down nearly all the plants in the back of the shrubbery for a distance of about 200 yards, showing a special liking for Fuchsia, Habrothamnus, Balsams, Begonia, Iresine, Polygonum, Tecoma, Anthericum, and other liliaceous plants, and we were very thankful when Messrs. Jackson and Mr. A. J. Kellow sent in their packs of hounds and hunted them out.

Elephants.—Five elephants were in close proximity to the gardens for several months of the year, and during August and September they paid several visits to the upper part and broke down and destroyed a few lengths of the water-piping. It is very interesting, especially to visitors, to know that wild elephants are so close, and, unless they do any serious damage, I think it would be a great pity to have them shot.

The *Report* further alludes to the danger of the extermination of some of the rarer and more showy Orchids, especially Dendrobium Macarthiæ. The Government has issued an order forbidding their collection in the Crown forests without a special permit, which will be issued only on the recommendation of the director.

Mysore Government Gardens, Lal-Bagh.

Mr. Cameron, the superintendent, has issued his annual report. The unusual drought caused much extra labour, but the efficiency and beauty of the gardens were well maintained.

PROGRESS IN THE HYBRIDISATION OF ROSES.

I have continued my labours every season up to the present one, 1895, in which, I am sorry to say, I was able to do very little. Next year, if I am alive, I fear that my doings will probably be still less. Not that my faith is shaken in the belief that new races of Roses may be brought into existence by crossing or hybridising the existing races, which will be valuable additions to our present possessions; but the pressure of advancing years is imperative. Unless I did the entire operation with my own hand, the necessary interest in it would be lacking, and in my eightieth year the needful energy for this begins to fade.

With regard to what I have achieved, I think I shall have done much if I do no more than establish the one great fact that the different races of Roses, however apparently opposed to one another in wood and spine, in habit of growth, in foliage, in hardihood, and all other outward characteristics, are capable of uniting in the production of a common progeny—a progeny which is distinctly different from either parent, though generally bearing undoubted proofs of their origin in traces of both seed and pollen parent.

The successful results of my attempt to combine the sweet foliage and the hardy constitution of the Sweet Briar with the red and yellow tints of the Persian Yellow Briar and the Austrian Copper Briar, and not only so, but with the crimson tints of the Bourbons, the Hybrid Chinas, and even the Tea Roses, afford an excellent illustration of this truth.

As I have mentioned the Hybrid Sweet Briars, I will pause a moment to make known a fact which I only became aware of in this autumn of 1895. It occurred to me to have the hips of the Hybrid Sweet Briars cut off, and I only regret that it did not occur to me earlier in the season. They were already of a bright red colour, and formed very pretty objects, but I thought it would add to the strength and health of the plant to part with them. I certainly was not prepared for the result, for all the plants, with one or two exceptions, took to blooming freely a second time. During all August and September, and, indeed, until the arrival of the sharp frost in the latter part of October, I had three or four glasses of these blooms on my breakfast-table every morning, perfuming the room with the very sweet scent of their flowers. From this experience, I conclude that if the flowers were cut off as soon as they fade in summer, and the hips not allowed to form themselves, the autumnal flowering would be still more remarkable and abundant.

But it is time that I passed from my successes to the admission of what have been very like failures. I had directed my attention to the production of a Hybrid Perpetual of a new colour. Why not a yellow? And, indeed, why not a blue Rose? As the possible parent of a yellow Rose, nothing presented itself so naturally as the yellow Briar—the Persian Yellow and the Harrisoni. I collected a quantity of the pollen of these Roses, and operated on the blooms of several Hybrid Perpetuals, notably General Jacqueminot and Jean Cherpin. I obtained abundance of hips, and in due time plenty of seed, and again in due time, some hundreds of plants. But excepting perhaps in two or three cases, no sign is visible in their wood, foliage, or growth of the yellow Briar; no doubt the greater part of them have not yet flowered, but I confess my hopes of success with them is pretty well extinct. One plant, indeed, about three or four years ago, did give unmistakable signs of the Briar parentage, the foliage was almost identical with that of Harrisoni, and when the flower showed itself, it presented a very pretty mixture of crimson and yellow. But it was very shapeless, and out of a dozen blooms, there would perhaps be only one that in shape could be said to give any pleasure to the eye. Moreover, it proved itself to be very difficult to propagate by either bud or graft; it is even difficult to keep it alive, one branch after another dying down more quickly than they are reproduced. The plant seems, if I may use such an expression, to resent the attempt to unite such incongruous parents, and to make continual protest against its having been called into existence.

Then for the blue Rose I collected the pollen of a Hungarian Rose, "Erinnerung an Brod" by name. The tints of this Rose are more distinctly blue in parts, and at times, than those of any Rose that I have met with.

I have had no difficulty in obtaining plants from the pollen of this Rose with several of the Hybrid Perpetuals, and I have a number of them now. But none have yet bloomed; and I cannot trace, in the growth or foliage, any distinct evidence that the qualities of pollen parent are represented in the progeny.

On the other hand, I have a seedling Rose, obtained from a parent of the Semperflorens race, which has bloomed and given me a flower which at times comes almost blue, but it is flimsy, loose in its petals, and greatly wanting in shape; it is the most continuous bloomer, however, throughout the autumn that I have ever seen. What its true colour may eventually turn out to be it is not easy to say, for it is wonderful how seedlings change from their first form and colour as time goes on.

Another experiment must be recorded which up to the present time has not met with success. The beautiful glossy foliage of the Rosa camelliafolia is very inviting to the eye of the hybridiser, and if I could only transfer this foliage to some of our Hybrid Perpetuals, I should consider it a useful triumph. But I could not get the camelliafolia to flower. From what I have read in the gardening publications, I conclude that other people have met with the same difficulty. At last my opportunity came. The splendid sunny season of 1893 ripened the wood of my plant so thoroughly, that in 1894 it gave me twenty flowers. Two of these I treated with the pollen of other plants, but obtained no hips. The remaining eighteen I reserved for pollen, with which I fertilised the blooms of numerous Hybrid Perpetuals. I had a good crop of seed, and I have, perhaps, a hundred plants. In vain have I looked for a shiny leaf. Many of the seedlings have a foliage inclining that way, and certainly different from that of the seed parent, but none (unless as they grow up they put on a more glossy appearance) carry the true Camellia-like leaf which was the object of my quest.

In another experiment I have succeeded much better; I allude to the hybridising of the Rosa rugosa. Of these I have several plants, and a precocious one has already, in its second year, shown me a very handsome flower.

I reserve to the last an attempt upon which, if successful, I should set the highest value, but of which I cannot yet announce the result. I allude to a possible cross with the wild Dog Rose. There is no more graceful and beautiful picture presented to us in the Rose world than that formed by the running shoots of the wild Dog Rose scrambling over the upper branches of a tall Thorn or Holly laden with their pretty pink flowers; and plants of this our native Rose with flowers perhaps improved, at any rate, varied, in colour and form, could not be otherwise than welcome. In the summer of last year (1894) I fertilised some hundred of blooms of the common Dog Rose (growing in the open air) with the pollen of some of our best Hybrid Perpetuals, and with that also of the Yellow Briar, and sowed the seed last autumn. Some at least of this seed, according to all my previous experiences, should have vegetated and come up this year, but none of it has done so. It may very well be that they will come up this next spring of 1896. Many Rose seeds do take two years before they germinate, as the Sweet Briar seed constantly does. But the failure of the whole lot to give a single plant this year is ominous—dreadfully ominous. I only don't quite despair; I wish I had done the work under glass, and should have done so, but I was disappointed by not getting the needful plants in pots.

I do not call to mind any other experiments which would justify a specific account. I will only add generally that my work has produced a great number of very charming garden Roses, some of them of new and unusual colours. It has also called into existence many hybrid plants, in which the Musk Rose plays the part of parent, with its habit of blooming in clusters, and the peculiar spicy scent of its flower; and others again in which the hardy Ayrshire Rose has contributed strength and a wandering habit, but no flowers as yet.

But I must not omit to say a word upon the results of hybridising in a second generation. I have for the last two or three years hybridised some of the hybrid Sweet Briars with the pollen of the Hybrid Perpetuals. The result has been a number of plants, but hitherto no bloom; the age for their blooming has not arrived. Also as an experiment I sowed some of the seed of the hybrid Sweet Briars, obtained from their self-fertilised hips, and have many plants. Some of these plants have flowered, and the flower has gone back pretty nearly to the original Sweet Briar. *Lord Penzance, in "The Rosarians' Year Book."*

CUPRESSUS McNABIANA.

The eastern side of Red Mountain, California, is covered with the most curious forest I have ever seen. A body of Cupressus McNabiana, about a half-mile square, and scarcely mixed with any other tree, covers it completely. The trees are only from 12 to 20 feet high, as a rule, but, like the miniature trees of the Japanese gardeners, they have all of the appearance of great age. Old and gnarled, tough and twisted, covered with moss, and with limbs broken, they look like the old forests of Cedar of Lebanon as they are pictured. A forest 100 feet high, looked at through the large end of a telescope, would give the same impression. A fire has swept through one side, and the old trunks, standing black and naked, aid the deception. Only the surrounding objects by which to aid the sight, keep one from being quite carried away by the deception. These trees, dwarfed so strangely by the arid soil and bleak climate, are very old.

The west face of the mountain is no less curious. Here the Cypress forms a dense thicket, from 6 or 8 feet high in the open hills, to 15 feet high in the gullies, and stretching over the whole mountain-side till it breaks into cliffs at the cañon. Where the fires have burned over, the little seedlings are coming up, but in no such profusion as I saw in the thickets of Cupressus on the coast. Here, at the most, there would be one tree in 3 or 4 feet. The little seedlings having the soil to themselves, are of a fine green, and quite shapely, and many grow into handsome trees. A few seeds carried down the stream to gravelly flats in the valley have formed an open grove of specimens as handsome as any in a park of perfect pyramidal form and very broad at base. Handsomer trees are seldom seen.

Many of the lesser shrubs and flowers are quite as distinctive of Red Mountain as the Cypress. One Ceanothus in particular I have never observed except in such soils. It is much like a Holly in leaf, and forms a low bush. The flowers are white. The stream which flows down the east side has a broad bed heavily grown with a coarse grass, which retains the soil and furnishes a home for many flowering plants. For fully a half-mile Lilium pardalinum, in a large spotted form, grows in abundance and forms great clumps. As I have seen it in July, the stems 4 to 7 feet high, and the cañon fairly filled with a waxy mass of the grand recurved red and gold blossoms, I thought it the finest floral sight I had ever seen. Our common Columbine, Aquilegia truncata, is a fine plant and the parent of some good garden plants; it flowers in May and June. In the grass and on the wet rocks of the numerous little falls, a form with viscid leaves grows in profusion, and, un-

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like the type, blooms constantly through the summer season. The flowers are more of an orange colour than the type. A variety of Stachys, with tomentose leaves and a pleasant fragrance, is almost as common, and in the wettest places one can see large beds of an Orchid much like a small purple and brown Lady's-slipper. This is Epipactis gigantea, a pretty species well worth cultivation. A large clump graces my Fern-bed, and rapidly increases, blooming freely every year.

Few Ferns grow here, but a Pellæa (P. densa) is abundant in the loose rock which has broken from the cliffs above, and in the rock crevices as well. It grows in large bunches, and the small dissected fronds are quite handsome when the winter rains wake them from the long summer sleep; very delicate, too, the light green new growth resembling a Maiden-hair. Calycanthus occidentalis is not uncommon in the coast range, and is one of our finest waterside shrubs. It is rather prettier than the eastern C. floridus, and, like it, the bark, leaf and fleshy chocolate-coloured flowers have a pleasant odour. It especially likes the clayey soil of this cañon, and in some localities the growth is 10 to 12 feet high and completely fills the gulch. In clefts of the rock a rare Brodiæa grows quite out of its range, for it is common 40 miles eastward. The flowers are white, and it prefers the courses of streams.

The higher slopes are also rich in rare plants. One of the most attractive is Dendromecon rigidum, a shrub from 2 to 8 feet high, slender, with light lance-shaped leaves and a blossom almost exactly like a light-coloured Californian Poppy, except in size. This beautiful Tree Poppy in our region is confined to high altitudes. A well-developed bush is not soon to be forgotten. Morning Glories are everywhere in our State. A very common one with good-sized white flowers grows in grain fields, and is a troublesome weed, pretty as it is. Red Mountain, in Morning Glories, as in everything else, is odd, and the creeping form which I saw in bloom one morning in May had halberd-shaped leaves densely clothed with woolly hairs and a fine white flower. The stem crept about a foot. *Carl Purdy, in "Garden and Forest."*

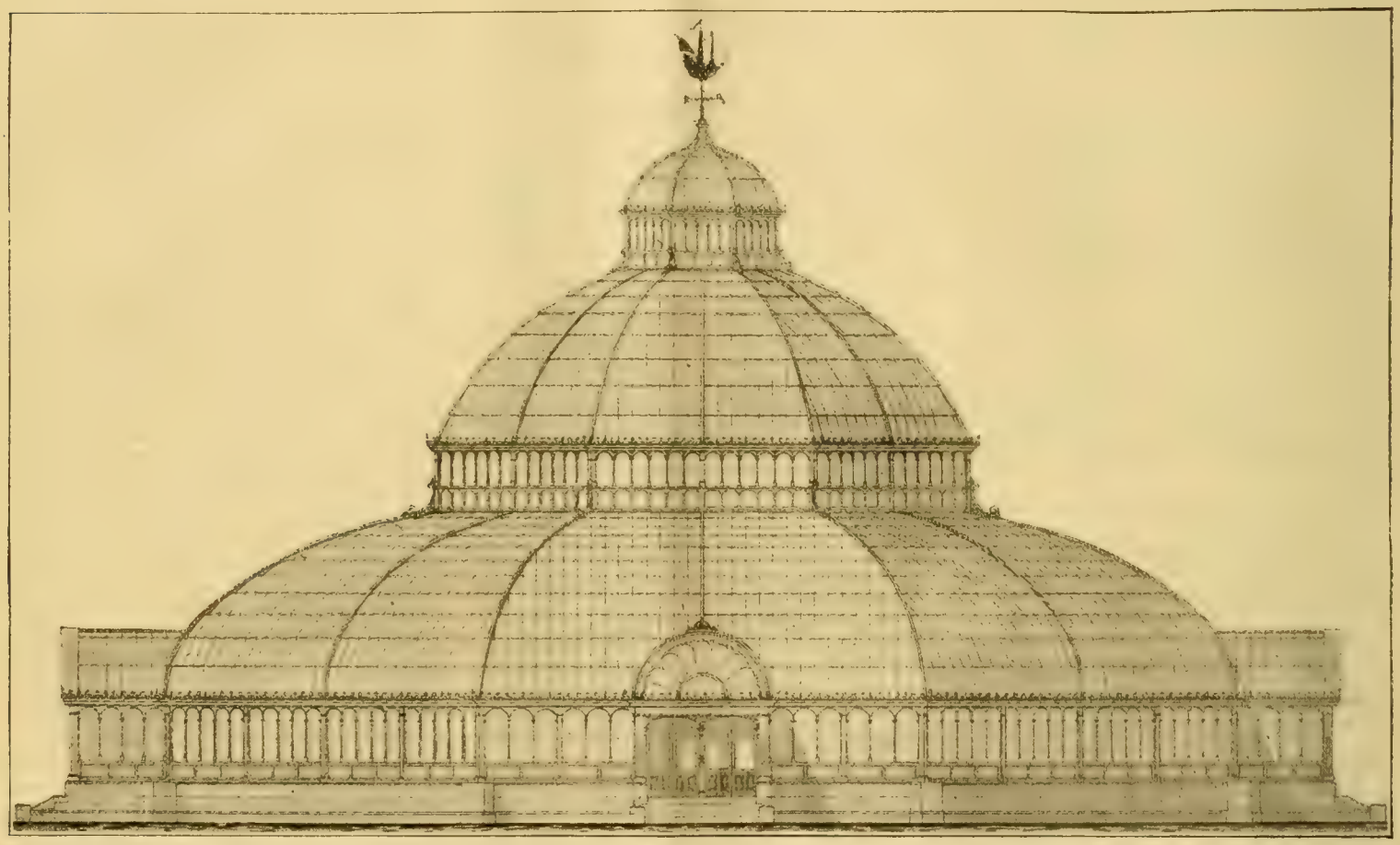


Fig. 12.—Conservatory presented to Sefton Park, Liverpool, by Mr. H. Yates Thompson.



Scale of feet

SEFTON PARK.

Our public parks in this country are ill provided, if at all, with winter gardens, or places for shelter in inclement weather. Recognising this, Mr. Yates Thompson has munificently presented to the Lord Mayor and Corporation of Liverpool the fine conservatory of which we now publish an illustration and plan (figs. 12, 13). It has been erected in Sefton Park, Liverpool, by Messrs. Mackenzie & Moncur, of Edinburgh and Glasgow, and is intended for the use and enjoyment of the citizens at all times, Sundays not excepted. The plants will be mostly planted out in beds and borders, with ample space for walking and for seats. The building is of iron and glass, about 111 feet across, with a total height of 70 feet. It is heated by eight rows of 4-inch pipes, and similar provision is made for heating the upper part of the dome. There is to be a marble fountain in the centre. The boiler-house is about 30 yards away, hidden from view by a shrubbery.

The furnishing of such a structure is a matter of great importance, and it is hoped that gentlemen who may have fine specimens of Palms, Cycads, Tree-Ferns, Sikkim Rhododendrons, Camellias, or other suitable plants which have become too large for their present position, may be inclined to supplement Mr. Yates Thompson's munificence by contributing towards the furnishing of the structure. An advertisement in another column gives further details as to the mode of transmission of the plants. Sefton Park, we may remind our readers, was laid out by our eminent friend, M. André.

NOTES ON VEGETABLE PRODUCTS, TAKEN FROM CONSULAR REPORTS.

(*Continued from p.* 10.)

Hankow.—Vegetable tallow shows a slight improvement on 1894. This product meets with more attention on the Continent than in England. Its power of withstanding heat, which enables it to be shipped in "cheeses" without any packing, would seem to show that it was well suited for candles in hot climates,

but there has been very little readiness shown in London to deal in it. There are three or four qualities of the article, and its purity greatly depends upon the manner in which it has been prepared for export. If crushed with the seeds, its quality is greatly deteriorated, and the cheeses contain elements which are difficult to remove. But if the coating is carefully removed from the seeds and then boiled, it is said to withstand any heat, and to be very serviceable. Samples in the London market were for many years almost entirely neglected, but in Europe it is much used for candles, as a component in the manufacture of soap, and for other purposes. Advices have been received from England to the effect that adverse duties on the Continent on export from Great Britain absolutely prohibit the trade thence. The statement seems to admit of doubt. The production of this tallow is capable of very large extension. It appears probable that the earlier stages of manufacture of this article might be better undertaken previous to export. The beauty of the autumn tints of the Tallow-tree, especially when grown near water, recommend its introduction into the milder parts of England.

Whether this last note refers to the tallow from Excæcaria sebifera, or from the Japanese Rhus succedanea, it is difficult to say; it would, however, seem to allude to the former, except that the fat is usually very soft, and readily melts in hot weather, while that from the species of Rhus is hard and wax-like.

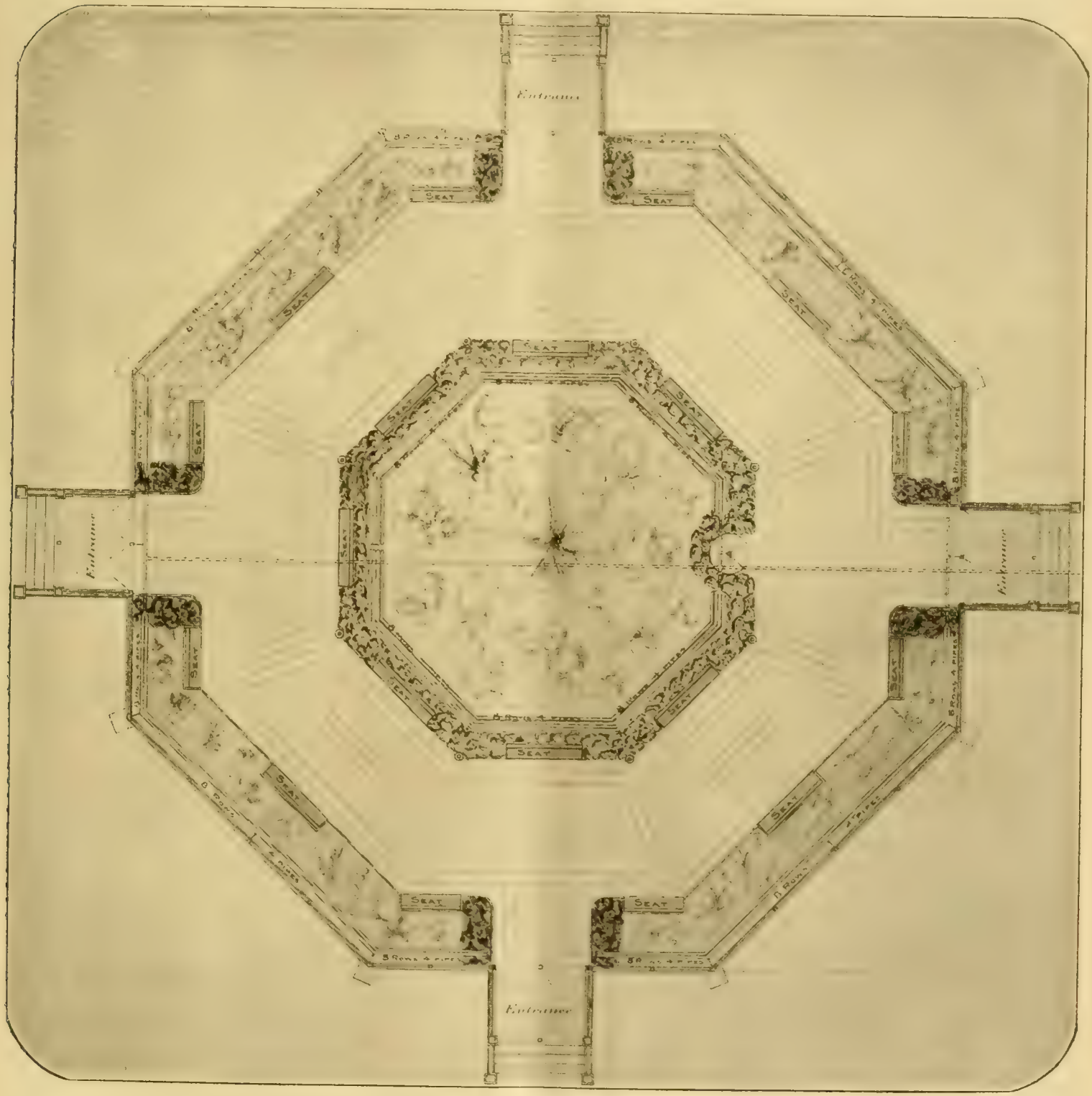


Fig. 13.—Plan of conservatory in Sefton Park, Liverpool. (see p. 66.)

VEGETABLES.

SUTTON'S EARLY GIANT MARROWFAT PEA.

THIS is the quickest Pea in coming to maturity of any that I have grown. It is a good cropper, haulm 3½ feet high, with long, handsome, well-filled pods, containing eight to ten seeds in each. The Peas are of excellent flavour, indeed, it is a true Marrowfat Pea, coming into use quicker than the small round-seeded varieties. Seed of this variety sown on March 17, at the same time as Laxton's Standard, Chelsonian, Sutton's Early Marrowfat, and Ne Plus Ultra, the dates when pods were ready for gathering were :—Sutton's Early Giant, June 15; Standard, June 23; Chelsonian, June 25; Sutton's Early Marrowfat, June 26; Ne Plus Ultra, June 27. Thus it will be seen that Early Giant was eight days earlier than Laxton's Standard, which is one of our best early Peas, very hardy, and an excellent cropper; but if Early Giant will survive the winter outside, it will be in advance of all other early varieties of Peas. *W. H. Divers, Belvoir Castle Gardens.*

THE WEEK'S WORK.

THE FLOWER GARDEN.

By HEDLEY WARREN, *Gardener, Aston Clinton, Tring.*

HYDRANGEA PANICULATA is far more effective when planted in a mass than if dotted about the borders or shrubberies, the large white panicles of flowers being very showy, and they are, moreover, exceeding useful in a cut state for decorative purposes. As a late flowering shrub, this is one of the best, flowering as it does when but few others are in bloom; it thrives best in a cool moist position. [There should be a deep basin for holding water formed around each. ED.]

GENERAL REMARKS.—The present season has been a very trying one for the occupants of the flower-garden, and many established plants, herbaceous perennials, have suffered, the foliage having become yellow—the Irises especially. Shrubby Phloxes should receive a thorough soaking of water whenever the soil gets dry, surface watering doing them more harm than good; afterwards affording a mulch of short decayed manure or cocoa-nut fibre. All plants in the beds should be well supplied with water, dead and decaying leaves and flowers removed, and constant attention given to the pegging-down of trailing plants where this method appears to be desirable, and to the removal of superfluous shoots. Most of the Roses are now past their best, especially on light and gravelly soils. These plants should be thoroughly well watered, both at the roots and overhead, which will not only cleanse the foliage but stimulate growth, and check the increase of red-spider, which is sure to infest them in such a season as the present. If these matters are attended to forthwith, a good supply of autumn bloom may be anticipated.

GLADIOLUS should receive similar treatment, and never allowed to become dry at the root, dryness being detrimental to the growth of good flower-spikes. Red-spider sometimes attacks the Gladiolus, the leaves and flowers suffering, so that it is very desirable to keep the plants in a vigorous condition, and plenty of moisture at the root, deep tilth and abundance of manure are necessary to ensure this.

THE BUDDING OF BRIARS.—The present month is the most suitable for the budding of Roses on Briar stocks, although it may be performed as late as the month of September. If the stocks are afforded water at the roots a few days before budding is begun, the bark will lift easily, consequent on there being a decided flow of sap in the plants. There are many losses this year among the stocks, and especially where the earthing-up of the stems is not practised. This is of much consequence in dwarf stock, which should be budded as low as possible, in fact, close to the roots, which may be easily accomplished by scraping away the earth. Rose-buds should be taken from shoots which are about three parts matured, and even in some cases the best buds will be found on plants growing in glasshouses, especially the more tender Teas. After a bud is inserted in the stronger shoots of a stock, or at the collar, and made secure, no further attention will be necessary for a period of about three weeks, by which time the buds which have taken may be identified by the falling away of the remains of the leaf-stalk, and the fresh plump look of the bud itself. Stocks on which the buds have failed should be again budded, doing this on the opposite side of the stock, and at pruning time, not before, the snag above the bud may be cut off.

CARNATIONS.—In some places layering has commenced. The warmth of the season has favoured the growth and development of the border varieties, which, on the whole, are remarkably free from insect pests, and on heavy soils these are doing remarkably well. Layering in any case may now be proceeded with, and if the directions afforded in a former calendar in regard to the preparation of the soil and the layering of the shoots have been attended to, the work will be facilitated. Layering at the best is considered a somewhat wearisome and trying job, especially when it has to be done under a hot sun. Layers made at this season soon emit roots, and form good plants before the winter. In September they may be severed from the mother-plants, planted in beds, or potted and wintered in cold frames.

THE HARDY FRUIT GARDEN.

By G. WOODGATE, *Gardener, Rolleston Hall, Burton-on-Trent.*

STRAWBERRY BEDS.—When fresh beds of Strawberries are being planted, it is a common practice to plant the rooted runners at from 12 to 15 inches apart in the rows, with the intention of obtaining as much fruit as possible from the land in the first season. Such beds should have every alternate plant in a row removed the first year of fruiting, as soon as the crop is gathered, thus affording space for those that are left to fully develop. All of the runners on these plants should be removed, and as often afterwards as they are produced; this also holds good for plants which, having been forced, were afterwards planted out. Keep the beds clear of weeds by hoeing.

FIG TREES.—The young stocky, short-jointed wood of the current year should now be laid-in, leaving plenty of space in the fastenings used to admit of full growth without pinching the shoots. No more should be retained than space can be found for without crowding, and all other current season's shoots should be cut off.

APRICOTS.—The fruits will in most parts of the country have finished stoning, and a number of secondary growths will have pushed forth, all of which should be pinched back with the finger and thumb to one leaf. To prevent the young foliage harbouring insects, afford the roots a heavy application of water, and wash the trees with the garden-engine, doing the latter daily till the fruits commence to change in colour, when any further wetting must cease. Ant, woodlice, and sometimes mice, feed upon the ripening fruits of the Apricot, compelling the gardener to take means to preserve the fruit from injury. Woodlice can be caught by placing inverted small flower-pots filled with dry hay on the border, close to the Apricot trees, and once or twice a week, dropping the hay into a bucketful of scalding water. Ants are difficult to deal with, and the most effectual means that I know of is to pour boiling water with a small quantity of petroleum mixed in it into their nests late at night, which is, however, possible only where the nests are distant from the roots of fruit trees. They may be trapped by laying dead birds in their runs, which soon become covered with them, when the bodies may be gathered up and placed in boiling water. Mice should be trapped.

WALNUTS.—If any of these nuts are required for pickling, they should be gathered before the shell begins to harden. In gathering the nuts for this purpose the thick clusters should be thinned, which will aid the development of those which will remain.

PLANTS UNDER GLASS.

By JNO. MCINTYRE, *Gardener, Woodside, Darlington.*

IXORAS.—Those now in flower may be moved into a cooler house, and if moderately shaded, the plants will last a long time in flower. The Ixora is a plant that I do not think is benefited by manures of any kind, good fibrous peat and coarse silver-sand being all that is required to grow it well. Careful watering is very essential, or the plants will quickly become unhealthy. The present is a good time to increase the stock. Insert cuttings singly in thumb-pots, using sifted peat and silver-sand. Put them in the propagating-box until rooted. As soon as this has taken place, shift them into 4-inch pots, and encourage growth as much as possible during the next three months. They will then make plants that will carry four or five trusses of bloom in 6-inch pots next season, and such plants are exceedingly useful for vases in rooms.

CLERODENDRONS.—Specimens now in full bloom must be kept cool and in a tolerably dry atmosphere, for the purpose of prolonging their season of flowering. Water frequently with liquid from the farm-yard, or add a sprinkling of Clay's manure before watering them. Those which flowered earliest, if treated as recommended in former notes, will have lost all their foliage, and be ready for starting afresh to furnish plants for the late season.

ALLAMANDAS ought now to be showing abundance of bloom, and the season at which they are wanted must determine the treatment they should receive. If backward they will require to be pushed on. This would however be unfortunate, for if Allamandas are grown and flowered in a high temperature till they are required for exhibition, the plants may flag when staged. They should be kept cool a fortnight previous to removal to conservatory, or to the exhibition tent. The plants should now be afforded frequent applications of liquid-manure or other fertiliser. Complete all the necessary tying, so that the plants may have time to assume a natural appearance.

CALADIUMS grown in small pots may be fit for pots of a larger size, and they will then grow with increased vigour, and remain useful for a longer period. Use compost consisting of two parts yellow loam and one each of peat and leaf-mould, with a little sand. Add to this dried cow-manure, to the extent of one-third of the whole, and pass it through a half-inch sieve before using it. Afterwards apply water carefully for a few days.

ACALYPHAS may now have become leggy, and well-coloured tops should be taken and struck for use later in the autumn. Place them singly in 3-inch pots, using one part of leaf-soil, one of loam, and one of silver-sand. Put them into a case in the propagating-house, where they will soon make roots; then remove them to a shelf near the glass in a Melon-pit or other warm structure.

DRACÆNAS raised from eyes during the spring being now pot-bound, should be given a shift into 4 or 5-inch pots. Place near the glass, and afford them all the light possible.

MISCELLANEOUS.—At this season a careful inspection of the whole collection of plants should be made, and any plant that has become root-bound, and cannot be left over till the spring without injury, should be given a shift, care being taken not to give too much pot-room, as it is getting late in the season, and most plants winter best if rather pot-bound. Pot on Cinerarias and herbaceous Calceolarias which may be ready; those sown last month should be pricked off into pans previous to placing them singly in pots. Use a compost for them consisting of good yellow loam and sharp river-sand. Schizanthus, sown last month to flower in the spring, should be pricked into thumb-pots, putting three seedlings in each pot. If the conservatory is required to be gay in March and April, these are splendid plants for the purpose, if well grown. They must not be afforded large shifts—smaller ones at short intervals suiting them much better. Give them a light compost, and during the next three months grow them in cold frames. Plants of Azalea mollis that have been in a Peach-house since flowering, may now be given a position in the open, well exposed to the sun. If the pots can be plunged in some cool material, it will assist the growth, and save much watering.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Burford, Dorking.*

SCHOMBURGKIAS.—These plants enjoy sunshine at all seasons. S. tibicinis, S. Sanderiana, S. Kimballiana, and S. Humboldti have hollow, horn-like pseudo-bulbs; they are now commencing to grow, and, if necessary, should be given fresh material to root in. Very little is requisite, as the plants grow more freely in a shallow than a deep compost. It may consist of fibrous peat and sphagnum-moss, in the proportion of two-thirds of the former to one-third of the latter. The drainage must be as perfect as possible, so that the compost may be afforded frequent and copious waterings. They thrive equally well in pots or baskets, but, like Dendrobes or Mexican Lælias, it is essential that they receive abundance of light, air, and moisture. When growth is completed, afford less moisture, and place the plants where they will get the least amount of shade, but plenty of fresh air. Schomburgkia Lyonsii and S. undulata will grow well under similar conditions. The growth upon both species is now

well advanced, and should not be disturbed by repotting. S. crispa succeeds best under ordinary Cattleya-house treatment, if given a light position.

VANDA TERES is of exquisite beauty when in bloom, but many cultivators fail to flower it satisfactorily. Its particular requirements are plenty of direct sunshine and copious overhead waterings several times a day during active growth. Where a Mexican-house exists, this is the best place for it, and if given plenty of fresh air during the day when the sun is shining full upon the plants, and a thorough syringing at closing time, this species will thrive well and bloom profusely. The flowering period is past, and some of the plants may need overhauling. Some growers cut off the stems at about 2 feet from the top, and insert them thickly in beds of growing sphagnum-moss. The method is a very convenient one, especially where quantities of cut bloom are required from a small amount of space; but, as a rule, plants thus treated only produce three or four blooms on each spike, whereas plants cultivated in the following manner invariably give from six to nine flowers of good size and substance from each individual spike:—Half-a-dozen or more stems are fixed to long upright Teak rafts, each raft consisting of three or four rods, each rod being about three-quarters of an inch in diameter, and at least 1 inch apart, to allow of a free circulation of air amongst the roots. The lower part of the raft is then inserted in a pot and made secure there with crocks, over which is placed a layer of fresh sphagnum-moss. At the present time our plants have overgrown the length of their Teak supports; therefore, about 2 feet of the stems of the plants and rafts will have to be carefully sawn off at the bottom, and the rafts lowered in the pots. Another new raft will then be screwed on to the top of the old one, to which the uppermost stems should be securely tied. After the plants have been disturbed, they must be thinly shaded until the young roots have taken a firm hold of the new wood, when they may be gradually exposed to direct sunlight. The parts of the stems that have been cut off, if encouraged, will soon send out fresh growths, and in this way the plant may be propagated. Its allied species, V. Hookeriana, should be treated in a similar manner, the proper time for the operation being about the beginning of September. Plants of this lovely species should be showing their flower-spikes. Place them at the end of the hottest house where they may receive uninterrupted sunlight, and well syringe them overhead several times daily till the flower-buds expand. To successfully grow and flower this variety, the plant must, all the year round, be afforded warmer treatment than V. teres. V. Kimballiana and V. Amesiana do well in the same house as V. teres; they should be placed in such a position that air can circulate around them; and neither species should be syringed overhead, the water which lodges in the axils of the leaves frequently causing them to become spotted.

RENANTHERAS, ETC.—R. coccinea is another Orchid whose roots cling firmly to, and entwine themselves around Teak-wood rods. The plant delights in plenty of sunshine and a hot moist atmosphere during its season of growth. Identical treatment as regards light, heat, and moisture should be given to the rare and beautiful R. Storiei, to induce it to produce its panicle of richly-coloured flowers. R. matutina, now in bloom, should be grown with Aërides, Saccolabiums, &c.; so also should the singular Orchid Trichoglottis (Stauropsis) fasciata, and the pretty Stauropsis philippinensis.

RE-POTTING.—In the cool-house there are several plants that require to be re-potted or re-surfaced at once, the more important being Maxillaria Sanderiana, M. præstans, and M. Amesiana. As these varieties frequently thrust their flowers through the soil in a downward direction, basket-culture is the more suitable, and for the same reason no crocks should be used for drainage. Maxillaria grandiflora, M. venustum, M. Hübschii, and M. fucata, grow thoroughly well in an ordinary flower-pot or shallow pan. All of these species root freely and make strong growths in a compost consisting of three parts sphagnum-moss to one of peat, intermixed with plenty of small clean crocks. Maxillaria Turneri may also be repotted now; this plant succeeds best in an intermediate temperature.

THE KITCHEN GARDEN.

By C. Herrin, *Gardener, Dropmore, Maidenhead.*

THE DROUGHT.—Owing to the continuation of intense heat, frequently accompanied by drying winds, watering plants will of necessity occupy a considerable portion of the time available in this department, in order to keep Peas, Celery, &c., in a growing condition. The advantages of early mulching is now very apparent. On our rather light soil those Peas not early mulched and watered are virtually dried up, while others that could be well attended to in this respect, and have been watered twice weekly, are now podding fairly well, sufficient to supply a moderate picking daily. The variety Goldfinder, a Pea of the Ne Plus Ultra type, is one of the best now in use, and it appears to withstand the extreme heat better than the older variety. Keep the surface-soil well stirred by frequent hoeing. Early Runner Beans are flowering freely, and these, together with dwarf varieties, must be kept well supplied with water, or the crop will be a failure. Lettuces, Radishes, &c., also require frequent waterings to keep them growing.

CABBAGE.—A small quantity of an early variety of Cabbage seed may now be sown from which a first planting on a small scale may be made. So much depends on the weather in autumn and winter, that it is advisable where a considerable quantity of Cabbage is required, to make three sowings, early, mid-season, and late, allowing about a fortnight between each, the bulk of the plants or main crop to be planted from the middle sowing. If the first sowing be made about the 20th of the month, and the plants put out as soon as large enough, these will, providing the autumn be a favourable one, form heads for early use, and if not further required for Sprouts, the stumps may be cleared off, and the ground prepared for some other crop—Ellam's Early and Sutton's Flower of Spring form two capital varieties for early cutting. The seed-bed should be in an open quarter of the garden, and be well prepared and thoroughly watered a few hours before the seeds are sown. These may be scattered broadcast, or sown in shallow drills 8 inches apart. Should the extreme heat continue, it will be well to cover the seed-bed with garden-mats until germination takes place, after which it should be covered with netting, otherwise the birds will be found troublesome.

MAIN-CROP ENDIVE.—The present is a suitable time to make a full sowing. Borders on which early Cauliflowers have been growing may be lightly forked over, breaking up the clods finely, and working in, if the border is in poor condition, a little short, well-rotted manure. After the drills are taken out about 1 inch deep and 12 to 15 inches apart, they should be well watered and left for an hour before the seeds are sown. Sow thinly, and after covering in, beat with the back of a rake to make the soil firm. The most reliable varieties are the Selected Green-curled, and the improved round-leaved Batavian.

LEEKS.—Those sown for the main crop will now be large enough for transplanting into drills, 5 or 6 inches in depth, and 15 inches apart. The ground for these should be well manured. Those planted out earlier from boxes will require—as will also the newly-transplanted ones—copious supplies of water. The early plants that are growing freely, will require a little soil to be worked up around the stems, and this should be done after a thorough watering with weak liquid-manure has been afforded them.

LATE FRENCH BEANS.—These are generally very useful at the end of the season, and if a number of short rows of Ne Plus Ultra can be sown on a border under a wall, protection from early frosts may be easily afforded by means of mats or canvas.

FRUITS UNDER GLASS.

by W. Pope, *Gardener, Highclere Castle, Newbury.*

GRAPE VINES.—The Vines that are now swelling-off their berries should not be neglected in the matter of an abundant water supply at the roots, especial care being needed during a summer like the present one. Muscat varieties can scarcely be afforded too much water, provided the drainage of the border is in good condition, from the time the flowers appear until the fruit is well advanced towards ripeness. When the fruit of any variety commences to colour, a good mulch of short, dry material should be applied to the inside border after a thorough application of water, so as to check evaporation. The atmospheric moisture should be reduced, and a free circulation of air afforded, allowing a little heat in the hot-water pipes in cool weather rather than allow the night temperature to fall below 70°. The laterals on all Vines carrying a crop of fruit should still be rubbed off by hand as soon as perceived. See that the leaves of Vines that have been cleared of fruit are maintained in a healthy state. Should the early Vines be exhausted, and the replanting of the house contemplated, a fresh border should be prepared forthwith, and canes planted, which should have been raised from eyes struck in the spring, there being yet plenty of time to get them well-established before the season of growth expires. As the soil of which the new border will be made is likely to be deficient in moisture, care must be taken to make it thoroughly firm by treading and ramming it before the planting of the young canes is begun. When planting the Vines the roots should be carefully disentangled, and spread out to their fullest extent, covering them with the finer particles of soil, or with a specially-prepared soil, and finishing with a good watering with tepid water, and a mulch of half-rotten manure. Keep the Vines close in a warm temperature, and shade them for a few days, afterwards gradually inuring them to sunlight and air. It is sometimes a prudent course to lift the roots of old Vines that are doing unsatisfactory, laying the roots in fresh soil, or entirely re-making the border. In any case, the soil or compost required should be prepared, so that there may be no delay when the opportunity offers for carrying out the work. When the borders are both inside and outside, these operations may be carried out with no risk of losing a crop, or of any perceptible check being given to the Vines by spreading the work over two seasons, one year taking the inside border, and the next the outside one. It must be done, however, in the late summer, or early in the autumn, whilst the Vines carry foliage, so that the roots will enter the new soil the same year. A good sprinkling of some approved kind of Vine-manure may be mixed with the compost. It is very important that the work be done quickly and carefully, not letting the roots be exposed to wind and sun, but frequently damping them whilst out of the soil, and shading them and the vines. Should the borders require to be renewed, the drainage should be first put in good order.

THE APIARY.

By Expert.

VENTILATION.—While this very hot weather lasts, be careful to give the bees plenty of ventilation, by raising the hives with two little wedges of wood placed on each side, thus allowing the air to pass between the floorboard and the combs, and keep them working in the sections or shallow frames; this is all the more necessary, as the honey season is nearly finished, except in the "Heather districts." It is now useless to put on more crates of sections, but it is better to allow the bees to finish filling and sealing those that are already on. In cases where the bees are strong, and have filled their crates, remove some of the partly-filled ones from other hives where they are not so strong, and place them on the stronger lot, as by thus doing all the bees will be kept at work, and get the sections filled as well; and in most cases it will be found that where stock have thrown off swarms, and have not been returned, the sections will, as a rule, be left partly filled, and these are a trouble, because they have to be extracted, not being saleable as they are.

EXTRACTING.—This operation should be performed with great care, so as to keep the honey as far away from the hives as possible; an empty room if convenient is the best place to extract in, taking care that all the windows and doors are closed, to prevent the bees being attracted, as besides the great inconvenience they cause to the operator, it also starts them robbing from weaker stocks, which, when once commenced, is very difficult to put a stop to. When new honey is required for show it is well to extract it three weeks or a month beforehand, so as to allow time for the honey to clear itself, and the bits of comb, &c., which rise to the top of the bottle to be skimmed off. Put the honey by in a cool dry place till required. It is a common and harmful practice to take away more frames containing honey from the body-box of the hives than the bees can spare, which compels the bee-master to feed with syrup in the autumn, when this might be avoided by taking less away. From six to eight frames should be left in any case, and be careful not to extract from any frame containing brood. After extracting, the frames or sections can be returned to the hive for bees to clear out, and then put by for use next year. Sections for show or sale, as they are taken from the hive, should be kept the same way up, carefully cleaned, and the propolis scraped off, which can be done with an old knife; and of course the sections show to much better advantage by being glazed and stuck round with a narrow edging of fancy paper, which can be bought very cheaply from any of the bee appliance dealers; three-eighths of an inch is about the margin allowed.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the PUBLISHER.

Letters for Publication, *as well as specimens and plants for naming, should be addressed to the* EDITOR, 41, Wellington Street, Covent Garden, London. *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

APPOINTMENTS FOR THE ENSUING WEEK.

SATURDAY, JULY 18—New Brighton Rose Show.

TUESDAY, JULY 21 { Tibshelf Rose and Horticultural Show.

WEDNESDAY, JULY 22 { Beckenham Horticultural Show. Royal Botanic Society, Promenade.

SATURDAY, JULY 25 { Rose Show at Botanic Gardens, Manchester. Royal Botanic Society, Meeting.

SALES.

FRIDAY, JULY 24 { Imported and Established Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK —63°.4.

Metropolitan Rose Show.

THE great gathering of the clans has taken place, and, as usual, when the National sounds the trumpet, there was a goodly muster from all parts of the kingdom; contingents came from as far north as "bonnie Dundee," and from as far south as the Isle of Wight, from the Queen of the west, and from the metropolis of Rose-growing in the east; in fact, from almost every county representatives came. They had not the exultant air of expectant conquerors as in former years—there was a sort of depression about them. Faces were not so "wreathed in smiles" as they are accustomed to be, and one instinctively felt that there was something wrong; and when the lids were removed from the boxes and the flowers lay open to inspection, it was at once seen what was the cause of all these downcast looks. As Mr. MAWLEY has already told our readers, there were fewer Roses than have been shown for years, and the quality of them was certainly very mediocre. One instance will sufficiently exemplify this. Imagine two of our best judges of Roses who on that account had been selected to choose out the best Rose in the show, coming up with a somewhat indignant air and asking, "Are we obliged to give the medal for the best Rose? Here is the best that we can find; we think it would be a discredit to the National to give it a medal." What could be said but that, "If the best Rose were an indifferent one, it must still have it." "Well, we do not like doing it, but I suppose you are right." In truth, the Roses were both deficient in size and substance; there were, of course, some good ones, and some boxes over which one lingered with pleasure, but these were the exceptions, and though to the general public the flowers seemed worthy of the honours that they obtained, many a victor was fain to confess that he had won with flowers which in some seasons he would not have cared to put up.

Great was the consternation of the committee, when a couple of months ago the intelligence was brought that rosarians could not have their usual place, but would be obliged to be squeezed into the space in front of the great orchestra; the nave, where the show was usually held, being occupied by the carriage exhibition. Great efforts were made to try and alter this, but, after all, we are not sure but that the arrangement was more pleasing to exhibitors; the flowers were more together, and it was more easy to see them. As we have already given a full report of the flowers exhibited, a few points only need be now mentioned.

It has been seen that the Challenge Trophies went into different hands: Colchester had to give way to Bedale, or perhaps it should be said, Bedale and Hitchin combined; while the Amateur Trophy, which has during the last six years, with one exception, been taken by Mr. E. B. LINDSELL of Hitchin, was captured by one who formerly held it, the Rev. J. H. PEMBERTON, of Havering. The season was, no doubt, favourable to him, as he generally considers the Crystal Palace too early for him, so the forwardness of the present season was in his favour. The "Tea" Trophy also went to East Anglia, as did the Harkness Cup, which is now retained permanently by Mr. ORPEN. With regard to the extent of the competition, it is a somewhat curious fact, that although fewer Roses were staged, yet very nearly all the prizes offered were taken. In some years there is a considerable saving to the Treasurer from this cause, but this year very little; it evidently shows one thing, that the arrangement of classes according to the number of plants grown by the exhibitors has worked well. The prizes offered for the Roses raised by Messrs. ALEXANDER DICKSON & SON brought forward an interesting competition in both the nurserymen's and amateurs' divisions, and showed what good Roses had come from that source; and there was one in Mr. LINDSELL'S box which has not received the attention which it merits. We allude to that beautiful Tea, Muriel Grahame. The nurserymen's stand was not at all equal to the amateurs' (by-the-by, it is necessary to correct an error in our last issue, in which this prize is said to have been offered by the firm, whereas it was really offered by Mr. C. J. GRAHAME; and although he did not wish his name to be known, it is now so open a secret, that he should have the full credit of his liberality). Probably the best Rose that has been sent out by them is Mrs. Sharman Crawford, though run hard in such a season as this by Margaret Dickson, which has everywhere been very fine. The same gentleman offered a prize for Roses raised in England and Scotland; this was won by Messrs. ALEX. DICKSON & SON, whose stand contained some fine blooms. Some of the most interesting stands were those of 12 of one variety. Mr. MOUNT'S glorious stand of Mrs. John Laing confirmed the view many of us have had, that this is the best Rose that Mr. HENRY BENNETT raised. There was also another box of Captain Hayward, which Mr. MOUNT exhibited so well at the Drill Hall earlier in the season, showing it to be a grand Rose for pot-culture, and now established as a good exhibition variety. Then there was a very beautiful box of that somewhat little-known Rose, which last year gained the Medal for the best hybrid at Derby—Comtesse de Ludre, and which as shown by Messrs. MACK & SON at the metropolitan show was a decidedly effective Rose. In the same way, the stand with Marchioness of Londonderry, which gained the 1st prize for the best twelve blooms of white Rose, contained many very beautiful flowers, although some do not like the tint of white (if we may use such an expression). The twelve blooms of The Bride which came next to it were very pretty, although defective in point of size. The stands for new Roses were mainly comprised of home-raised flowers. The French Rose which was most frequently shown and the most generally admired was Maman Cochet, and we may hope from its vigour it may prove a useful Rose; but we may be disappointed, as some have been with Ernest Metz; we had hoped great things from it, but it has not been the gain we anticipated. Dickson's new Rose, Helen Keller, promises to be another useful addition to the pink Roses we already have; however, if we could get some more of the highly-coloured Roses, such as the Earl of Dufferin, we should be glad of them, alike for exhibition and for our gardens. No medal was awarded for any new Rose, although several candidates for it were exhibited; one of these, Mrs. Frank Cant, a light blush form, which was commended, has already received an Award of Merit from the Royal Horticultural Society. Before passing from these exhibition Roses, a word may be said for the very beautiful paintings of some half-a-dozen Roses, exhibited by the artist, Mr. HAYWARD, of Twyford, near Winchester; they are unquestionably among the best paintings of Roses ever seen; so much did the judges and committee think of them that they awarded the artist a silver medal.

The class for hybrid Teas was better filled than has hitherto been the case, but this has been done by robbing the hybrid perpetuals of such flowers as La France, and the Teas of Kaiserin Augusta Victoria; while Lady Mary Fitzwilliam and Viscountess Folkestone have also been pressed into the service, although for many years they have been exhibited as H. P.'s.

Probably, no part of the exhibition was the subject of keener interest than that allotted to garden Roses and displays of decorative Roses, especially the former. Of these, the exhibits of Mr. H. V. MACHIN, who gained Lord PENZANCE'S handsome Cup for garden Roses; and those of Messrs. PAUL & SON, of Cheshunt, and Messrs. COOLING & SON, of Bath, were very fine, while their artistic arrangement left nothing to be desired. There were, it is true, but few of the single Roses amongst them, as they had mostly passed their prime. Mr. MACHIN'S stand, which was admirably arranged, contained fine bunches of Red Damask, The Pet, Madame Worth, Perle d'Or, Bardon Job, Anna Maria de Montravel, Mignonette, Red Pet, Macrantha, Gloire des Polyantha, Madame P. Ducher, China, Baron J de Chassaneur, Maiden's Blush, Thoresbyana, Cecil Brunner, and Rosa Mundi. Messrs. PAUL & SONS' stand comprised, amongst others, Madame Chedane Guinoisseau, Gustave Regis, Madame Pierre Cochet, Madame Pernet Ducher, L'Idéale, Ma Capucine, Homère, Safrano, Bardon Job,

and Crimson Rambler. It will thus be seen the smaller Tea and Noisette Roses, and the little gems of the Polyantha class, came largely into requisition.

It will be seen from the list of awards which were given in a previous issue, that many new growers have come forward; names which have not hitherto been seen in the list of combatants. This is the result of one of the sub-division of classes according to the plan proposed by Mr. Graham; other growers have moved upwards, such as Mr. Grahame in his new garden at Leatherhead, and Mr. W. Boyes of Derby; there is still, however, a lack of exhibitors from the North. In the case of amateurs, we do not get much from beyond the Midlands; but perhaps at Ulverston the northern exhibitors may make their appearance. Since the retirement of Mr. Whitwell and Mr. S. B. Hall, no one has arisen to fill the blank.

Rosarians, as a rule, make a point if they can of coming to the metropolitan show, and thus one meets with old friends who we may, perhaps, not meet again; while each year shows the losses we have sustained, and we miss many a kindly greeting. The arrangements at the Palace are always as good as long experience and a desire to please can make them; and the thanks of Rose-growers are due to Mr. Head and his assistants for the manner in which difficulties are overcome and the wants of exhibitors provided for. We have had a pleasant meeting, and although in a Rose point of view, not up to the mark, we can have the satisfaction of laying blame on something which has in this country to bear a good deal—the weather.



Fig. 14.—Rhododendron Vaseyi: colour pale pink, changing to white.

Rhododendron Vaseyi.—Among hardy shrubs introduced in recent years from North America, there are few of greater promise than this. It is perfectly hardy, even in the seedling state, and flowers when only a few inches high. Although introduced to Kew only eight or nine years ago, it has borne seed for several years past. In its native home, on the hills of North Carolina, it reaches a height of 15 feet; and the wonderful beauty of these bushes, as described by those who have seen them in flower, may be estimated by a glance at the accompanying illustration (fig. 14), which shows the freedom with which the species flowers. It is a deciduous shrub, the leaves being lanceolate, pointed, and from 1½ to 3 inches long: they are of a lustrous green, with a few hairs on the upper surface near the margin, the margin also being irregularly ciliate. The flowers, which appear in April before any of the leaf-buds have burst, are of a clear pale pink, becoming almost pure white before they fade; they are 1½ inch across, the petals being oblong, with rounded or emarginate tips, and there are a few spots of reddish brown on the three upper ones. Among the seedlings raised at Kew are one or two with flowers that are almost pure white on first opening. Rhododendron Vaseyi and R. rhombicum bloom at the same time; and although the flowers of the one now figured are smaller, the species are evidently closely allied. R. Vaseyi seems, indeed, to be the American representative of the section to which R. rhombicum and one or two other Japanese species belong, and differs much in general character from the other deciduous Rhododendrons of North America, from which, in conjunction with R. flavum (Azalea pontica), have been obtained the so-called Ghent Azaleas that flower a month later.

EXAMINATION IN HORTICULTURE.—*Examiners' Report.*—"To the President and Council of the Royal Horticultural Society. Gentlemen,—We beg leave to report that we have examined the papers submitted to us—in all 152. Of these we selected 16 as worthy to be placed in the first class, 53 in the second, and 49 in the third. The remainder were passed over. The candidates were distributed over the whole of Great Britain, but no papers were received from Ireland. The Examination, as a whole, shows, in our opinion, that a more intelligent appreciation of the principles underlying practical horticulture is prevalent than was the case in previous years; nevertheless, there is abundant evidence to show that if the hands are trained to work, the eyes are not correspondingly taught how and what to see. Correct observation of the most common objects is still rare except among those who have had the advantage of adequate training. We have the honour to be, Gentlemen, your obedient servants,

June 20, 1896. MAXWELL T. MASTERS, JAS. DOUGLAS."

CLASS LIST.

Maximum number of marks obtainable, 300.

First Class.	No. of Marks gained.
1. Mr. E. T. Hearn, Central Laboratory, Chelmsford	255
2. Mr. W. Pratchett, Central Laboratory, Chelmsford	240
3. Mr. W. H. Patterson, Central Laboratory, Chelmsford	237
4. Mr. W. G. Martin, Central Laboratory, Chelmsford	235
5. Mr. Joseph Mitchell, Haslington, Crewe	230
6. Miss Gertrude Cope, Horticultural College, Swanley	227
7. Mr. Frederick J. Chittenden, Central Laboratory, Chelmsford	225
8. Mr. J. W. Dupré, National School, Handforth	217
9. Miss F. M. G. Micklethwait, Horticultural College, Swanley	215
10. Mr. H. Ward, Breadsall Priory, Derby	213
11. Mr. Fredk. C. Stacey, Central Laboratory, Chelmsford	210
12. Mr. Arthur H. Beeby, Central Laboratory, Chelmsford	207
13. Miss Sarah L. Saunders, Central Laboratory, Chelmsford	205
13. Miss H. W. Hotten, Horticultural College, Swanley	205
13. Mr. John R. Giles, Swindon, near Dudley	205
16. Miss A. Geoghegan, Horticultural College, Swanley	200

QUESTIONS.

Eight questions only to be answered, four from Division A, and four from Division B.

DIVISION A.—ELEMENTARY PRINCIPLES.

1.—What are the objects sought to be obtained by digging the soil? Of what use is it to the crops?

2.—What do plants do when exposed to bright sunshine, and what takes place when they are subjected to total darkness?

3.—Of the elements and compounds that go to make up the constitution of plants, a few occur in much larger proportion than others. Which are they, and whence are they obtained?

4.—What are the "reserve materials" of plants? Where are they stored? What use is made of them?

5.—What are the essential points in the structure of roots, as contrasted with that of stems?

6.—What are the special effects produced by nitrogenous manures and by mineral manures respectively?

7.—Describe the shoot of a Peach tree and the arrangement of its buds.

8.—What part of the plant furnishes the vegetable known as Asparagus?

9.—What are the main differences between the "seed" of a flowering plant and the "spore" of a fungus?

DIVISION B.—HORTICULTURAL PRACTICE.

1.—Describe the preparation of the ground for the Onion crop; the method of sowing the seed and subsequent treatment; also the most suitable soil.

2.—What are the circumstances which should regulate the frequency of watering and the amount of water to be given to plants in pots?

3.—Describe the most suitable soil, and the method of culture, for such tap rooted vegetables as the Carrot and Parsnip.

4.—Say what you know about the origin of the Cherry and Apricot; the soil and manure most suitable to each; the diseases they are subject to, and the most effective remedies.

5.—Give the names of the best varieties of Strawberries. What is the most suitable soil for their culture? Describe the culture (in detail) for forcing and the open garden.

6. What is the origin of the Carnation and the garden Pink? How may a supply of flowers be obtained from these plants all the year round? Describe the diseases and the methods of prevention and cure.

7.—Describe the culture of the Daffodil; its propagation; the diseases and other enemies that attack the plants, and the best treatment.

8.—Describe the general details of Orchard House Culture; and state whether there are any advantages in growing fruit-trees in pots.

9.—What are the best methods for ventilating hot-houses, and for shading the plants? Give general details.

THE BOTANICAL GARDEN, ST. LOUIS.—With regard to the Botanical Garden at St. Louis, a view in which formed our supplementary illustration last week, we afford our readers the following note, descriptive of the effects of the recent cyclone, extracted from a late issue of *Garden and Forest*:—It will be of much interest to the scientific and gardening world to learn the extent of the damage done to the Missouri Botanical Garden by the destructive tornado that recently visited St. Louis. The garden was in the direct path of the wrecking wind at its extreme western point. As this was the starting point of the destruction, the garden suffered less severely than the region just to the east, though the damage was considerable, more especially in the timbered portion. Something like 160 trees were either uprooted or broken off so near the ground that it was found necessary to take them out. Many of these were rare and choice plants, and an estimate of their value would be impossible. More than 250 trees were seriously damaged, many of them having their tops almost entirely carried away. Some of these, by judicious pruning, will, in a few years, grow to be beautiful trees again, while it is probable that a few will die. The shrubbery was badly whipped, but the damage to it was comparatively slight. The herbaceous plants were almost totally destroyed in the exposed places, but these are now all replaced by reserved stock. The grounds are rapidly being put in order, and in a month it is expected that all vestige of the storm will have been cleared away, and only the vacant places left to indicate its awful work. It is fair to say that the damage is not so great as to mar the beauty of the garden, nor to impair its usefulness as a place of instruction. In these particulars it will not suffer in the least. The injury to the buildings was mainly in broken windows and damaged roofs. The glass portion of the roof of one large greenhouse was entirely demolished, and the roof of the southern half of the herbarium and library building was carried away. By prompt action of the *employés* in the library building, its contents received no damage whatever.

CARDIFF HORTICULTURAL SOCIETY.—This Society made a wise arrangement when they decided to hold their annual show in the Cardiff Exhibition-grounds. The dates are August 12 and 13, and there is every prospect of a good show being held. The tents will be fixed in the long avenue—a splendid site—but the space will be rather limited. Exhibits not for competition will only be allowed to those who make early application.

SCOTTISH HORTICULTURAL ASSOCIATION.—The usual monthly meeting of this Society was held at 5, St. Andrew Square on Thursday evening, the 2nd inst., Mr. R. W. E. MURRAY, the President, occupying the chair. The paper given by Mr. D. MCINTYRE, Royal Botanic Garden, Edinburgh, was entitled "Fungi," and treated of several of the most injurious as well as beneficial, including canker (Nectria ditissima), gumming (Coryneum Beyerinckii), Apple-scab (Cladosporium dendriticum), Mildew, and Potato disease; Rhizobium leguminosarum, and Michoriza. The paper concisely pointed out the mode of germination, and stages passed through in the life of these fungi, and the best method of prevention. A few of the best solutions employed in checking their spread was discussed by the members. After a hearty vote of thanks to the reader of the instructive paper the meeting closed.

FIRST-CLASS BULBS.—Subjoined are further results of the *plébiscite* initiated by the Dutch Bulb Society, and referred to on p. 790 in our last volume:—

Narcissus (single), Magni-coronati Group.—N. bicolor, John Horsfield, 396 votes; Golden Spur, major, maximus, moschatus, albicans, lorifolius Emperor, and bicolor Empress, 256 votes.

Medio-coronati Group.—Incomparabilis, Sir Watkin, 217 votes; Campernelli, 88 votes.

Parvi-coronati Group.—Poeticus ornatus, 315 votes; and the common poeticus, follows with 71 votes.

Narcissus (double).—Orange Phœnix, 369 votes; Van Sion, 366; and Silver Phœnix, 357 votes.

Narcissus polyanthus.—Grand Monarque, 359 votes; Gloriosa, Grand Soleil d'Or, Bathurst, Her Majesty, Mont Cenis, The Pearl, Queen Victoria (yellow), and Don Carlos, 233 votes.

Crocus.—Mont Blanc, 351 votes; purpureus grandiflorus, Margot, Xerxes, Caroline Chisholm, and Albion, 200 votes.

Gladiolus.—Colvillei (red), 362 votes; Colvillei albus var. The Bride, and Colvillei albus, 289 votes.

Lilium.—Speciosum rubrum, 349 votes; speciosum album, speciosum punctatum, speciosum album var. Kroonprinces, and speciosum album var. Kraetzeri, 263 votes. The beautiful Lilium Brownii gets only 68 votes, and the splendid Lilium auratum only 28 votes.

Scilla.—Sibirica, 301 votes.

Galanthus.—Nivalis and nivalis flore-pleno, both 287 votes.

Chionodoxa.—Lucilliæ, 269; and sardensis, 208 votes.

Muscari.—Botryoides and botryoides album, both 247 votes.

Iris.—I. hispanica Blanche superba, 242 votes; I. Ovidius, 202 votes; I. Golden Cup, 194 votes; I. Le Reconnaissance, 176 votes.

Fritillaria.—F. imperialis maximus (yellow), with 236 votes; F. i. goudbont, 208 votes; F. i. maximus (red), 207 votes; F. i. sulphureus, 196 votes.

Leucojum.—L. æstivum, 205 votes.

Representations of the above-named bulbs will be published from time to time in coloured plates in the *Florilegium Harlemense*.

SPECIFIC CHARACTERS.—At the last meeting of the Linnean Society, Dr. A. R. WALLACE, F.R.S., read a paper "On the Value of Specific Characters." The object of this paper was to show that, accepting the facts of variation and heredity and the agency of natural selection, the characters which distinguish a species from its allies, and which are, therefore, either singly or in their combination, peculiar to the species, are necessarily useful. The causes said to be capable of producing useless specific characters were considered, and it was shown that such of them as did not involve the action of natural selection could not, except through a rare chance, extend the original useless variation to every individual of a species, and to those only. Useless characters, therefore, although often occurring sporadically, can never (except by chance) become truly specific. Some of the cases of alleged useless specific characters were then examined, and were shown to be explicable either as individual modifications due to environment, or as being adaptive and therefore useful. The conclusion arrived at was that, whether we can discover their use or no, there is an overwhelming probability in favour of the statement that every truly specific character is or has been useful, or if not itself useful, is strictly correlated with such a character.

"DICTIONNAIRE PRATIQUE D'HORTICULTURE."—The French edition of "Nicholson," published by OCTAVE DOIN, of Paris, has now reached the letter Phys. There are many additions to the letter-press and to the illustrations in this new edition.

NEW YORK.—Professor N. L. BRITTON, of Columbia College, has been appointed Director of the new botanical garden to be established in Bronx Park, in this city.

The Reading and District Gardeners' Mutual Improvement Association had its annual outing on the 2nd inst., when over 110 members took part in the event. The places selected to be visited were Englefield (the seat of R. Benyon, Esq.), Coombe Lodge, Whitchurch, and Shooter's Hill.

The Growth of Leaves.—At the last meeting of the Linnean Society, a paper was read by Prof. Macdougal, "On the Relations of the Growth of Leaves to the Chlorophyll-function." The author remarked that the leaves of seedlings accomplish a large proportion, though not always their entire development, at the expense of the food derived from the seed. Rapidly developing but small leaves furnished with large stores of reserve food are able to carry out a complete development, but are unable to endure continued existence in an atmosphere free from CO_2; the slowly-developing leaves of many woody perennials develop normally and endure a long-continued existence under the above circumstances. This varying reaction of leaves is dependent upon a series of conditions which may be included in the phrase "availability of the food-supply." The death of a leaf in an air free from carbonic acid gas is due to insufficient nutrition.

Preserved Maidenhair Fern.—Maidenhair Fern is well known as forming a most valuable addition to arrangements of cut flowers, but hitherto it has only been the favoured few who were able to obtain a sufficient supply of it at all seasons. It can now, however, be obtained dried and coloured in packets, and as in this form it is almost as beautiful and far more lasting than when freshly cut, it is a valuable acquirement. "Hunter's Preserved Ferns" should not be exposed to full sunlight, but, in a dry atmosphere, where in vases it will keep fresh, retaining its (apparently) natural colour and gracefulness for a long period.

Chester Horticultural Show and Fete, August 5 and 6, 1896.—At the request of several intending exhibitors, entries will be received up to Wednesday, July 29, writes Mr. J. Wynne Froulkes, Hon. Sec., Crypt Chambers, Eastgate Row, Chester.

"Fruit-growing," by Mr. W. Wells.—This is the latest of the series of Manuals on Fruit-culture written by nurserymen in recent years, of which Mr George Bunyard's *Fruit-farming for Profit* was the first in point of time. Primarily written to afford a fillip to fruit-culture, these works have doubtless done much to make the possibilities of fruit culture in these islands generally known; and a good deal of the development of this industry is doubtless traceable to them. The contents of the manual, although differently arranged, do not materially differ from others of the above-mentioned series. The chapters giving the reasons for an increase in fruit-farming and cider-making are cogent and unanswerable; and that on packing fruit for transit by railway, &c., affords useful directions. We may remark that the author is a nurseryman, residing at Crawley, therefore a near neighbour of the author of a similar manual, Mr. Joseph Cheal, of the Lowfield Nurseries.



Fig. 15.—Cattleya schroderiana: colour rosy-lilac.

Cattleya Schröderiana.

This pretty species (fig. 15), with flowers of rosy-lilac colour, somewhat resembling those of C. dolosa, was shown by Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, on the occasion of the meeting of the Royal Horticultural Society on Tuesday, June 23. The stems are about 4 inches in height, having two distinct joints, and the pseudo-bulbs have two leaves, which are oblong-ligulate. It is a desirable summer-flowering plant.

Home Correspondence.

A combination of roses and briars.—The handsomest of hedges or clothed fences may be formed of Turner's Crimson Rambler Rose and Sweet Briar planted alternately. The absence of odour in the Rose is compensated by the delightful fragrance of the Briar. Anyway, the two varieties of Rose make a charming combination. *K.*

Double sweet pea.—We send herewith some blossoms of a Sweet Pea, which you will admit are a good step towards a double flower. You will observe that the standards are produced in duplicate and sometimes triplicate, and this feature makes the blossom far more attractive than has hitherto been the case when only one has appeared. *James Carter & Co.*

Hollyhock disease.—Although it may seem presumptuous to differ from Mr. Douglas when he writes about certain plants, I feel constrained to differ from him with all respect when, for instance, he states that Hollyhocks have not suffered materially from the well-known Puccinia this season. I have seen it in many places amongst not only double but single-flowered forms, the latter being now chiefly grown in rural districts, literally rampant, eating up leaves and stems wholesale. Then it is not my experience that a moist season favours the development of this fungus. So far from that being the case, I always found moisture at the roots and on the leafage as most helpful to robust growth, and strong growth enables the plants the more effectually to resist the attacks of this insidious and too commonly terribly destructive disease. Moist seasons may be harmful to the bloom, and especially so to fertilisation, but the roots and leaves undoubtedly like it. Those who would still, under the discouraging conditions by which surrounded, grow Hollyhocks (and when well grown they rank amongst the noblest denizens of our flower gardens), should have the ground for them well trenched, burying a good dressing of manure; give the plants plenty of room, water liberally in dry weather, and always raise from seed, which should be sown in fresh soil every year, if raised outdoors. The moment the bloom is over, the stems should be cut off close to the ground, removed, and burnt, and a very light sprinkling of gas-lime and soil be given about over the roots, and be hoed in. Seed for own sowing or sale should never be saved from infected stocks, and there can be no doubt but that even seed, microscopically examined, would be found carrying fungus-spores. *D.* [See *Gard. Chron.*, July 15, 1882, p. 87.—Ed.]

Mealy-bug on vines and XL all vaporiser.—Last season I used this preparation in a late vinery containing amongst other varieties Lady Downes and Gros Colmar. I did not find the slightest trace of injury, although used twice in close succession. I have also this season used the preparation in a Black Hamburgh vinery with equally satisfactory results; destroying thrip, the foliage being at that time in a very tender stage, the Grapes just thinned, in fact, I have many times tried to fumigate with tobacco-paper, but never yet without some injury being done to Gros Colmar, this being in my experience the tenderest foliaged Vine in cultivation. XL All is undoubtedly the most valuable aid to gardeners discovered in recent years. Can any reader say, is it satisfactory as against spider in early stages? *R. Grindrod, Trout Inn, R.S.O., Hereford.*

Early pears.—Whilst the fruits of the Cherry, Peach, and Nectarine, Raspberry, Gooseberry, and Strawberry are in season, that is, during the months of July and August, many persons do not seem to need anything further as thirst-quenchers, and this fact may account for the general scarcity of early varieties of the Pear in most gardens. One hesitates to apportion any of our valuable wall-space to them;

and, indeed, it is not necessary in the warmer parts of the country. In summers like the present, the need for juicy fruits of all kinds in preference to intoxicating wines, beer, cider, mineral waters, acidulous decoctions in variety, which are apt to disagree with most persons if partaken in large quantities, should lead to the planting of a few trees of early Pears as espaliers and pyramids or half-standards in every kitchen garden. For July the following may be taken: Summer Francreal, syn. Doyenné d'Eté, Summer Doyenné, and Petit Muscat. For August, Jargonelle, Citron des Carmes, Bloodgood, Windsor or Green Windsor, Beurré de Juans, B. Précoce, Summer Rose, Perch, Fondante de Cuerne, and Early Rousselet. In September the number of varieties that ripen is legion, and need only be alluded to. *Beurré Hardy.*

TOMATO DISEASE.—I, like your correspondent, Wm. W., in *Gardeners' Chronicle*, p. 46, am of the opinion that atmospheric conditions have more to do with Tomato diseases than any other agency. I once planted some stout Tomato plants at the front of a Fig-house, thinking that I might thus economise space, and obtain a crop of Tomatos. Alas! the truth of the Scotch saying that the "best laid plans of men oft gang agley," was never more clearly illustrated, for out of the forty-eight plants so planted I did not get one sound fruit. I attributed this to the fact of my growing, or at least attempting to grow, Tomatos under conditions which were quite suitable to Figs, viz., in a moist warmth There was nothing in the soil to account for the collapse of the plants—no chemical or animal manure, and I was convinced that the close, moist air was the sole cause of my failure, because of the fact that plants raised from the same packet of seed, growing side by side until they were a foot high, and then planted in a house where air was admitted in considerable volume, yielded a splendid crop of fruits, and they were quite free from disease of any kind. I admit front air night and day to my Tomato-house, from the time the first flower-trusses open, and this air, in entering the house has to pass over a hot-water pipe in which there is always a slight amount of heat. Another batch of Tomato plants is planted in the front of an unheated Peach-case, having a west aspect, and these, despite the syringing and damping, inseparable from such a structure, afford excellent return, and the plants are free from disease, which in my opinion, is prevented by the lively current of air passing through the housse night and day. *J. F. McLeod.*

—— I read your correspondent's ("Wm. W.") note about the Tomato disease; will you allow me also a little space to give your readers my experience in some of the large Tomato-growing establishments. I remember once putting out some plants in the month of May to furnish seed, which became so badly diseased that it was thought prudent to throw them away. These plants had very little bottom-heat, but they were afforded top and bottom ventilation. This season I planted one house in the month of April, the plants were never syringed after being planted, and I find the disease is just beginning to affect some of them. There is a fine crop of fruit on them, and the worst cases of infection occur near the ventilators. I am sure the disease does not come in this case from imperfect ventilation or from damp, for they are never afforded water at night; but I do find that the disease is worst when plants are fed with animal manure, whilst others which are given Pearson's Chemical Manure are not so bad. I have a Tomato grafted on a Potato bearing eighteen fruits, and if it is any use will gladly send it to you. *W. J.* [Please do. ED.]

—— I have ample proof that bottom-heat is not conducive to the Tomato disease, as for several years I have grown a few plants in the Pine-stoves, and though the pots are not plunged, the roots find their way into the pan the Pines are plunged in and travel a great distance. The youngest of the plants are from seeds sown twelve months last February. We have a few in two other houses in pots plunged in leaves and manure, put there for other purposes, with a flow and return hot-water pipe underneath, with the heat always on, without any trace of disease. I think, like your correspondent, "Wm. W.," that water applied to the plants overhead, which the plant does not want, or an atmosphere charged with moisture, are responsible for the Tomato disease. All our houses are unusually dry, and a good deal of damping and syringing other things is resorted to in the spring months to keep down insect pests, but I have not seen a trace of the disease for some years. I would here suggest that the Superintendent at Chiswick should put this to the test by syringing a few plants twice daily in a house where a number of others are growing to see what the result would be. Of course, it is rather late in the season for the suggestion, but it might be done another season. Some of our large private growers could conduct a similar experiment; but a report of an experiment of this nature, coming from the committee of the Royal Horticultural Society, should have more weight. I recently read a report of a technical lecturer advocating the syringing of Tomato-plants to keep them free from red-spider and green-fly, pests that seldom visit them; and if they do get on them from other plants, the constitution of a Tomato-plant is more than a match for them, if provided with something to grow in, and plenty of water at the roots. If red-spider could make headway on the Tomato anywhere, it would be in the hot, dry atmosphere of the Pine-stove; but here again it is practically helpless. *W. P. R.*

STRAWBERRY VICOMTESSE HÉRICART DU THURY *syn.* GARIBALDI.—It is amusing to find attention being again directed to the merits of this excellent Strawberry and its identity with other aspirants to its fair name. One could have hoped that this question, once strongly debated, had been settled for ever. But not so. That they are identical there is no manner of doubt; any little difference there may be being entirely due to cultivation. Having had a good deal to do with the Vicomtesse, it may not be altogether uninteresting to your readers were I to relate something of my experiences on the points raised, although it is not altogether in unison with that of my Edinburgh friends. The Vicomtesse Héricart du Thury Strawberry was raised and sent out by M. Jamin, and not by Vilmorin, as stated by Mr. Carmichael. I well remember the following circumstance in connection with this Strawberry: Sometime during the summer of 1858, the late Mr. Gilbert, of Burghley, and your present correspondent were one day engaged amongst the Strawberries in the old Horticultural gardens, when we noticed one variety very distinct in habit from all the others. The late Mr. R. Thompson, on being appealed to, said, in his peculiar manner, "Ah! by-the-by, that's the——" but what he said we did not know until next day, when he had it reduced to writing. This proved to be Vicomtesse Héricart du Thury. Mr. Thompson told us it was a variety he had noticed in France on a recent visit to that country, and advised that it should be taken special care of. From that date the Vicomtesse Héricart du Thury Strawberry became one of the most popular of Strawberries. It was largely grown in the Royal Horticultural Gardens, Chiswick, as a main crop variety, and thousands of plants were distributed amongst the Fellows of the Society. A little later on it became a very popular variety for market purposes around Edinburgh, Aberdeen, &c. In 1867 it is described in the pages of *Le Bon Jardinier*, with the further statement that the cultivation of this variety for market purposes is yearly increasing. In 1869 a highly eulogistic notice appeared in the *Journal of Horticulture*, where it is stated to be grown largely in various parts of the country. The statement that the Vicomtesse Héricart du Thury Strawberry was sent out the same year as Garibaldi, about thirty years ago, is altogether wrong, and has no foundation; the fact being that the Vicomtesse Héricart du Thury as a Strawberry was grown in the Royal Horticultural Gardens at Chiswick, some years before Garibaldi as a Strawberry, or as a patriot, appeared on the scene. *A. F. Barron.*

—— Some twenty years since, when I fruited Garibaldi eleven months in the year, and exhibited it at some of the meetings of the Royal Horticultural Society, it then caused some discussion in your columns, very similar to those of last week, whether the variety was not the same as Vicomtesse Héricart du Thury; but I thought the matter quite settled at that time, the raiser's name being given, and the year it was raised in, also the raiser's name of the Vicomtesse. My stock came from my friend Mr. Denning, when gardener at Surbiton, and that was all I knew personally of its origin. I had no doubt in those days that they were distinct, so far that they were raised by two separate persons, therefore they must be distinct; but the resemblance is such, that it would take a very clever person to distinguish it. Many years since, when exhibiting at York, there was a person exhibiting several golden tricolor Pelargoniums, but some of the varieties were so much alike, that no one, except perhaps the grower, could possibly distinguish them apart. However, the grower was so positive that they had certain marks about them that he could easily distinguish under any circumstances (which we could not), that I tried to find out the grower's talented gifts; so when he was absent I removed four of these plants, marking them so that I could eventually put them in their proper places. In the course of the day I ventured with another friend to visit these said Pelargoniums, and again pointed out that some of the varieties were so much alike, I could detect no difference. But the grower still thought otherwise. I put my hand on two that I had marked and said, I could see no difference whatever in these; and some others (really the ones I had taken the two from). "Oh," said he, "I can easily point out the difference," and accordingly he began to describe it (he did not detect the change that had been made). Then, again, with the other two he was equally at fault—he never, of course, knew that I had rung the changes. Here we may again refer to the Rose, Tomato, Pea, &c., if these were mixed up, even the best growers could not tell them apart, as I have proved by repeating the golden tricolor dodge. So I think the question of Garibaldi and Vicomtesse Strawberry may be summed up in a few words: no doubt they are not the same variety, but they are so much alike that when mixed up, it would be a very difficult matter to distinguish the difference. *Edward Bennett, Queen's Road, Eyham.*

—— The question as to the identity of these varieties is by no means a new one, nor is it quite so easily settled as "Fragaria" supposes. My old friend, Mr. William Carmichael, of 14, Pitt Street, Edinburgh, has gone up for the meeting of the Royal Horticultural Society at the Drill Hall on Tuesday next with some of his seedling Strawberries, and he may or may not agree to send up plants of these two varieties for fresh trial and testing at Chiswick. Would it not be more courteous for "Fragaria" to do as I and some others have done—carefully examine the two varieties as now growing side by side in Mr. Carmichael's garden in Edinburgh, and report upon them under his signature in the *Gardeners' Chronicle*? It may also be expected that Messrs. Dickson & Co., Edinburgh, may have something of importance to add to the statement, not yet contradicted, that they distributed Garibaldi the same year as the Messrs. Vilmorin of Paris the Vicomtesse Héricart du Thury, and that these two Strawberries are one and the same. There is yet another point. How did it come about that the Vicomtesse is hardly known or grown in Scotland, unless under the name of Garibaldi? The name and fame of both these firms are like Cæsar's wife—beyond suspicion, and yet for a period of nearly thirty years both have been doing a brisk trade in one Strawberry, according to "Fragaria," under two names. It may be admitted that of late years the sorts have got considerably mixed, and perhaps very generally deteriorated; but so soon as I saw the two varieties true side by side in Mr. Carmichael's garden here, they recalled fragrant memories of what they were long, long ago. As Garibaldi is a Strawberry of great commercial importance around Edinburgh, the question of its purity, and the growing of the finest strain, is one of vital moment to growers. As to the authorities, they do not help us much in this matter. Were it an affair of Apples, Pears, Plums, Peaches, or Grapes, I should turn to the Royal Horticultural Society, the *Orchardist*, or Dr. Hogg's latest edition of his useful *Fruit Manual*, with more confidence. Scott in his *Orchardist*, says little of the Vicomtesse Héricart du Thury, and merely names Garibaldi as a new American variety. Dr. Hogg thus describes the Vicomtesse Héricart du Thury, and dubbs Garibaldi as a synonym, without a word of its dual introduction through the Scotch firm of Dickson & Co. the same year: "Fruit above medium size, conical, with an even surface; skin, deep scarlet, becoming deep red as it ripens; seeds yellow, slightly imbedded; flesh, pale red throughout, firm and solid, brisk sweet, and richly flavoured. This is an extraordinarily abundant bearer, and a valuable variety for general cultivation. In forcing it requires less light than most other varieties. The foliage is almost evergreen, and it remains long in the same ground." Is this Garibaldi, Vicomtesse H. du Thury, or either, as grown by Fragaria? *D. T. Fish.*

—— I read with much interest Mr. John Carmichael's notes on Strawberries, in your issue of July 4. There is, however, one point on which I incline to differ with the above gentleman, viz., that Royal Sovereign will supersede Sir Joseph Paxton, as during the past two seasons here Royal Sovereign has been nearly over before Sir Joseph

Paxton was ready. It seems to me therefore that Royal Sovereign cannot well be looked upon as a coming rival to Sir Joseph, but as a good variety to precede it. I shall be glad to have the opinion of other growers, as to their experiences with Waterloo, as I can neither get it to grow nor fruit, and have therefore discarded it. *J. Wilson, Greenside Nursery, St. Andrews, N.B.*

FRUIT REGISTER.

PEAR DOYENNE D'ÉTÉ.

This fine early Pear has fruit below medium size, but of delicious quality, ripening at a season when good Pears are not plentiful. We gathered our first ripe fruits of this variety on July 8 from a standard tree, which is an abundant bearer every year, and this year the crop is heavier than usual. The fruit has to be consumed as fast as it ripens on the tree, as it does not keep in good condition for any length of time. The season for it is over before Citron des Carmes, the next best early Pear, comes in. *R. Turnbull, Beachley Gardens, Chepstow.*

MADRESFIELD COURT GRAPE SPLITTING.

Mr. Crump may recollect that it was only in extreme cases that I recommended boring the laterals of this and other tender-skinned Grapes. In any ordinary, well-ventilated house there should be no difficulty in finishing it without a cracked berry, and, when well done, it has no superior amongst black Grapes, but it is sometimes difficult in low, old-fashioned structures, such as I have had to do with at times, and which I had in my mind when I penned the paragraph referred to. With outside borders, and very inadequate means of ventilating, I more than once saved my crop during heavy rainfall by adopting the method he condemns, and, in spite of its barbarity I should certainly pursue the same course were I placed in a similar predicament. *Wm. Pope.*

GOLDEN CHAMPION GRAPE.

Will some kind reader kindly inform me if the above Grape was a seedling; if so, what sort was it raised from? If I remember aright, Messrs. Veitch, of Chelsea, sent this Grape out in 1870. The late Mr. P. Grieve, of Culford, thought this Grape was only a sport. Any information on the subject will much oblige. *W. C. Leach.* [This variety was raised by Mr. Thomson, gardener to the Duke of Buccleuch, Dalkeith Palace, from seeds sown in 1863. The Grape from which the seed was taken was, according to Mr. Thomson's statement in the *Gardeners' Chronicle* for August 1, 1868, "a cross between the Champion Hamburgh and the Bowood Muscat." A figure of a bunch, together with a description of the fruit, both furnished by Mr. W. F. Burbidge, then a student at Chiswick, will be found in the above-mentioned issue of this journal. Whether the seed was obtained from a self-fertilised bloom or from another source can never be known. Ed.].

RASPBERRY SUPERLATIVE.

I read the note by Mr. Woodgate in the *Gardeners' Chronicle* of the 11th inst., p. 44, and cordially endorse his remarks on the merits of the Superlative Raspberry. My experience with the variety extends over a few years, I having in the autumn of 1889 planted R. Hornet, R. Baumforth's Seedling, and Superlative. I was, however, obliged to discard the first two varieties after three years' trial of them, being satisfied that in our light soil they were not likely to be worth growing. I have now in bearing more than 200 stools of Superlative, and although we possess a somewhat large plantation of other varieties, they will all eventually have to give place to this excellent variety. It is the earliest to fruit with us, a most prolific cropper, has large and handsome fruit of good colour, and it is less liable to the maggot, which is so prevalent in wet seasons. A word as to my treatment of the plantations may not be out of place. I select the fruiting canes for the ensuing year, early in the season—say about the middle of June; these are loosely tied to the trellis; and the crop being over, the fruiting-canes are removed, and the young ones tied securely in their places, placing them about 6 inches apart—the length of the canes at that time being about 9 feet. These are left their entire length till the following spring, and then, there being no chance of severe frost occurring, they are reduced to 6½ feet. The roots are carefully bared, and a thick layer of fresh cow-dung is firmly trodden down over them, and this slightly covered with fresh soil. The trellises are 6 feet high, they stand 6 feet apart, and consist of stoutish iron-wire, secured at the ends to wooden posts squared to 4 inches, with intervening supports of a somewhat smaller size. *J. F. McLeod.*

SOCIETIES.

ROYAL HORTICULTURAL.

July 14.—Unfortunately, the date upon which it was arranged that the exhibition of Roses should take place, proved to be too late a one for so short and precocious a season as the present one, and although there were numerous collections entered in the fifteen classes provided by the society at the meeting held in the Drill Hall, James Street, Westminster, on Tuesday last, the general quality of the blooms was by no means first-class. There might have been made a better show at the meeting held in the same hall three weeks ago. Orchids were comparatively few on the occasion under notice, but several interesting ones were included in the small collection. Other plants and flowers were fairly numerous, but though there was a good display throughout the building, there were not many novelties, except in such plants as Carnations, Cannas, Sweet Peas, &c. Fruits and vegetables occupied rather more space than for some time past.

Floral Committee.

Present: W. Marshall, Esq., in the chair; and Messrs. J. Fraser, H. B. May, H. Herrst, R. Dean, J. H. Fitt, George Stevens, Jas. Hudson, J. F. McLeod, J. Fraser, R. Milligan Hogg, Chas. E. Pearson, H. Selfe Leonard, J. T. Bennett Poë, Jas. Walker, Edwin Beckett, H. J. Jones, C. J. Salter, H. Caunell, Chas. Blick, George Paul, and Harry Turner.

Messrs. Hartland & Co., Cork, were awarded a Silver Flora Medal for an excellent collection of double flowers of tuberous-rooted Begonias. There were about 150 blooms, staged with some of their own foliage, on a ground-work of moss, and the effect was very pretty. A very considerable number of varieties were represented, and most of them may be commended for their merit. They had travelled well.

Messrs. Wallace & Co., Colchester, again staged an exhibit, consisting of varieties of Calochortus now in flower, which includes some very pretty ones of the medium and large-flowered sections; also a number of Lilium blooms in many varieties, especially a fine lot of L. longiflorum giganteum, and forms of L. Thunbergianum, a species which has given very numerous varieties. A First-class Certificate was awarded to L. concolor, a slender-growing species, about 1½ feet high, which produces small fiery-scarlet blossoms, being only 1½ inch across. The flowers are spotted thinly and faintly with a darker colour. The group was awarded a Silver Banksian Medal.

Mr. H. Eckford, Wem, Salop, exhibited a small collection of his newest varieties of Sweet Peas, most of which were included in a large collection shown in the Drill Hall on a former occasion. On the present occasion Awards of Merit were granted to Queen Victoria, Prince Edward of York, and Lady Grisel Hamilton.

Sweet Peas were also largely exhibited by Messrs. Jas. Veitch & Sons, Royal Exotic Nursery, King's Road, Chelsea; and by Mr. F. C. Foster, Brockhampton Nurseries. In the former collection the bunches were interspersed with Gypsophila paniculata, and the effect was good. In each of the exhibits, however, there were many large-flowered varieties with distinct and pleasing colours. Both of the exhibitors were recommended Bronze Banksian Medals.

Sprays of ornamental flowering and foliage shrubs were exhibited by Messrs. J. Cheal & Sons, Lowfield Nurseries, near Crawley. Cut blooms of Pinks, Violas, &c., were also shown by the Crawley firm (Silver Banksian Medal).

Mr. M. Pritchard, Christchurch, Hants, exhibited a magnificent collection of hardy and herbaceous flowers now in season; all of them indicated successful culture. We noticed Chrysanthemum maximum var. G. H. Sage, several varieties of Coreopsis and Gaillardias, Echinopsis, and other such species; together with a few varieties of herbaceous Phlox, of which Wm. Robinson appeared to be one of the best. A berried spray of the Scarlet Elder, Sambucus racemosa was also included. A Silver Flora Medal was awarded the group.

Messrs. Young & Dobinson, Stevenage, Herts, exhibited cut flowers of various annuals and hardy species of plants.

A magnificent group of Ivies in pots, and representing numerous varieties, was exhibited by Messrs. Cutbush & Sons, Highgate Nurseries, London, N., many of the varieties included in this group are not commonly seen in gardens, and the exhibit was composed of nice plants in healthy condition and appearance (Silver gilt Flora Medal).

Messrs. Jas. Veitch & Sons, Royal Exotic Nursery, Chelsea, exhibited sprays of several flowering shrubs, including Clethra canescens, a very fine shrub of handsome habit, and producing spikes of white flowers (First-class Certificate); also sprays of Sambucus racemosus, beautifully berried; and other things. The Chelsea firm also exhibited some more fibrous-rooted Begonias, with showy coral-red flowers; a basket of plants of a new strain of Streptocarpus, with larger flowers than the popular hybrids already known. These new ones were referred to in our columns last week. Also a plant in flower of Didymocarpus malayanus. This new species, unlike most of the Didymocarpuses, has pale yellow flowers; it produces two to five upon slender spikes, and is apparently very free in blooming. The leaves are nearly ovate, light green in centre, and darker towards edges. The upper surface is velvety and very pubescent (First-class Certificate).

From Mr. Jas. O'Brien, Harrow-on-the-Hill, came a plant of Adiantum Bessonianum, from the West Indies, and thought to be a hybrid between A. tenerum and A. trapeziforme. It is a handsome Fern with rather dense-looking fronds, and belongs to the section with large pinnæ (First-class Certificate).

Messrs. Jno. Laing & Sons, Forest Hill Nurseries, London, S.E., obtained an award of Merit for a seedling Gloxinia named Mr. F. J. Edridge, a variety with light purple flowers of good substance.

A splendid Gaillardia was exhibited in sprays of bloom by Mr. G. H. Sage, gr. to Earl Dysart, Ham House, Richmond. The variety has been named Mrs. Sage, and is sure to become a popular one, by reason of its long and strong stems, and its fine, almost perfectly-formed flowers, in which the usual colours are more clear, and more decided (Award of Merit).

Messrs. H. Cannell & Sons, Swanley, Kent, again made an excellent exhibit of large-flowered Cannas, many of which were comparatively new, but such good and well known varieties as Queen Charlotte, Madame Crozy, and others were also represented. Awards of Merit were deservedly made to Amy Jules Chrétien, a self-coloured flower of a shade approaching salmon-rose; and Aurora, a fine handsome flower of orange-scarlet.

Mr. W. Farr, gr. to Andrew Pears, Esq., Spring Grove, Isleworth, exhibited a pretty Caladium unnamed.

A. F. W. Hayward, Esq., exhibited a few excellent paintings of Roses, and a few Pansies (Silver Flora Medal).

Carnations were much to the fore, as might have been expected, for is it not July, the month of the Gilly-flower. Foremost came Mr. C. Blick, gr. to Martin R. Smith, Esq., Hayes, Kent, who was fortunate enough to secure six Awards of Merit as follows: for Mr. Macrae, self, pale carmine-red, full and fine in petal; Boreas, self, rich maroon, flushed with bright crimson, extra fine; Dick Donovan, a superb white self, pure, and with stout shell-like petals; Blushing Bride, flushed with delicate pink, fine substance; Gladiator, a large purplish maroon self of fine quality; and Voltaire, pale yellow ground, with edging of soft purplish-rose. In addition, Mr. Smith had Princess Maud, Helmsman, and Daisy, all fine white selfs, but, as shown, not equal to Dick Donovan, the first-named slightly flushed with blush; Benzonian is a shaded dark maroon self, of fine quality of petal; El Dorado and Golden Eagle are yellow grounds; El Dorado being paler on the edge than Voltaire, and Golden Eagle paler still; Judith is a pale purple self, with a fine petal, very promising.

Mr. J. Douglas, Boolham, Surrey, received an Award of Merit for Voltaire, and he had Mr. Nigel, of a pale buff ground colour, heavily edged with crimson-maroon; Marathon, a large and full pale yellow ground, edged with pale rosy-red; El Dorado, Mrs. Alfred Tate, also a yellow ground, large and full; Ladas, yellow ground, having a slight edge of pale red; Firefly, whitish-sulphur ground, heavily edged with crimson; Winifred, a clear pale salmon self, decidedly promising, though not shown in its best character; Nabob, pale creamy-salmon, fine petal; Lady Ridley, and Mrs. Eric Hambro', two fine white selfs; Black Prince, dark wine-crimson; Bendigo, a bright purple self; Waterwitch, and Delicata, the last in the way of Alice Ayres, white, with lines of bright pale red.

Mr. C. Turner, Royal Nursery, Slough, had several boxes of new Carnations, viz., Clio (Award of Merit), a heavy scarlet-edged Picotee, full, pure in the ground, and finely-shaped petals, bright in colour; also Virgo, in the same way, with a broad edging of bright pale rosy-scarlet; May Queen (Award of Merit), pale bright-yellow ground, the petals edged and slightly lined with pink and purple—large and full; Primrose League (Award of Merit), sulphur ground, the petal-edges lined with purple-rose and pink, large, and of fine shape; The Gift, yellow ground, very fine, having a neat edge of pale red; Louisa Phillips, a clear pale-yellow self, deeper on the petal edges; Delos, a pale bright-red self, a fine full flower; Mrs. Douglas, yellow ground; Knight Errant, self, deeper in tint than Delos; Macclesfield, salmon-rose self, becoming a little paler with age; Sir Guy, a delicate blush self, in the way of Waterwitch; and Duchess, rosy-pink.

Jim Smith is a very bright scarlet-red self, a brilliant border variety, which is very free, and is not a pod-burster (Award of Merit), from Mr. H. G. Smyth, Drury Lane, W.C.

From Mr. E. Corby-Sharpin, Bedford, came a beautiful yellow-ground named Alice Mills, heavily edged with pale rosy-red, very fine shape and petal (Award of Merit).

Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, staged a large number of bunches of Carnations set up with sprays of Gypsophila, and they included the old Clove, Alice Ayres,

Germania, and many others, all useful border sorts (Silver Flora Medal).

Mr. W. C. TROUGHTON, Blackheath, had a small bright scarlet self, unnamed; a useful border sort. Mr. GEO. RADFORD, Rugeley, had Miss Ellen Oldham, yellow ground, heavily edged with red.

Fine sprays of Pterocarya caucasica in fruit were sent from Mr. E. Burrel, gr. to H.R.H. the Duchess of ALBANY, Claremont, Esher (Vote of Thanks). Figured in *Gardeners' Chronicle*, 1894, vol. ii., p. 364.

COMPETITIVE ROSES.

The Tea Roses were remarkably good, but generally the hybrid perpetuals were wanting in colour and fulness.

There were two stands of twenty-four single trusses, distinct, the Silver Cup offered as a 1st prize being won by Mr. T. B. HAYWOOD, Woodhatch, Reigate (C. J. Salter, gr.), the blooms small, but clean and bright, the leading varieties Her Majesty, Madame Gabrielle Luizet, Mons. E. Y. Teas, Duc de Rohan, Captain Christy, Earl of Dufferin, Pierre Notting Eclair, very bright in colour; Madame Prosper Langier, and La France. The 2nd prize was awarded to Mr. C. J. GRAHAME, Wrydelands, Leatherhead, with larger blooms, but the coloured H.P.'s were pale in tint.

In the open class for twenty-four single trusses distinct, the judges found some difficulty in coming to a decision, and awarded equal 1st prizes to Mr. GEORGE MOUNT, Rose Nurseries, Canterbury, and Messrs. PAUL & SON, Old Nurseries, Cheshunt. Mr. MOUNT had, for the time of year, regard being also had to the weather, some very good Roses, chief among them, Madame Eugène Verdier, Duchess of Bedford, Mrs. J. Laing, Charles Lefebvre, Gustave Piganeau, Ulrich Brunner, A. K. Williams, and Her Majesty. The leading flowers in Messrs. PAUL & SON'S stand were Her Majesty, Marie Rady, Paul Neyron, and Duchess of Albany. A 3rd prize was awarded to Messrs. D. PRIOR & SON, nurserymen, Colchester.

With twelve single trusses, distinct, the Rev. W. H. JACKSON, Stagden Vicarage, Bedford, was 1st with good blooms of Emile Hausburg, Duke of Connaught, Duchesse de Vallambrosa, Ferdinand Lesseps, Marquise de Castellane, Earl of Dufferin, Captain Christy, and Marie Rady. Mr. E. WEST was awarded the 2nd prize, his best blooms being Annie Wood and Captain Christy.

In the open class for twelve single trusses, distinct, there were six exhibitors, Mr. G. MOUNT taking the 1st prize with Earl of Dufferin, Madame Eugène Verdier, Charles Lefebvre, Mrs. J. Laing, Duke of Wellington, Caroline Testout, Duchess of Bedford, Ulrich Brunner, and Xavier Olibo; 2nd, Messrs. PAUL & SON.

Mr. W. TAYLOR, Hampton Hill, had a box of fresh and bright young flowers, which improved rather than deteriorated as the day waned.

With six single trusses shown by amateurs, Mr. J. BATEMAN, Rose Vale, Archway Road, N., was 1st with Her Majesty, A. K. Williams, Duke of Wellington, Madame Eugène Verdier, Gustave Piganeau, and Marie Baumann. The Rev. A. FOSTER-MELLIAR, Sproughton Rectory, Ipswich, was 2nd; his best flowers were Her Majesty, Madame Gabrielle Luizet, and Camille Bernardin.

With six trusses of any one variety (amateurs), Mr. R. H. LANGDON, Raymead, Hendon, was 1st with La France, and the Rev. W. H. JACKSON 2nd with Duke of Connaught.

With twelve distinct Roses, three trusses of each (open), Mr. GEO. MOUNT was again placed 1st, having fine blooms of Madame Eugène Verdier, Ulrich Brunner, Mrs. J. Laing, Xavier Olibo, Gustave Piganeau, Earl of Dufferin, La France, Marie Baumann, and A. K. Williams; Messrs PAUL & SON were 2nd, their leading flowers being Her Majesty, Marie Rady, Eclair, Mrs. J. Laing, J. B. Haywood, very bright in colour; and Duke of Connaught. Messrs. D. PRIOR & SON also competed. With twelve trusses of any one variety, Mr. G. MOUNT was 1st, with Mrs. J. Laing; and Messrs. PAUL & SON 2nd, with the same; Messrs. PRIOR & SON staging A. K. Williams.

In the Tea and Noisette section there were four exhibitors of twenty-four single trusses in the open class, duplicates being allowed; and here Mr. O. G. ORPEN, West Bergholt, Colchester, was 1st with some charming blooms, chief among them Maman Cochet, Madame Hoste, Souvenir d'Elise Vardon, Catherine Mermet, Maréchal Niel, Madame de Watteville, Ernest Metz, Comtesse de Nadaillac, Golden Gate, Sylph, new, a very pleasing variety; The Bride, Corinna, and Madame Hoste. 2nd, the Rev. A. FOSTER-MELLIAR, with Maman Cochet, The Bride, Bridesmaid, Niphetos, and Maréchal Niel, very fine in colour. The REV. W. H. JACKSON also exhibited.

Of twelve single trusses, there was but one exhibitor, Mr. ALLEN CHANDLER, Bunch Lawn, Haslemere, who was placed 1st, with Souvenir de S. A. Prince, Madame Margottin, Comtesse de Nadaillac, Golden Gate, Comtesse de Laberthe, &c.

With six single trusses (amateurs), Mr. R. E. WEST was 1st out of four exhibitors, having Anna Olivier, Souvenir de S. A. Prince, Hon. Edith Gifford, Etoile de Lyon, Souvenir d'un Ami, and Innocenta Pirola; Mr. R. H LANGTON was 2nd.

With single trusses of any one variety (amateurs), Mr. O. G. ORPEN was 1st, with Maman Cochet; the Rev. W. H. JACKSON being 2nd with Innocente Pirola.

In the open class for twenty-four Tea and Noisette Roses distinct, Messrs. D. PRIOR & SON were 1st with decidedly good blooms of Comtesse de Nadaillac, Souvenir de S. A. Prince, The Bride, Marie Van Houtte, Ernest Metz, Souvenir d'un Ami, Madame Serpon Cochet, Maman Cochet, Maréchal Niel, Princess Vera, Innocente Pirola, Jean Ducher, Niphetos, Caroline Kuster, Edith Gifford, and Mrs. Jas. Wilson; 2nd, Messrs. PAUL & SON, who had Madame Cusin, Etoile de Lyon, Souvenir d'Elise Vardon, Maréchal Niel, Jean Ducher, Maman Cochet, and Comtesse de Nadaillac.

With twelve distinct Teas, three trusses of each (open), Messrs. D. PRIOR & SON were again 1st, having Caroline Kuster, Ernest Metz, Niphetos, Maréchal Niel, Souv. de S. A. Prince, Souv. d'un Ami, Comtesse de Nadaillac, Innocente Pirola, Marie Van Houtte, and Maman Cochet. Messrs. PAUL & SON were 2nd, their leading varieties being Ernest Metz, Niphetos, Comtesse de Nadaillac, and Madame Cusin.

With twelve single trusses of any one variety, Messrs. PAUL & SON took the 1st prize, having Innocenta Pirola; Messrs. PRIOR & SON were 2nd, with Maman Cochet; Mr. MOUNT showing Madame Cusin.

Messrs. WM. PAUL & SON, nurserymen, Waltham Cross, staged several large bunches of new Tea Roses, prominent amongst them Empress Alexandra of Russia, salmon-rose, deepening to rose colour, full, and quite distinct (Award of Merit); Francis Dubreuil, a crimson Tea, with the shape of a H.P., fine in the bud, full in substance Award of Merit); Sylph, cream, suffused with fleshy-pink in the centre; Rosomane de la Huger, soft creamy flesh, very chaste and pleasing; and H.P. Waltham Standard, pale rose, as shown, fine in shape, and decidedly promising.

Mr. W. RUMSEY made a good exhibit of cut Roses, for which he was awarded a Silver Banksian Medal.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the Chair; and Messrs. Jas. O'Brien (Hon. Sec.), E. Hill, J. Jaques, Thos. Statter, W. Cobb, C. Pilcher, F. Sander, A. Bogaerde, De B. Crawshay, C. Winn, W. Thompson, W. H. White, H. J. Chapman, T. W. Bond, N. C. Cookson, H. Ballantine, A. H. Smee, H. M. Pollett, J. Douglas, and R. Young.

As is usual at this season of the year, there was a falling off in the number of the exhibits staged, and the greater part of those sent consisted of cut spikes.

One of the attractions of what are called botanical plants is, that they fairly distribute their interest over the whole year, and are consequently more noticeable when the flowers of the showier genera are scarce; of such there were a few exhibits. Sir TREVOR LAWRENCE, Bart., Burford, Dorking (gr., Mr. W. H. White), staged a neat group composed of Cattleya Eldorado marginata, of the C. E. splendens class, but with clear rose purple margin round the side lobes of the lip; C. E. Wallisii, pure white with orange centre; a well-flowered plant of Dendrobium McCarthiæ; the singular green and white Catasetum Russellianum (Botanical Certificate), a fine example of the orange and red Masdevallia corniculata (Botanical Certificate), the pretty Oncidium virgulatum (Botanical Certificate), Lælia Lucasiana, Polystachya odorata, the singular Epidendrum volutum, Zygopetalum Burtii Wallisii, and the handsome Zygopetalum grandiflorum, with greenish sepals and petals tinged with chocolate colour, and white and violet fringed lip (Award of Merit).

The Right Hon. Lord ROTHSCHILD, Tring Park, Tring (gr., Mr. E. Hill), sent a noble six-flowered inflorescence of Cattleya Warscewiczii (gigas) Shuttleworthii, an example of what may be attained by well growing a fine variety (Cultural Commendation); also Cattleya Gaskelliana alba, and the pretty little Masdevallia Carderi (Botanical Certificate).

The Right Hon. J. CHAMBERLAIN, Highbury, Birmingham (gr., Mr. Burberry), sent a selection of very fine varieties of Cattleya Warscewiczii (gigas) all good, and very dissimiiar from each other (Vote of Thanks).

C. J. LUCAS, Esq., Warnham Court, Horsham (gr., Mr. Duncan), also showed fine varieties of Cattleya Warscewiczii, of which those named gigantea and purpurea were the best (Vote of Thanks).

THOS. STATTER, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson), showed Cypripedium Godefroyæ leucochilum and cut examples of Cattleya Warscewiczii delicata, C. Rex, C. Gaskelliana, C. Schroderiana, Lælia-Cattleya × elegans, L.-C. × Schilleriana, L. purpurata, L. tenebrosa, Cypripedium Curtisii, C. superbiens, C. × Harrisianum superbum, and C. × selligerum majus (Vote of Thanks).

EDGAR COHEN, Esq., Hall Road, St. John's Wood (gr., Mr. A. Vass), showed Cattleya Mendelii Mrs. Edgar Cohen, a charming white form with rose spot on the lip and faint lilac tinge on the petals.

Messrs. HUGH LOW & Co., Clapton, sent Cattleya Mossiæ "Brilliancy" (Award of Merit), a very fine dark coloured variety; C. M. Arnoldiana, and C. Mendeli.

REGINALD YOUNG, Esq., Liverpool (gr., Mr. Poyntz), showed cut examples of Cypripedium Stonei candidum and C. × Harrisianum superbum.

W. THOMPSON, Esq., Walton Grange, Stone, Staffordshire (gr., Mr. W. Stevens), showed Odontoglossum luteo-purpureum sceptrum; O. nebulosum candidulum, and a very pretty and profusely-flowered collection of Cochlioda Noezliana (Vote of Thanks).

J. WILSON POTTER, Esq., Parkhill Road, Croydon, exhibited a fine specimen of the singular white Aëranthus grandiflorus, which he had successfully cultivated for a considerable time, it being the plant illustrated in the Orchid Album.

Messrs. F. SANDER & Co., St. Albans, showed a noble specimen of the white and fragrant Cœlogyne Sanderiana with six fine spikes (Cultural Commendation), and two plants of the pretty dwarf rose-purple Spathoglottis plicata Micholitzii.

NORMAN C. COOKSON, Esq., Oakwood, Wylam-on-Tyne, showed two Phaius Humblotii, and one of the rich rose P. Henryii, and a flower of a fine form of Cypripedium × Youngianum.

At the conclusion of the meeting, REGINALD YOUNG, Esq., of Liverpool, explained his system of recording hybrid Orchids, and handed to the Secretary the Cypripedium records on his plan, which it is hoped will be of great service. A cordial Vote of Thanks was given to Mr. Young.

Fruit and Vegetable Committee.

Present: P. Crowley, Esq. (in the chair); and Rev. W. Wilks, and Messrs. H. Pearson, J. Cheal, A. F. Barron, T. J. Saltmarsh, T. Fife, J. Smith, G. Reynolds, G. Sage, T. Farr, C. Herrin, J. H. Veitch, W. Bates, A. Dean, J. Willard, and J. Wright.

Mr. E. Beckett, gr. to H. H. GIBBS, Esq., Aldenham Park, showed a collection of vegetables, receiving an award of a Banksian Medal. The vegetables were good for the season and the time of year, excepting the two lots of Cauliflowers that were open and too big for the best table. Tomatos, Cutbush's Polegate, and T. Perfection, were capital fruits, smooth, large, dark-coloured and ripe. Beetroot consisted of Suttons' Crimson Globe Beet, a form of the Egyptian beet, and Pragnal's. Onions were large and fine, though to our thinking too much denuded of the outer layers; they consisted of Red Leviathan and White Leviathan forms of Tripoli Onions. Pea Autocrat had a pleasing dark-green colour, and was gathered just at the right time. Nice examples of Moore's cream Vegetable Marrow, Sharpe's Victor Potato, a shapely example of this favourite early kidney; and the Royal Ashleaf kidney; Sutton's Magnum Bonum, and Canadian Wonder French Beans; Sutton's Gem-Carrot, apparently a selection of the Carentan, and New Intermediate; Green Globe Artichoke, a very good lot; Cucumber Victory, a nice, medium sized, smooth variety of a dark-green colour, and the samples shown were in perfection; and Broad Bean Leviathan (aqua dulce), the number of whose seeds is in inverse ratio to its length.

Messrs. W. W. JOHNSON & SON, Boston, Lincolnshire, showed about fifty dishes of Peas, consisting of most of the popular varieties. We noted Boston Unrivalled, Consummate, a curved, scimitar-like pod of a dark green colour; Ambassador, Royal Jubilee, The Daisy, Veitch's Perfection, Alderman, Duke of Albany, Invincible Marrow, Early Marrowfat, The Duchess (of Albany), Critic, Sutton's Prize-winner, ditto Eureka, Windsor Castle, &c. Many of the pods shown were filled, and past their best for cooking purposes. We think that to show culinary Peas in so forward a condition is a mistake.

A pretty Cucumber was shown by Mr. W. PALMER, Andover, and named Palmer's Graceful. It was short, smooth, dark green, and tapering gradually to a long point and having a neck too long for so short a fruit. Hence probably its being passed by.

Mr. W. CARMICHAEL of 14, Pitt-st., Edinburgh, and formerly of Sandringham, showed Strawberries, Prince of Wales = Waterloo × British Queen; Princess of Wales = Latest of all × Frogmore Late Pine; Wm. Carmichael = Waterloo × British Queen; and Queen of Danemark = Frogmore Late Pine × Waterloo. These are, we believe, to be tested at Chiswick. A number of dishes of Tomatos by various exhibitors were tabled but nothing of superlative merit was observed. Most of them seemed to be of the smooth Perfection type.

Several Melons were shown, and one—a white fleshed variety named Effingham Perfection = Hero of Lockinge × W. Tillery from Mr. ALDERMAN received an Award of Merit.

Messrs. J. VEITCH & SONS, Royal Exotic Nurseries, Chelsea, exhibited about a score of dishes of Cherries in distinct varieties. We remarked fine fruits of Reine Hortense, Bigarreau Napoleon, May Duke, Governor Wood, Cleveland Bigarreau, Tradescant's Heart, Baumann's May, and Black Hawk. They also showed fruits of the Pears Citron des Carmes and Doyenné d'Été; varieties of Black, Red, and White Currants; Superlative Raspberry; and twenty-six distinct dishes of Gooseberries.

Mrs. ABBOT, South Villa, Regent's Park (gr., Mr. Kelf), showed excellent fruits of Peaches, Dymond, Royal George, and Dr. Hogg. These were as good as possible in size and colour, although grown within two miles of Charing Cross. A Banksian Medal was awarded.

Lecture on New Roses.

IN the afternoon a paper upon this subject written by the successful amateur, the Rev. J. H. PEMBERTON, was read by the Assistant Secretary.

Mr. PEMBERTON remarked upon the wonderful development of the Rose that has taken place in comparatively recent years, and as an instance gave a short list of varieties that were found in an old catalogue. It was also remarked that the development of one section was most rapid for a few years, and that afterwards attention appeared to be concentrated upon a different section. Then the race of Hybrid Teas was originated by the introduction of Cheshunt Hybrid, since which time there have been numerous such varieties, most of which have become very popular. Mr. PEMBERTON said that the qualities which exhibitors desired to find in New Roses were only size, form, and colour, but that as Rose lovers and Rose cultivators very many times outnumbered the Rose exhibitors, raisers should be particular that a new Rose possesses other virtues before they venture to introduce it into commerce. Such virtues were, scent in the flower, hardiness in the plant, and a habit of free blooming. Undoubtedly the greater number of newly-introduced Roses were worthless, and only a few seasons were necessary to prove this so fully that their names were almost forgotten.

A greater care was necessary on the part of nurserymen who ntroduce Roses to the public in order that they may ascertain themselves whether or not each variety is worthy cultivation.

At the end of Mr. Pemberton's paper was appended a list of the best Roses that have been introduced during the past seven years, and remarks upon some of these were given.

It was a misfortune for rosarians that Mr. Pemberton was not himself present.

Sir Alexander Arbuthnot condemned the action of the National Rose Society in prohibiting certain varieties of undoubted merit from a place among general exhibition Roses. An instance was given in Ernest Fürst, a Rose of somewhat smaller size than many exhibition varieties, but which possessed unquestionable merits apart from this, though not included in the Nat. Rose Soc. catalogue. Sir Alex. Arbuthnot protested against the term Exhibition Rose at all, and urged that at the National Rose Society's exhibitions, encouragement should not be exclusively given to flowers of large size.

Mr. Walter Easlea of Messrs. W. Paul's Nursery, at Waltham Cross, also made a few remarks, and enumerated about a score of varieties that it was urged should have been ncluded by the lecturer.

TUNBRIDGE WELLS HORTICULTURAL.

July 8.—Although not quite up to the average, the thirty-eighth exhibition of this society held on the above date was airly good.

In the open classes there were few competitors from a distance; and, for the most part, they were won by winners n the local classes.

Mr. J. Mason, gr. to H. J. Wood, Esq., Pulborough, Kent, was 1st for four stove and greenhouse plants; and Mr. S. Pope, gr. to J. J. Barrow, Esq., Holmwood, Tunbridge Wells, won for four ornamental foliage plants. Mr. T. Portnell winning for four exotic Ferns.

Groups were decidedly weak, the best coming from Mr. J. Howes, gr. to W. Cobb, Esq., Broadwater Down, who was also well in front for nine Orchids, a grand piece of Odontoglossum var. Cobbianum and Epidendrum vitellinum being included. Mr. J. Mason was 2nd, and Mr. L. Dupond 3rd Mr. Dupond had a superb piece of Disa grandiflora.

Cut flowers were good, and the collections of herbaceous perennial flowers grand. The 1st prize for twenty-four species was awarded to Mr. J. Charlton, Tunbridge Wells. Mr. R. Edwards, Beechey Lees, Sevenoaks, was 1st for three pieces of table decorations; and Mr. S. Cook, gr. to De B. Crawshay, Esq., Rosefield, Sevenoaks, was 1st for a decoration, consisting of Roses only

Mr. Portnell was 1st for eighteen bunches of stove and greenhouse flowers.

Wreaths and floral designs were good, a pretty wreath from Mr. J. Gore, Polegate, and an anchor from Mr. Webber, Tunbridge, being adjudged 1st and 2nd respectively.

Mr. J. Charlton was well ahead for both bride and hand bouquets; Mrs. A. Hatton, Sevenoaks, following in each class.

Roses were fairly good for the season. Mr. G. Mount, Canterbury; Messrs. G. Bunyard & Co., Maidstone; and Mr. G. W. Piper, Uckfield, taking prizes in the above order, both in a class for forty-eight varieties, and in one for twelve Teas or Noisettes.

Mr. J. Salter, gr. to T. B. Haywood, Esq., Reigate, was 1st in all the amateurs' classes, and showed some good blooms. In the 2nd prize stand for twenty-four varieties there was a good bloom of Grand Mogul from Mr. Harris, gr. to E. M. Bethune, Esq., Horsham, and which won the National Rose Society's Silver Medal for best H. P. in the show.

Fruit.—Grapes were good; the 1st prize, for three bunches of black Hamburgh, going to Mr. C. Earl, gr., Summerhill, Tonbridge, but he was beaten for three bunches of any other black variety by Mr. W. Laker, gr. to A. G. Lingfield, Esq., Worthing, who was also 1st for three splendidly finished bunches of Muscat of Alexandria. Mr. J. Snow, Wadhurst Park Gardens, Sussex, winning in the class for any other white variety.

The 1st prize for six Nectarines and six Peaches went to Mr. C. Harris, gr. to O. A. Smith, Esq., Hammerwood, East Grinstead. Mr. C. Earl winning for a collection with some well-finished fruits.

The following classes were open only to those residing within a 6 miles radius of the South-Eastern Railway Station: Mr. S. Pope won in the class for six good stove and greenhouse plants; Mr. J. Mason had the best collection of four plants; Mr S. Pope won for six ornamental foliage plants; and Mr. J. Mason for six table plants.

Begonias and zonal Pelargoniums were good, but Fuchsias were not shown well. A Silver Medal presented by Messrs. J. Laing & Son, Forest Hill, for twelve tuberous-rooted Begonias was secured by Mr. W. H. Wickens, gr. to J. Wheelwright, Esq., Neville Park, Tunbridge Wells, who had a nice collection.

A collection of Melons from Messrs. Sergeant & Co., Worthing, attracted much attention from the visitors.

Caladiums from Messrs. J. Peed & Son, Forest Row; herbaceous cut flowers from Mr. J. Charlton, and from Mr. M. Pritchard, Christchurch; also a quantity of cut Roses from Mr. G. W. Piper, Uckfield, were the chief among non competitive exhibits.

NATIONAL ROSE NORTHERN SHOW AT ULVERSTON.

July 15.—In spite of the indifferent season and continued dry weather, there were a few good blooms at this show. Decidedly the brightest of blooms came from Yorkshire, while the best Teas were from Oxfordshire. Neither Mr. R. B. Cant, nor Messrs. F. Cant & Co., from Colchester, were exhibitors. O. G. Orpen, Esq. was also absent. In some of the local classes competition was keen if exhibits were not numerous; more than one instance occurring where a single point only divided the first and second.

NURSERYMEN.

Six competed for the Jubilee Trophy and Gold Medal with thirty-six distinct varieties. Messrs. Harkness & Sons, Bedale, Yorks, staged very bright and clean flowers, just beating Messrs. A. Dickson & Sons, Newtownards, Ireland, 2nd, who also had good blooms. The winning thirty-six were Horace Vernet, François Michelon, Comte Raimbaud, Gustave Piganeau, Dr. Andry, Mrs. John Laing, Charles Lefebvre, Mme. E. Verdier, Captain Hayward, Marchioness of Dufferin, Earl of Dufferin, and Etienne Levet in the back row; Duc de Rohan, Marie Rady, Maréchal Niel, Madame Hoste, Duchess of Bedford, Alfred Colomb, John Stuart Mill, La Boule d'Or, A. K. Williams, Comtesse de Nadaillac, Fisher Holmes, and Countess of Rosebery in the centre: with Beauty of Waltham, Catherine Mermet, Pierre Notting, Avocat Duvivier, Duke of Wellington, Mme. Hausmann, Caroline Kuster, Prince Arthur, Her Majesty, Duke of Edinburgh, Edward André, and another in front. Messrs. J. Cocker & Son, Aberdeen, were a close 3rd. Messrs. W. & D. Croll, Dundee, Messrs. Mack & Son, Yorkshire, and G. Paul & Sons, Cheshunt, also exhibited.

Messrs. A. Dickson & Sons, Newtownards, beat Messrs. Harkness & Son for seventy-two single blooms, being followed by Messrs. W. & D. Croll, Dundee.

Messrs. Dickson & Sons also won for thirty-six varieties, three of each; Messrs. R. Mack & Son, Catterick Bridge, having a very bright lot for 2nd, and Mr. G. Mount, Canterbury, 3rd.

Mr. H. Merryweather, Southwell, Notts, was 1st for thirty-six single blooms, Messrs. Cocker & Sons, Aberdeen, 2nd, and Mr. G. Mount, Canterbury, 3rd; while for eighteen distinct, three of each, Messrs. J. Cocker & Sons, Messrs. Merryweather and Mr. G. Mount took prizes in like order.

The twelve treble Teas from nurserymen were good, Mr. J. Mattock, New Headington, Oxfordshire, winning with good examples of Maman Cochet, Edith Gifford, Catherine Mermet, The Bride, Princess of Wales, Innocente Pirola, C. de Nadaillac, Marie Van Houtte, Ernest Metz, Maréchal Niel, Jean Ducher, and Anna Olivier; Messrs. Prior & Son were a good 2nd, and Mr. Merryweather, Southwell, 3rd.

Messrs. Prior & Son were 1st for eighteen distinct, single blooms of Teas, but the flowers were loose. Messrs. A. Dickson & Sons, Newtownards, and Mr. Mount, Canterbury, followed.

Mr. J. Mattock, New Headington, Oxford, had a grand stand in a class for twelve varieties; Mr. H. Merryweather having the medal Tea or Noisette in Maman Cochet among his 2nd prize stand-blooms.

AMATEURS.

The Jubilee Trophy and Gold Medal for twenty-four varieties were secured by the Rev. J. H. Pemberton, Haveringatte-Bower, with Earl of Dufferin, Her Majesty, A. K. Williams, Marchioness of Londonderry, Charles Lefebvre, Marchioness of Dufferin, Marie Baumann, Madame E. Verdier, Gustave Piganeau, John Stuart Mill, Souvenir de S. A. Prince, Horace Vernet, Caroline Testout, Dupuy Jamain, Mrs. J. Laing, Marshall P. Wilder, Madame Deville, Prince Arthur, Xavier Olibo, Comtesse de Nadaillac, E. Y. Teas, Danmark, Countess of Rosebery, and Queen of Queens. H. V. Machin, Esq., Gateford Hall, Worksop, was 2nd, and E. B. Lindsell, Esq., Hitchin, 3rd.

The three pieces of plate given by the president of the local society for thirty-six varieties were secured by A. Whitton, Esq., Bedale, who staged an excellent lot; by Mr. E. B. Lindsell, whose lot contained the Silver Medal Tea bloom among amateurs in Catherine Mermet, and Rev. J. H. Pemberton.

For eight varieties, three of each, Rev. J. H. Pemberton was in front of H. V. Machin, Esq., Gateford Hall, Worksop, both being good stands for this season.

For eighteen varieties from growers of less than 2,000 plants, Mr. J. T. Marsden, Delamere, Silverdale, was 1st; and also for twelve in a class open only to growers of less than 1,000 plants. The class for six single flowers from growers of less than 500 plants, found no competitors. The Veitch Memorial Medal and £5, for twelve Roses was won by R. P. Landon, Esq., Brentwood, R. E. West, Esq., Reigate, being 2nd. Mr. Landon was also in front for four varieties, three of each; this time he being close run by J. T. Marsden, Esq., Silverdale.

The Rev. J. H. Pemberton, Havering-atte-Bower, was 1st with Mrs. John Laing for nine of any H.P. Rose; and Mr. H. V. Machin, 2nd with Marie Baumann The same order was kept in the class for six New Roses.

Tea Scented and Noisette Roses.

H. V. Machin, Esq., Worksop, was 1st for twelve varieties, and W. Boyes, Esq., Derby, 2nd. Mr. Machin put up good flowers of Maman Cochet, and Mr. Boyes six of C. de Nadaillac. From growers of less than 500 plants, the Rev. J. H. Pemberton was 1st, and E. Mawley, Esq., Berkhamsted, 2nd for nine Teas

Mr. R. P. Landon's (Brentwood) six were the best from growers of less than 200 plants; Madame Hoste, Souvenir de S. A. Prince, Madame Cusin, Cleopatra, Ernest Metz, and Belle Lyonnaise being the varieties shown. J. T. Marsden, Esq., and Miss Johnson followed.

Mr. H. V. Machin, Worksop, was 1st for six varieties three of each; and Mr. J. T. Marsden 1st for six of any kind with Edith Gifford.

For twelve new Roses Messrs. Dickson & Sons, Newtownards, were the only exhibitors, but their stand contained no remarkable novelty.

For twelve blooms of any white Roses, Messrs. Prior & Son, Colchester, were 1st with Niphetos; Mr. J. Mattock 2nd, with The Bride; and Messrs. D. & W. Croll 3rd, with Merveille de Lyon.

Mr. J. Mattock was 1st for twelve of any yellow Rose, with Comtesse de Nadaillac; Messrs. Burrell & Co., Cambridge, 2nd with Maréchal Niel, and Messrs. D. Prior & Son, 3rd with Madame Hoste.

For twelve of any light-coloured Rose, Messrs. A. Dickson & Son, Newtownards, were well in front, having Mrs. W. J. Grant in better form than we have before seen it. Messrs. J. Cocker & Sons, Aberdeen, followed with twelve of Caroline Testout, and Mr. G. Mount 3rd, with fairly good Mrs. J Laing.

Messrs. Mack & Son, Catterick Bridge, Yorks, won with twelve of A. K. Williams; Messrs. J. Cocker & Son 2nd with Ulrich Brunner; and Messrs. Harkness 3rd with A. K. Williams.

For Garden Roses, Mr. H. V. Machin, Worksop, won in a class for twelve varieties. Messrs. Paul & Son, Chesbunt, and Mr. J. Mattock being 1st and 2nd for eighteen bunches.

Mr. J. Mattock was a decisive winner for a display of Roses, putting them up in good taste.

The best H. P. in the nurserymen's division was Victor Hugo from Messrs. R. Mack & Son, Catterick Bridge; and the best Tea a good flower of Maman Cochet from Mr. J Mattock, Oxford.

In the amateur's division, the medal H. P. was a fine bloom of Her Majesty from Mr. Marsden, and the Tea or Noisette, was a Catherine Mermet from Mr. E. B. Lindsell, Hitchin.

This time Messrs. A. Dickson & Sons secured the Gold Medal for Muriel Grahame as a new seedling or sport. The blooms were better and more distinct than we have seen them hitherto.

Other medals were awarded in local classes, a good flower of The Bride winning a piece of plate as a best bloom, and another medal also as the best Tea in these classes. The medals for both light and dark H.P.'s went to Mr. J. H. Midgley, Berner's Close, Grange, for Mr. J. Laing and Charles Darwin.

LOCAL CLASSES.

A Silver Cup for nine distinct singles was won by Mr. J. T. Marsden, Silverdale, with Mrs. J. Laing, S. M. Rodocanachi, La France, Charles Lefebvre, The Bride, Ulrich Brunner, Catherine Mermet, Alfred Colomb, and Cleopatra. Mr. J. H. Midgley was a very close 2nd, and Mr. W. Wilding Pennington, 3rd.

Mr. Midgley beat the Rev. R. T. Langton for eighteen single blooms, and he was a good 1st for twelve varieties. T. W. Mason, Esq., the Gardens, the Misses Case, Lyndon, and J. Atkinson, Esq., Croftland, stood in the above order for six blooms.

J. T. Marsden, Esq., Delamere, Silverdale, won for six of any light-coloured Rose; J. H. Midgley, Esq., for six of any dark variety; and J. T. Marsden, Esq., was again in front for six of any white one, with Marchioness of Londonderry.

Mr. J. T. Marsden, beat the Rev. R. T. Langton for six Teas and Mr. J. Ward, Barrow-in-Furness won for three Teas.

There were grand displays of Sweet Peas from Messrs, Eckford & Co, Wem, Shropshire; Herbaceous flowers from Mr. W. Shand, Lancaster; Roses, Carnations and Picotees from Messrs. Dickson, Chester; Violas, Pansies and Carnations from Mr. S. Pye, Garstang, Lancs.; and some really good seedling and other Carnations from Messrs. Pritchard & Son, Shrewsbury.

TRADE NOTICE.

Mr. Norman Davis has rem oved from Camberwell (where he has been connected with the Chrysanthemum world for over twenty-five years), to the Chrysanthemum Nurseries, Framfield, Sussex.

ENQUIRIES.

Flowers of Sulphur.—Will some of the correspondents of the *Gardeners' Chronicle* kindly inform *Examiner* whether experiments have been made with sulphur in small proportions for cleaning the seeds of Turnip and Rape, or in fact any of the Brassicas? Quantities of dust-like mites breed nearly every year amongst the seed, and I am of opinion that if the operation be properly carried out, sulphur has the property of killing them. I shall be glad to know if sulphur is deleterious to the seed.

What is the "magical spit" mentioned by Sir T. Brown? "The magical spit made of [No?] rare plants, which wind before the fire, and roasts the bird without turning." *Garden of Cyprus*, p. 159.

TREE FERNS (see p. 469, *Gard. Chron.*, April 11, 1896).—In reply to a correspondent who made enquiries on this subject, may I ask him to communicate as follows, O. E. Menzel, Botanical Collector, Aldgate, South Australia.



The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Accumulated. Above (+) or below (−) the Mean for the week ending July 11.	Above 42° for the Week.	Below 42° for the Week.	Above 42°, difference from Mean since December 29, 1895.	Below 42°, difference from Mean since December 29, 1895.	Rainfall. More (+) or less (−) than Mean for the Week.	No. of Rainy Days since Dec. 29, 1895.	Total Fall since Jan. 1, 1896.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Dec. 29, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	0 aver	90	0	+ 237	− 318	2 −	130	28·3	25	25
1	0 aver	104	0	+ 256	− 241	5 +	101	11·5	26	32
2	2 +	129	0	+ 278	− 222	1 +	81	8·0	37	32
3	4 +	153	0	+ 230	− 249	2 −	84	9·3	61	37
4	3 +	144	0	+ 279	− 247	1 −	81	9·2	41	34
5	5 +	160	0	+ 280	− 240	5 −	75	7·8	61	38
6	0 aver	108	0	+ 285	− 228	10 +	107	21·0	23	33
7	2 +	132	0	+ 351	− 258	8 +	97	14·8	36	35
8	3 +	144	0	+ 365	− 206	3 −	80	10·5	40	41
9	1 −	99	0	+ 308	− 233	10 +	110	17·8	24	30
10	0 aver	116	0	+ 368	− 210	11 +	93	15·1	29	35
*	4 +	154	0	+ 446	− 109	4 −	87	7·7	47	46

The districts indicated by number in the first column are the following:—

Scotland. N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending July 11, is furnished rom the Meteorological Office:—

"The *weather* was generally fine, bright, and dry over the greater part of England, but severe thunderstorms and very heavy rain were experienced at several of the inland stations about the middle of the week. Over Ireland, Scotland, and the north-west of England the conditions were mostly cloudy and unsettled, with rather frequent rain. The rain experienced on Wednesday and Thursday was very heavy. At the end of the week the weather was fine in all parts of the kingdom.

"The *temperature* scarcely differed from the normal in Ireland and Scotland, but was above it over England, the excess in 'England, S.' being as much as 5°. The highest of the maxima were recorded either on the 6th, 7th, or 9th over England, but on irregular dates at the Irish and Scotch stations. They ranged from 86° in 'England, E and S.,' and 83° in the 'Midland Counties,' to 72° in 'Scotland, N. and W.' The lowest of the minima (which were registered on very irregular dates) varied from 40° in 'Scotland, E.' and 'Ireland, S.,' and 42° in 'Scotland, N.,' to 50° in 'England, S.,' and 53° in the 'Channel Islands.'

"The *rainfall* greatly exceeded the mean over Ireland, the east and west of Scotland, and in the north-west of England, and slightly exceeded it in 'England, N.E.' In 'Scotland, N.,' and the other English districts, there was a deficit, the total fall in 'England, S.' and the 'Channel Islands' being very slight. On the 7th a storm of hail of unusual severity was experienced in the neighbourhood of Cirencester.

"The *bright sunshine* was deficient in almost all the western and northern districts, but exceeded the mean over all the more eastern, central, and south eastern parts of England. The percentage of the possible duration ranged from 61 in 'England, S. and E.,' and from 47 in the 'Channel Islands, to between 24 and 29 in Ireland, and to between 23 and 26 in Scotland."

MARKETS.

COVENT GARDEN, JULY 16.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Adiantum, per doz.	4 0	– 12 0	Foliage plants, doz.	12 0	– 36 0
Aspidistra, per doz.	12 0	– 30 0	Heliotrope, per doz.	4 0	– 6 0
— specimen, each	5 0	– 15 0	Hydrangea, various per doz.	6 0	– 18 0
Calceolaria, p. doz.	4 0	– 6 0	Ivy Geraniums per dozen	4 0	– 6 0
Campanula, per doz.	6 0	– 12 0	Lilium Harrisii, pr. dozen pots ...	9 0	– 18 0
Cock's combs, doz.	4 0	– 6 0	Lobelias, per doz....	3 0	– 4 0
Coleus, per doz. ...	2 0	– 4 0	Marguerites, p. doz.	6 0	– 10 0
Crassula, each ...	1 6	– 3 0	Mignonette, p. doz.	4 0	– 6 0
Dracæna, each ...	1 0	– 7 6	Palms, various, ea.	2 0	– 10 0
— various, p. doz.	12 0	– 24 0	— specimens, ea.	10 6	– 84 0
Evergreen Shrubs, in variety, doz....	6 0	– 24 0	Pelargoniums, doz	6 0	– 10 0
Ferns, small, doz....	1 0	– 2 0	— Scarlets, p. doz.	3 0	– 6 0
Ferns, various, doz.	5 0	– 12 0			
Ficus elastica, each	1 0	– 7 6			

Bedding Plants in variety.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arums, p. 12 blooms	2 0	– 4 0	Mignonette, p. doz. bunches	2 0	– 4 0
Bouvardias, per bn.	0 6	– 0 9	Pansies, doz. bun.	1 0	– 2 0
Carnations, 12 bun.	4 0	– 6 0	Pelargoniums, scarlet, per 12 bun.	2 0	– 4 0
— 12 blooms ...	0 6	– 2 0	— per 12 sprays...	4 0	– 6 0
Cornflowers, p. doz. bunches	1 0	– 1 6	Poppy, doz. bun.	0 6	– 1 0
Eucharis, per dozen	2 0	– 4 0	Pyrethrums, 12 bn.	2 0	– 4 0
Forget-me-nots, p. doz. bunches ...	1 6	– 3 0	Roses, Tea, per doz.	0 9	– 1 6
Gardenias, per doz.	2 0	– 4 0	— coloured, doz.	0 9	– 1 6
Gladiolus, doz. bun.	6 0	– 9 0	— yellow (Maréchal), per doz.	2 0	– 4 0
Lilium Harrisii, per bunch	2 0	– 4 0	— red, per dozen	0 6	– 1 0
Maidenhair Fern, per 12 bunches ...	4 0	– 8 0	— red, doz. bun.	4 0	– 6 0
Marguerites, per 12 bunches	1 0	– 2 0	— Gloire, doz. bn.	4 0	– 6 0
Orchids:—			— Safrano, p. doz.	1 0	– 2 0
Cattleya, 12 blms.	6 0	– 12 0	— Moss, doz. bns	0 6	– 1 0
Odontoglossum crispum, 12 bn.	2 0	– 6 0	Stephanotis, 12 sps.	1 6	– 2 0
			Stocks, p. doz. bun	3 0	– 6 0
			Sweet Peas, 12 bun.	1 6	– 3 0
			Tuberoses, 12 blms.	0 2	– 0 4

ORCHID-BLOOM in variety.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples, per sieve ...	4 0	– 5 0	Grapes, Muscats, English, per lb. .	2 6	– 3 0
Cherries, whites, in variety, ½-sieve	7 0	– 10 0	Grapes, Muscat, Channel Islands, per lb.	1 0	– 2 0
— Blacks, do., do.	7 0	– 9 0	Melons, each ...	1 6	– 2 0
Currants, Black, ½-sieve... ...	7 0	–	Nectarines, 1st size per doz. ...	12 0	
— Red, ½-sieve ...	3 6	– 4 0	— 2nd do., p. doz.	3 0	– 6 0
Figs, per doz. ...	2 0	– 2 6	Peaches, 1st size, per doz. ..	10 0	– 12 0
Gooseberries, per half-sieve ...	2 0	– 2 6	— 2nd do.. doz.	3 0	– 4 0
— dessert, in variety, per half-sieve ...	3 0	– 4 0	— 3rd do., doz.	1 6	– 2 0
Grapes, Alicante, per lb. ...	1 6	– 2 0	Pine-apples, St. Michael, each ...	2 0	– 5 0
— Hamburgh, lb.	1 6	– 2 6	Raspberries, p. doz. punnets	3 0	– 4 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Beans, Scarlet Runner, p. ½-sieve	2 6		Cucumbers, per dz.	2 0	– 3 0
— French, do. ...	2 6		Peas, per sieve ..	4 0	– 4 6
Marrows, Vegetable, per 5 doz. tally...	5 0	– 7 0	Tomatos, home-grown, smooth, per doz lb. ..	4 –0	4 6
Mushrooms, per lb.	0 6	– 0 8	— ordinary kinds, per doz. lb....	2 6	– 3 0
— (Outdoor), per half-sieve ...	4 0	– 6 0			

POTATOS.

Supplies plentiful. Trade slow. Prices, 3*s.* 6*d.* to 6*s.* per cwt. *J. B. Thomas.*

SEEDS.

LONDON: *July* 15. — Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report a moderate inquiry for Trifolium; English samples come good and cheap. New Rape seed and Rye are now showing. Sowing Mustard realises former terms. New Winter Tares are inquired for. The trade for Peas and Haricots is featureless. New Canary seed for forward delivery is distinctly firmer; spot parcels, however, show no material improvement.

FRUIT AND VEGETABLES.

BOROUGH: *July* 14.—Quotations:—Cabbages, 1*s.* 6*d.* to 3*s.* per tally; Spinach, 1*s.* 9*d.* to 2*s.* 3*d.* per bushel; Cauliflowers, 1*s.* 6*d.* to 2*s.* per dozen; Peas, 1*s.* 9*d.* to 3*s.* per bushel, and 3*s.* 8*d.* to 4*s.* per bag; English Onions, 6*s.* to 7*s.* per tally; Egyptian do., 8*s.* to 3*s.* 6*d.* per cwt.; Portuguese do., 5*s.* to 6*s.* per case; Carrots and Turnips, 2*s.* 9*d.* to 3*s.* per dozen bunches; Marrows, 1*s.* 6*d.* to 2*s.* per dozen; English Cucumbers, 2*s.* to 3*s.* do.; Dutch do., 1*s.* 6*d.* to 2*s.* 6*d.* do.; Lettuces, 2*s.* to 3*s.* per sieve; Jersey Grapes, 1*s.* to 1*s.* 6*d* per lb.; Belgium do., 9*d.* to 1*s.* 3*d.* do.; Tomatos, English, 4*d.* to 6*d.* per lb.; Jersey do., 3½*d.* to 4*d.* do.; Strawberries, 1*s.* 9*d.* to 2*s.* 6*d.* per peck; Currants, Red, 5*s.* to 5*s.* 6*d* per half-sieve; do., Black, 5*s.* 6*d.* to 6*s.* do.; Gooseberries, 1*s.* 6*d.* to 3*s.* do.; English Cherries, 4*s.* 9*d.* to 6*s.* 9*d.* do.; foreign do., 1*s.* 6*d.* to 2*s.* per basket; Raspberries, 18*s.* to 20*s.* per cwt.; Pine-apples, St. Michael's, 2*s.* to 3*s.* each; Mushrooms, 3*d.* to 9*d.* per lb.; Peaches and Apricots, 8*d.* per box.

SPITALFIELDS: *July* 14.—Quotations:—Marrows, 4*s.* to 5*s.* per tally; Cabbages, 2*s.* to 3*s.* do.; Carrots, 2*s.* to 2*s.* 6*d.* per dozen bunches; Turnips, 3*s.* to 4*s.* do.; Rhubarb, 1*s.* to 1*s.* 6*d.* do.; Broad Beans, 1*s.* to 1*s.* 3*d.* per bushel; Scarlet Runners, 4*s.* to 4*s.* 6*d.* do.; Peas, 2*s.* 6*d.* to 3*s.* do.; Beetroot, 1*s.* 6*d.* to 2*s.* do.; Lettuce, 9*d.* to 1*s.* per score; Cucumbers, 3*s.* to 4*s.* per dozen; Gooseberries, 2*s.* 6*d.* to 3*s.* per half-sieve; Currants, black, 6*s.* to 7*s.* per half-bushel; do., red, 4*s.* to 4*s.* 6*d.* do.; Raspberries, 1*s.* to 1*s.* 3*d.* per basket of 3 to 4 lb.

STRATFORD: *July* 14. — Quotations:—Cabbages, 1*s.* to 3*s.* per tally; Turnips, 1*s.* 6*d.* to 2*s.* 6*d.* per dozen bunches; Beetroot, 6*d.* to 8*d.* per dozen; Parsley, 1*s.* to 1*s.* 6*d.* doz. bun. Spring Onions, 2*s.* to 4*s.* do.; Salad, 1*s.* 6*d.* to 2*s.* per punnet; frame Cucumbers, 1*s.* 3*d.* to 3*s.* 6*d.* per dozen; Broad Beans, 1*s.* 6*d.* to 2*s.* per bag; do., Scarlet, 4*s.* to 5*s.* 6*d.* per bushel; Green Peas, 1*s.* 9*d.* to 3*s.* per sieve, 3*s.* to 6*s.* per bag; Strawberries, 1*s.* 3*d.* to 3*s.* 6*d.* per peck; Gooseberries, 2*s.* to 3*s.* 3*d.* per half-sieve; Raspberries, 16*s.* to 18*s.* per cwt; do., 2*s.* 9*d.* to 4*s.* per dozen punnets; Currants, black, 6*s.* to 6*s.* 6*d.* per half-sieve; do., red, 4*s.* to 4*s.* 6*d.* do.; Cherries, 4*s.* to 4*s.* 7½*d.* do.; Tomatos, Guernsey, 4*s.* to 5*s.* per dozen lb.; do., English, 5*s.* to 6*s.* do.; Carrots, bunched, 9*d.* to 2*s.* 6*d.* per dozen bunches; Mangolds, 20*s.* to 25*s.* per ton; Onions, Egyptian, 70*s.* to 90*s.* per ton; Apples, English, 3*s.* 6*d.* to 6*s.* per bushel; do., Tasmanian, 7*s.* to 10*s.* per case.

FARRINGDON: *July* 16.—Quotations:—Peas, 2*s.* per bushel; Broad Beans, 2*s.* do.; Scarlet Runners, 2*s.* per half bushel; Marrows, 1*s.* 6*d.* per dozen; Carrots, 3*s.* per dozen bunches; Turnips, 2*s.* 6*d.* do.; Lettuce, 2*s.* 6*d.* per score; Mint, 3*s.* per dozen bunches; Parsley, 2*s.* 6*d.* do.; Cucumbers, 1*s.* 6*d.* to 2*s.* per dozen; Cherries, White-hearts, 9*s.* 6*d.* to 13*s.* per half-bushel; Raspberries, 4*s.* per dozen punnets; Black Cherries, 8*s.* per half-bushel; cooking do., 8*s.* 6*d.* do. (Dukes); Currants, Red, 6*s.* do.; Black, 7*s.* 6*d.* do.; Strawberries, 4*s.* per dozen punnets; Gooseberries, ripe, 3*s.* per half-bushel; do., green, 3*s.* 6*d.* do.; Grapes, Jersey, 1*s.* per pound.

POTATOS.

BOROUGH: *July* 14.—Quotations ranged from 5*s.* to 7*s.* 6*d.* per cwt.

SPITALFIELDS: *July* 14. — Quotations: — Puritans, 80*s.* to 90*s.*; Hebrons, 75*s.* to 80*s.*; Early Rose, 70*s.* to 85*s.*; Snowdrops, 80*s.* to 90*s.* per ton.

STRATFORD: *July* 14.—Quotations:—New: English, 3*s.* to 5*s*; Jersey Kidneys, 4*s* to 5*s.*; do. Flukes, 5*s.* to 5*s.* 6*d.*; St. Malo Flukes, 4*s.* to 5*s.*; Lisbon do., 5*s.* to 6*s.*; Canary do., 4*s.* to 6*s.* 6*d.* per cwt

FARRINGDON: *July* 16.—Quotations:—Bedford Monarchs, 85*s.* to 95*s.*; Puritans, 85*s.* to 95*s.*; Hebrons, white, 90*s.* to 100*s.*; do., pinks, 90*s.* to 100*s.* per ton.

LONDON MARKET AVERAGES: *July* 15.—Snowdrops, 85*s.* to 95*s.*; Hebrons, 80*s.* to 90*s.*; Early Regents, 75*s.* to 80*s.*; Early Rose, 65*s.* to 75*s.* per ton.

NOTICES TO CORRESPONDENTS.

BELLEGARDE PEACHES: *F. B.* The fruits were well coloured and not at all "woolly" as was suggested by your employer. One, however, was gathered rather too soon. We have seen larger fruits of Bellegarde than those you send.

BOOK PUBLISHERS: *Renfrew.* Millar's *Dictionary*, John Murray; Bentham's *Handbook*, Lovell Reeve. Others not known.

BOTHY: *Zeta.* A bothy for four gardeners should contain one good-sized common room; one bedroom for each man, a small kitchen and scullery combined, together with a lavatory, water-closet or earth-closet, and a soft-water tank. Each man should possess a lock-up cupboard. A partly-underground pantry should be provided on the coolest side of the building. If it could be managed, the bedrooms should be placed upstairs. It would scarcely be a fit residence for a married couple. The usual practice is to have an elderly woman to attend to the bothy, her hours being from 7 A.M. till 6 P.M. Any architect would furnish a plan for the structure.

CARNATIONS: *Leamington.* Probably the effect of too strong light.—*W. B.* We cannot name varieties of florists' flowers; send to someone who grows specialties.

COUCH GRASS IN A NURSERY: *E. H. B.* The clearing the ground of the roots is a difficult operation, and cannot be undertaken with thoroughness whilst it is occupied with bushes or trees. Can you not take

it piecemeal fashion whilst clear of nursery stock, cultivating the vacant plots with digging forks, and going deep enough to extract all of the roots of the Couch Grass, throwing these on to the surface to dry, and then burning them in small heaps, or wheeling them into big heaps to be rotted? The hoe must do the rest, never letting a top remain. It would be advisable after digging to clean the land with the fork or the Kentish-hoe (three-tined) several times, and then crop it with Flax or Potatos, Jerusalem Artichokes, or any crop that would permit of the free use of the hoe during the season of growth. We greatly doubt if the gaslime suggested could be used as a destroyer without your having to use so much that the land would be "poisoned" for years.

FUNGUS IN CHURCH WALL: *T. Winter.* It is the ordinary "dry rot," Merulius lacrymans, which could only thrive with plenty of damp, and originated from timber somewhere. There is no chance of destroying it except by clearing out all the timber affected, and putting in new, thoroughly kyanized or saturated with creasote. *M. C. C.*

GRAPES DISEASED: *A. R.* The berries sent, show the commencement of an attack of "spot," Gloeosporium læticolor. The conditions of the roots have nothing whatever to do with the attack, as the fruit of Vines in the best of health are not immune, nor are the worst cultivated specially disposed to an attack of the fungus. Where the fruit has suffered the previous year it is prudent to use any of the usual remedies, such as the Bordeaux Mixture, sulphur on the hot-water pipes, in the whitewash used on the walls, and mixed with water and kept in broad saucers about the house. The so-called mildew antidotes sold by florists and nurserymen should also be used. These remedies should be used from the time of starting the Vines. There is no known cure, but great care should be taken to remove all affected berries as soon as seen, and to burn them.

INSECTS: *C. Candy.* The insects in earthen cells in the Strawberry-bed are in all probability the pupæ of the cockchafer or May-bug, which, of course, is highly injurious.—*K. Z.* The grub infesting the Parsnips was squashed and utterly unrecognisable. *R. McL.*

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to be so good as to consult the following number.—W. D.* 1, Picea sitchensis; 2, Juniperus Virginiana var.; 3, Pinus Lambertiana; 4, Abies brachyphylla; 5, Pseudotsuga, Douglasi, glauca; 6, Picea excelsa var. Clanbrassiliana.—*P. J.* Campanula cæspitosa, *alias* C. pumila, *alias* C. pusilla.—*W. J. P.* 1, Taxodium distichum; 2, Digitalis lutea; 3, Hemerocallis fulva, double.—*S. W. H.* 1, Achillea ptarmica; 2, Nepeta violacea; 3, Sidalcea malvæflora; 4, Origanum vulgare; 5, Armeria maritima; 6, Sedum oppositifolium; 7, Arabis albida probably, but there are no flowers.—*J. S.* Two varieties of Oncidium luridum guttatum.—*H. H.* Lælia crispa, often erroneously called Cattleya crispa in gardens.—*W. H. J.* Yours is a very good example of what is called Lælia purpurata Brysiana.—*S. W.* Why ask the Publisher about such matters? 1, Hoffmannia (Campylobotrys) regalis; 2, Fittonia argyroneura; 3, Cheilanthes lendigera; 4, Lysimachia thyrsiflora; 5, Polemonium cœruleum; 6, Flowers all fallen—an Aconite (poisonous).—*W. T., Leicester.* Ginkgo biloba (Maidenhair tree), and Euphorbia Lathyris (Caper Spurge).—*J. C., Aberdeen.* The seeds sent are those of the new African Cypress, Widdringtonia Whytei, of which mention has frequently been made in the *Gardeners' Chronicle.* Greenhouse treatment will be required.—*C. W. D.* Bromus mollis.—*J. Moore.* May be Hoya globulosa, but without leaves, we cannot be certain.—*F. B.* The specimens are too scrappy for identification.—*J. A.* Stanhopea eburnea.—*L. L.* 1, Campanula garganica; 2, Rondeletia odorata; 3, Galega officinalis var. alba; 4, Adiantum Pacotti; 5, Oncidium; 6, Asparagus tenuissimus.

SPUNO: *Otto Arnbrecht.* We are unacquainted with the preparation, and cannot, therefore, answer your question.

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COMMUNICATIONS RECEIVED.—T. T. (next week).—D. M. (next week).—D. C. (next week).—C. L. S. (next week).—R. T.—M. C. C.—W. C. L.—T. W. T.—D. McD.—A. P.—G. W.—R. D.—A. D.—J. A.—U. D.—D. T. F.—L. W. P.—T. B.—F. W. S.—R. Milner.—J. McI.

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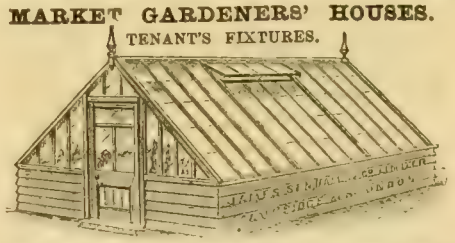
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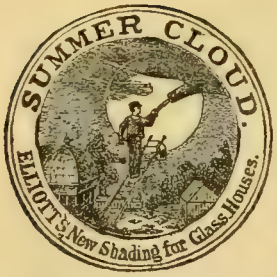
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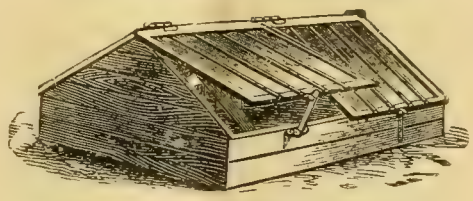
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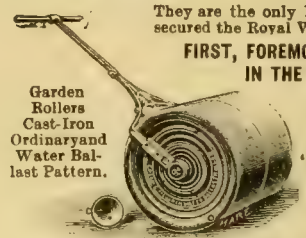


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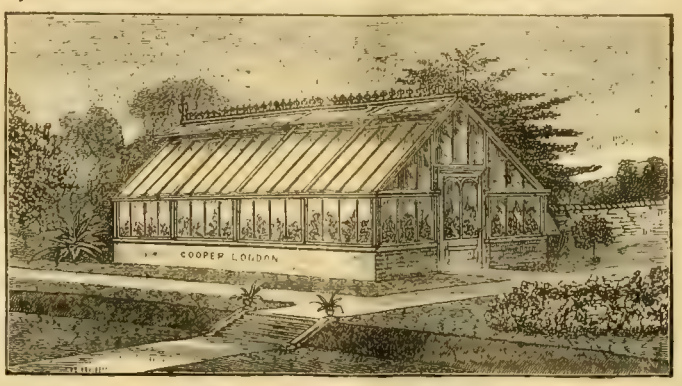
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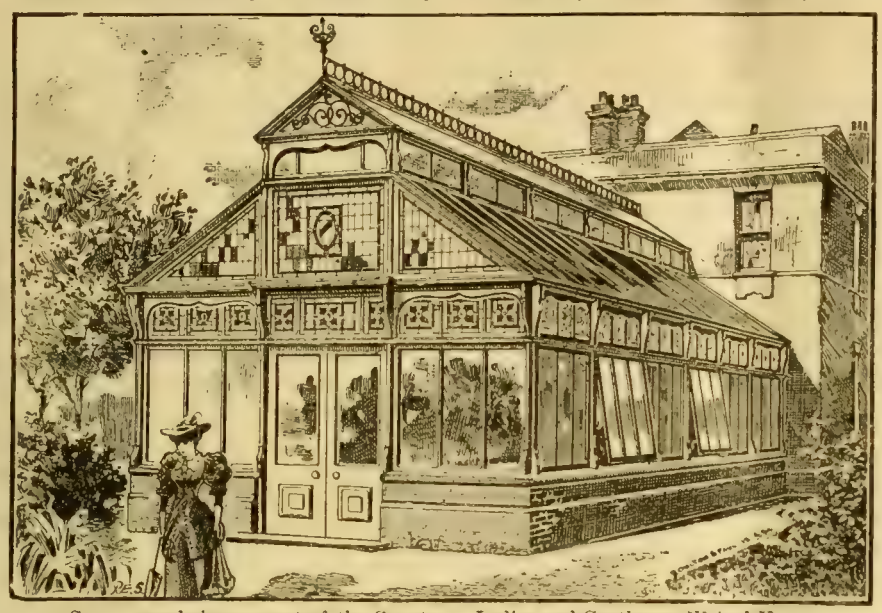
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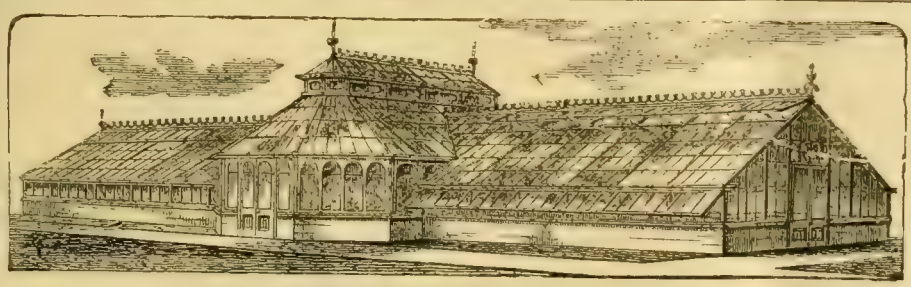
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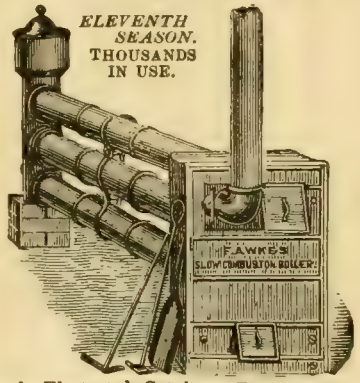
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Editorial communications should be addressed to the "Editor;" Advertisements and Business Letters to "The Publisher," at the Office, 41, Wellington Street, Covent Garden, London, W.C.
Printed for the Proprietors by Messrs. BRADBURY, AGNEW, & Co. (Limited), Lombard Street, Precinct of Whitefriars, City of London, in the County of Middlesex, and published by HARRY GILLARD COVE, at the Office, 41, Wellington Street, Parish of St. Paul's, Covent Garden, in the said County.—SATURDAY, July 18, 1896. Agent for Manchester—JOHN HEYWOOD.

The Gardeners' Chronicle

ESTABLISHED 1841. No. 2900.

No. 500.—Vol. XX. { Third Series. } SATURDAY, JULY 25, 1896. [Regt. as a Newspaper. { PRICE 3d. Post-free, 3½d.

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MR. JOHN COWAN, of Liverpool, will SELL by AUCTION, as above, a large and fine Collection of Choice and Valuable ORCHIDS, which have been specially selected to suit purchasers of high class kinds.

The Collection includes choice DENDROBIUMS, CATTLEYAS, LÆLIAS, ODONTOGLOSSUMS, CYPRIPEDIUMS, CYMBIDIUMS, CŒLOGYNES, ONCIDIUMS, &c., &c., and each section includes many fine specimens as well as many new, rare, and valuable varieties.

The entire lot are such as Mr. Cowan can confidently recommend to his numerous patrons.

Catalogues may be had on application to the Hall Keeper; or, post-free from the Auctioneer, The Vineyard and Nurseries, Gareton, near Liverpool.

WANTED, MARKET NURSERY, with 1000 to 3000 lineal feet of Glass-houses (including Vine, Tomato, and Cucumber), within easy distance of good market town (London preferred), on yearly rental, with option of purchase. Address with full particulars,
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FOR SALE, FREEHOLD MARKET GARDEN, consisting of 8 acres of Land and 1000 feet run of Glass, in full growth of Cucumbers and Tomatos. Good loamy soil.—For all particulars, apply to W. WREN, Bridge House, West Malling, Kent.

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HADLEIGH, SUFFOLK.—TO BE DISPOSED OF, the Lease, Goodwill, Stock in Trade, and Glass Erections, &c., of above NURSERY, comprising about 1¾ acres of Land, convenient DWELLING HOUSE, Packing and Potting Sheds, SEED SHOP, and Fittings. Lease about nineteen years unexpired. Rent £27. No other Nursery within several miles. Price £150. Apply to—
WILLIAM BADMAN, Cemetery Nursery, Gravesend.

NEAR BRIGHTON.—TO BE SOLD, very cheap, the LEASE & STOCK of a MARKET NURSERY. Large pleasant House, Acre of Garden, high walls; 600 ft. run of modern Glass, well stocked with growing crops of Grapes, Cucumbers, Tomatoe, and thousands of plants in pots. All in splendid condition and full profit.—Letters to HORTUS, care of Mr. G. Neale, 3, Broadway, Southwick, Sussex.

NURSERY, S.E.—Well situated; splendid House; Five large Greenhouses, well fitted with Heating Apparatus. Freehold £330, or Leasehold £630.
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SMALL NURSERY TO LET, or SELL. Seven Greenhouses, &c., Six-roomed Cottage. Old-established Business, large Stock and Goodwill, only £100. Genuine affair. Rent moderate, on Lease.
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War Department Lands.—Gosport.

LETTING, No. 318.—TO BE LET by Tender (tithe free), from Michaelmas next, the very productive MARKET GARDEN and NURSERY, known as SPRING GARDENS, well stocked with Fruit Trees, comprising 7a. 1r. 17p., or thereabouts, with good House and Outbuildings, at present in the occupation of the Executors of the late Col. Mumby, J.P. To be viewed only by order from the War Department Land Agents.

Forms of Tender, with Conditions of Letting, may be obtained of C. B. SMITH AND HALL, War Department Land Agents, Fareham, Hants, up to August 8, 1896, inclusive.

F. MASCALL, Colonel, Commanding Royal Engineers,
July 18, 1896. Southern District.

By Private Treaty.

OFFERS are INVITED for the Old-established Business of W. B. ROWE AND COMPANY, LTD., of Worcester, consisting of NURSERY and SEED BUSINESS. The Nursery is well stocked with Fruit Trees, Shrubs, Roses, and General Nursery Stock, all in excellent condition, and covers an area of about 23 acres. There are eight large Greenhouses, Pits, Sheds, &c.; a good House and Foreman's Cottage.

There is a compact Seed Business in connection with the Nursery, capable of further extension by attentive and judicious management. Favourable Lease.

For conditions and particulars apply to W. BIRCH, 49, Foregate Street, Worcester.

Offers will be received up to 10 o'Clock, Friday morning, August 7 prox. The highest or any Tender will not necessarily be accepted.

EXHIBITIONS.

CHESTER HORTICULTURAL SHOW and FÊTE, August 5 and 6, 1896.

Exhibitors intending to put up Plants for the Royal Horticultural Society's Certificate, are requested to notify the same to the Hon. Secretary, giving full particulars.

A HORTICULTURAL CONFERENCE in connection with the above will be held in the Town Hall, Chester, on TUESDAY, August 4, 1896, to commence at 7.30 P.M. His Grace the DUKE OF WESTMINSTER, K.G., has kindly consented to preside. J. WYNNE FFOULKES, Hon. Sec.

Crypt Chambers, Eastgate Row, Chester.

WESTON-SUPER-MARE FLOWER SHOW.—TUESDAY, August 11, 1896.

PRIZES—£200—PRIZES.

Schedules on application to—
The HON. SECS.,
24, West Street, Weston-Super-Mare.

CARDIFF HORTICULTURAL SOCIETY.—The EIGHTH ANNUAL SHOW will be held in the Cardiff Exhibition Grounds on AUGUST 12 and 13.

PRIZES and SPECIALS, £300. Entries close August 4.

Space for Non-competitive Exhibits being limited, application must be made at once. H. GILLETT, Sec.
66, Woodville Road, Cardiff.

HUDDERSFIELD and DISTRICT CHRYSANTHEMUM SOCIETY.

The SIXTH EXHIBITION of the above Society will be held in the Town Hall, Huddersfield, on TUESDAY and WEDNESDAY, November 10 and 11, 1896. Schedules are now ready, and may be had on application. JOHN BELL, Hon. Sec.
Marsh, Huddersfield.

To Nurserymen and Florists commencing Business.

HAMPTON-ON-THAMES, on the Marling Park Estate, free from London fogs, a deep rich loam, the favourite neighbourhood for Growers, FREEHOLD LAND for SALE on easy system of Purchase, or to be LET on Lease.

For full particulars, apply to Mr. FREDK. G. HUGHES (Surveyor), the Estate Office, Hampton-on-Thames.

TO LET, GENTLEMAN'S HOUSE, Middlesex, under one hour from City, G. W. R., standing in 2½ acres; 300 Apple, Pear, and Plum trees, 600 Currants, Raspberries, 20 Vines, Hot and Cold Greenhouses, Fernery, Ornamental Shrubs, Tennis Lawn, 2 Fowl-runs, 2-stalled Stable, Coach-house. Rent, £70. The fruit has made £80 each year the last three years; expenses of gardener and sale of fruit, £30. No trouble to dispose of crop; picked, fetched, and sold.—Address A. P., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, London, W.C.

ODONTOGLOSSUM LONDESBOROUGHIANUM, O. MADRENSE, LÆLIA PEDUNCULARIS, and L. DAYANA. All fine imported plants, in grand condition, 2*s.* 6*d.*, 3*s.* 6*d.*, 5*s.*, and 7*s.* 6*d.* each.
W. L. LEWIS AND CO., Southgate, London, N.

SPECIMEN GREENHOUSE TREES and PLANTS.—Noblemen or Gentlemen having in their possession Large Trees or Plants that have out-grown their available space, and which they would be willing to present to the New Public Winter Garden, lately completed at Sefton Park, Liverpool, about to be handed over as a gift to the Lord Mayor and Corporation of that city, are requested to communicate with Mr. H. HERBERT, Superintendent of Parks and Gardens, at Liverpool, who is authorised to defray all expenses attending the removal of any accepted plants.

The Plants most desired are the following:—Palms, 15 to 20 feet high; Tree Ferns, with good stems; Bamboos, Acacias, Araucaria excelsa, Rhododendrons, Eucalyptus, Yuccas, &c.

As the building is 70 feet high, and big in proportion, and has been built by Messrs. MACKENZIE & MONCUR, of Edinburgh, with every modern improvement, a happy home will be secured for any Trees or Plants presented as above.

Address, Mr. HENRY HERBERT, Superintendent's Lodge, Sefton Park, Liverpool.

Now is the Time to Sow

HUMEA ELEGANS.—Germination guaranteed. English saved Seed, per pkt., 1*s.*
B. S. WILLIAMS & SON, Victoria and Paradise Nurseries, Upper Holloway, London, N.

PALM SEEDS.—PLANT NOW.—Just arrived, Kentias, Coryphas, Phœnix, Cocos, Seaforthias, and others. 100 in variety, to name, free, 2*s.* 6*d.*; 500 for 10*s.* Price to the Trade on application.
MORLE AND CO., Conservatories, Finchley Road, N.W.

FERNS AND DECORATIVE PLANTS!—(TRADE):—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 12*s.* 100; ditto, large, in 48's, 10 best selling sorts, 6*s.* doz.; strong seedlings, 6*s.* 100, 50*s.* 1000; Adiantum cuneatum, in 48's, for cutting, 6*s.* and 8*s.* doz.; ditto, for making large plants quickly, 16*s.* and 20*s.* 100; Cyperus, Aralias, Grevilleas, Rhodanthe, Geraniums, Fuchsias, and Heliotropes, in 48's, 6*s.* per doz.; Marguerites, Mignonette, and Cockscombe, in 48's, 8*s.* per doz.; Ficus, Palms, Dracenas, Crotons, Pelargoniums, and Hydrangeas, in bloom, in 48's, 12*s.* doz.; Lists free. Packed free. Cash with order.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

CHRYSANTHEMUM GUIDE

AND

CHRYSANTHEMUM ALBUMS.

I have a few of these valuable works left, and will send a copy of each, post-free, 2*s.*, or separately. The Guide, 8 stamps, the Album, 18 stamps.

Both are invaluable to Chrysanthemum Growers.

H. J. JONES, Ryecroft Nursery, Lewisham.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free.
P. McARTHUR, The London Nursery, 4, Maida Vale, London, W.

ROSES for Sale.—Souvenor de Ami, Safrano, and Catherine Mermet. Strong Stuff in 32-pots. Fit for potting on for Winter Forcing.
S. CHILDS, Days Lane Nursery, New Eltham, Kent.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.C.
Highest Market Prices. Prompt cash.

PRIMULAS.—We have on offer a few hundreds of giganteum strain left, ready for 48-pots, grand stuff, 1s. per dozen, 6s. per 100; or will exchange for Ferns in variety.—W. DARBY AND SONS, Scott Hall Gardens, Buslingthorpe, Leeds.

ROSE BUDS for BUDDING.—Best varieties of H. P.'s; warranted true to name, my own selection, 3s. per 100, or 25s. per 1000. Cash with order.
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Choice Vegetable Seeds.
FOR AUTUMN SOWING.
H. AND F. SHARPE will be pleased to give Special Quotations for their fine Selected Stocks of CABBAGE, TURNIP, LETTUCE, ONION, RADISH, and other SEEDS suitable for AUTUMN SOWING, which will be found very advantageous to Purchasers. Also fine samples of WHITE MUSTARD, and Sowing RAPESEED, at moderate prices.
SEED GROWING ESTABLISHMENT, WISBECH.

SOW NOW—BLUE PRIMROSES.

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VINE AND PLANT MANURE.

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The result of many years' experience. Largely used both at home and abroad.

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Price Lists and Testimonials on application.
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SOLD BY ALL SEEDSMEN.

Under the Sanction of the Permanent Nitrate Committee.
TO GARDENERS (Amateur and Professional).
COMPETITORS at HORTICULTURAL SHOWS, and OTHERS.
NITRATE OF SODA, the indispensable nitrogenous fertiliser, may now be had of Seedsmen in Town or Country. Warranted of standard purity.
Price in tins, containing 4 lb., with full directions for use, ONE SHILLING.

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For destroying Insects on Plants.
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Half-pints 1/6, pints 2/6, quarts 4/6, half gallons 7/6, gallons 12/6, 5-gallon Drums 10/6 per gallon, Carriage Paid.
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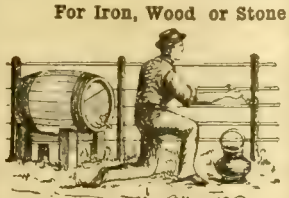
IN connection with the NATIONAL FLOWER SHOW, at the CRYSTAL PALACE, in August, the COUNCIL of the AGRICULTURAL and HORTICULTURAL ASSOCIATION, LTD., offer the above Prizes, of which details will be found in *One and All Gardening*, the Association's illustrated Annual of 132 pages.
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11	„	..	0	6	6	22	„	..	0	12	0
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Births, Deaths, and Marriages, 5s. each insertion.

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N.B.—The best and safest means of Remitting is by POST-OFFICE MONEY ORDER.

Advertisements for the current week MUST *reach the Office by first post, Thursday morning.*

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements,
41, WELLINGTON STREET, STRAND, W.C.

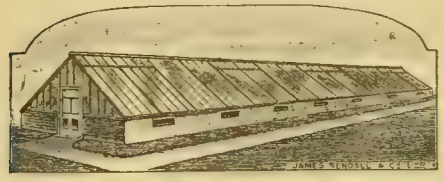
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Subscribers who experience any difficulty in obtaining their copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint).

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A first-class House in every respect can be seen erected in nearly every county. Sent out so that anyone can erect them, as every part is fitted correctly; all screw and bolt-holes made.

See Testimonials from well-known people.

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Long.		Wide.	£	s. d.	Long.		Wide.	£	s. d.
50ft.	×	12ft. ...	25	0 0	50ft.	×	15ft. ...	32	10 0
100ft.	×	12ft. ...	45	0 0	100ft.	×	15ft. ...	55	0 0

See New Lists, showing blocks of Houses as erected in different places.

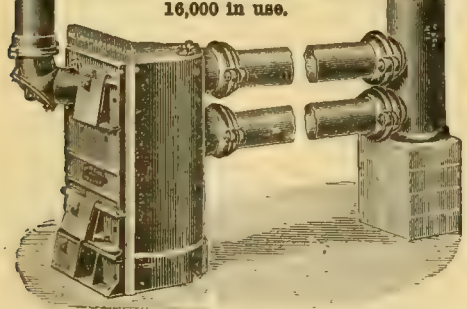


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Owing to improved facilities for the manufacture of these Boilers, and a consequent cheapening in the cost of production, we are enabled to reduce the prices as follows:—
No. 1, £2 12s.; No. 2, £3 15s.; No. 3, £5; also larger sizes. Complete Apparatus from £4 8s. Lists and Estimates on application.
MESSENGER & CO., Loughborough, Leicestershire.
London Office: 96A, VICTORIA STREET, WESTMINSTER, S.W.

ROSES ON THEIR OWN ROOTS,
FOR PRESENT PLANTING.

WM. PAUL AND SON respectfully invite attention to their magnificent Stock of the above, established in 5-inch (48-sized) pots. The Collection comprises the leading varieties of the Hybrid Perpetual, Tea Scented, Noisette, Bourbon, China, and Polyantha classes, including Crimson Rambler.

Price 10s. 6d. to 18s. per dozen; 75s. to 120s. per 100.

*** The present is a most favourable time for planting, as it allows of the plants establishing themselves in the ground before winter.

Also a large General Stock of Roses in pots for Greenhouse Culture, Conservatory Climbing, &c.

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☞ REASONS WHY YOU SHOULD PURCHASE
LAXTONS' TWO GRAND NEW STRAWBERRIES
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LAXTONS' "MONARCH"
is the richest flavour, of enormous size, most brilliant scarlet colour, and beats Royal Sovereign in every respect.

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THE ABOVE VALUABLE BULBS FOR EARLY FORCING,
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PTERIS CRISTATA and SERRULATA CRISTATA, fine plants, at 4*s*. 6*d*. per dozen.

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OFFER:—

ROMAN HYACINTHS, 4¾-inch and upwards,	13*s*. 6*d*.	per 100.
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PAPER-WHITE NARCISSUS	5*s*.	,,
DOUBLE ROMAN NARCISSUS	5*s*.	,,

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MUNGO CHAPMAN, late of Easter Duddingston Lodge, Mid-Lothian, begs to intimate to his friends and acquaintances that he retires from his present situation on the 20th of the present month. He has arranged to reside at St. Ninians, near Stirling, where he intends to commence the Cultivation and Sale of Hardy Plants on his own account.

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May 19, 1896.

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THE

Gardeners' Chronicle.

SATURDAY, JULY 25, 1896.

THE BOTANICAL GARDENS, GLASNEVIN, CO. DUBLIN.

A BOTANICAL garden established for over a century in a genial climate, and well planted and kept all that time, may very naturally be looked upon as a most interesting place to plant-lovers any day throughout the year. Personally, I may say that I never visit the place without gaining an insight into some cultural secret, or meeting with some phase of horticultural biology, or with some rare or beautiful species I never saw before. Spring, summer, autumn, and winter, there is ever here—as indeed in all good gardens—something to see and to admire. The only difficulty at Glasnevin is to decide where to begin, or, in other words, what to admire, for the place is 40 acres or so in extent, and the indoor and outdoor departments are many, and richly stored.

The main features are fresh green grassy glades and fine trees and shrubs, the river Tolka winding along the lower side of the arboretum and gardens beneath some noble old Willows, just now very beautiful and leafy in the hot sunshine, but attractive even in winter also, as their golden twigs stand out rich and mellow against a blue-grey sky.

The old Yew-tree walk (fig. 18, p. 97), which tradition dedicates to Addison, forms a cool and shady retreat on a hot June day, or you may wander down by the water and see the rosy, pink, yellow, and white Water Lilies nestling among the reeds, or see the Japan Iris and Sarracenias, Spiræas, and Orchids, together with Primula Poissoni a yard high or more in the bog garden.

The rock garden (fig. 22, p. 105) is fresh and bright, and the cool verdure of the hardy Fernery perfect; and the herbaceous borders are gay with bright colours, gay with Poppies and Delphininums, and a host of other summer flowers.

A very fine specimen of the Asafœtida (Ferula Narthex) has recently flowered, and its great umbellate stalks are now bearing a very heavy crop of apparently good and plump seeds. In all its phases this is a robust and effective plant, and well worth culture for its distinct part and stature. I saw several fine plants of this rare Umbellifer a year or two ago, and the effect of its bold glaucous foliage was most effective in proximity to groups of the great scarlet Oriental Poppies then in bloom.

One marked feature at Glasnevin is the culture of rare hardy and half-hardy plants in narrow borders alongside the extensive plant-houses. Here is Jaborosa integrifolia, dense of eafage, and thick-set with its pure white flowers. The old Tupa Feuillei makes a mass yards across, throwing up its red spires of bloom. In another warm recess are all the hardy Crinums, far stronger and more floriferous than one usually sees them indoors; C. Mooreanum, and the hybrid C. Powelli and their white-flowered forms, are very free and flori-

ferous as so grown, and even when not in bloom their gigantic leafage renders them conspicuous objects. Several of the rare kinds of Alstrœmeria also grow well on these borders, including the exquisite A. pelegrina alba, and there is a splendid mass or clump of the rare Californian Dicentra chrysantha.

Hot as it is, we cannot resist a peep into the Aquatic-house, gay with Caladia and Achimenes in hanging baskets; and the exquisite tropical Water Lilies and Nelumbia opening their waxy and fragrant flowers. The giant Victoria regia is always a sight here, flowering, as it does, most luxuriantly amongst its great platter-like leaves.

The vivid orange or cinnabar-red Gerbera Jamesoni flowers well on a narrow warm border near this house, and the overflow of warm water from the Victoria tank feeds some open-air receptacles in which the Chinese Water-Chestnut, or Trapa natans, grows and seeds every year. Here also some of Marliac's seedling Nymphæas are very attractive, producing their soft rose and sulphur flowers.

One especially interesting feature at Glasnevin is the culture of insect-catching plants from all parts of the world. One of the rarest perhaps just at present is Roridula gorgonias, which is like a shrubby Drosera, with attenuate glandular leaves. Here also are healthy plants of the South American Heliamphora, with elegantly vase-shaped urns, the orifices of which have a glistening, satin-like lining of close-set, deflected hairs, which in the sunlight imparts to them a very beautiful effect. This plant flowered here two years ago. There are Droseras in profusion of many kinds, and the quaint Cephalotus, especially the variety with deeply-coloured pitchers, from King George's Sound; Sarracenias of numerous varieties, many of them being seedlings and hybrids reared at Glasnevin by Mr. Moore, whose special object has been the production of good flowering varieties.

In one of the cool plant-houses at Glasnevin there is just now a very strong and handsome plant of Darlingtonia californica. In all there are at least fifty pitchers of all sizes, the tallest being fully 3 feet in height, and beautifully coloured. As you stoop and look up the domes of the great hooded pitchers they look as if filled with stained glass, or jewels glistening in the sun. As thus seen, luxuriant and healthy, there are but few amongst the so-called "Pitcher-plants" so effective and full of interest.

The true Pitcher-plants, or Nepenthes, are richly represented, and in one of the cool Orchid-houses there is a probably unique specimen of N. Rajah, the giant species from Mt. Kina Balou, in Northern Borneo. This specimen is one of the very few now in existence, it having usually proved to be a most intractable plant under hot-house cultivation [see fig. in *Gardeners' Chronicle*, 1881, p. 493, vol. xvi.] The Glasnevin plant is just forming a very fine and highly-coloured pitcher, and no doubt the largest ever made in European gardens. As seen growing at 8000 to 9000 feet altitude in Borneo, this plant is one of the most remarkable plants in the vegetable world, and Spencer St. John in his *Life in the Forests of the Far East*, alludes to his followers using its giant urns as water vessels; while in one enormous pitcher his fellow-traveller, Mr. now Sir Hugh Low, found a drowned rat. Another rare and peculiar pitcher-plant from the Bornean lowlands is also represented here by a fine specimen, viz., Nepenthes bicalcarata [see fig. in *Gardeners' Chronicle*, 1880, vol. xiii., p. 201]. This plant as found wild, has Vine-like stems, 50 feet long, which scramble up into the 40 or trees or river-side jungle. Its great leathery two-spurred pitchers dangle about among the moss-grown stems and branches, which are copiously infested with myriads of ants, beetles, and other small fry or insect prey. I noticed here also one of the healthiest plants of N. Veitchii I ever saw, bearing five or six of its great hairy urns. This is also a Bornean plant, with a liking for dead trees, on which it is epiphytal, the leaves clasping the trunk so as to assist the roots in holding on to the bark. No doubt the plant gains some advantage by adapting itself to life on dead trunks and branches, rather than on living ones, finding as it does a liberal supply of insect life in such positions.

It seems anomalous not to mention the superb and well-grown collection of Orchids, for which Glasnevin is famous, but they must await a paper to themselves. We have, in fact, but little time for the houses on such a hot day, but could not help noticing a glowing mass of the golden Cassia floribunda, and the soft grey buds swelling on the night-blooming species of Cereus, such as C. grandiflorus and C. MacDonaldiæ.

Our all too-short notice of Glasnevin would be incomplete did we not at least mention a few of the shrubs that do so well on its old walls. There is a magnificent example of Fremontia californica, and the Carpenteria, a beautiful first-cousin to the Philadelphus, flowers very freely outside. Then there are all sorts of old-fashioned garden Roses and Fuchsias, and a soft grey bush of the Halimodendron argenteum had its branches entwined with soft rose-purple flowers. This is the "Salt-bush" of the Siberian steppes, and is rarely seen in flower in gardens. It belongs to the Leguminosæ, and is sometimes grafted upon the Laburnum as a stock, so as to form a weeping standard instead of a prostrate bush.

As we await the train from the village on our way to the town, we admired the great Aristolochia Sipho on the gate-lodge or offices, and close beside it noted a healthy and strong companion in the shape of the new Japanese foliage vine, Vitis Coignetiæ, from Castlewellan.

Now that the tourist so often finds his way to the Emerald Isle, Glasnevin is likely to prove a great attraction to all who, like Cowper, love a garden and a greenhouse too; and the place is so rich and well kept that they will not only enjoy their visit there, but wish to come again. *F. W. Burbidge.*

NEW OR NOTEWORTHY PLANTS.

CATTLEYA × SUPER-FORBESI (*Forbesi* × *superba*).

THIS pretty addition to garden crosses was shown by Mr. J. Cypher, of Queen's Road Nursery, Cheltenham, at the last York Gala, where it received an Award of Merit. The habit of the plant is similar to that of C. Forbesi, and the general form of the flower also more nearly approaches that species than it does that of the other parent; but in its colour, and in the more expanded side-lobes of the lip, and the firm texture of the flowers, the influence of C. superba seems to predominate. The sepals and petals are of a creamy-white hue tinged with rose, with green at the tips. The lip is showy, and ample for its class. The base is yellowish-white with the brownish-yellow raised lines, as seen in C. Forbesi, which radiate towards the tips of the side lobes; the latter are beautifully coloured with rose-purple on the inside, and veined on the outside with the same colour. The front lobe is rose-purple, with the yellow marking in the centre, as seen in C. superba. The column is cream-white, tinged with rose. *James O'Brien.*

THE ROSARY.

THE NEW RACE OF ROSES: HYBRID TEAS.

HYBRID Teas have been called the "Roses of the future." I should be much disposed to call them the Roses of the present, in accordance with the value very generally placed upon them. They are at once more trustworthy as bloomers, very free-flowering, and highly ornamental, and they are, for the most part, vigorous in growth—a fact emphasised by the dimensions to which such varieties as La France, Caroline Testout, Duchess of Albany, and many others, in a single season will attain. Combining as they do the admirable characteristics of the hybrid perpetuals and the Teas, they have the strength of the former combined with much of the delicacy of the latter; while in fragrance—an attribute which should not be ignored—such fine varieties as those I have mentioned have never been surpassed. In this respect, at least, La France is supreme. This Rose, which, in the light of its remarkable beauty and attractiveness, might well be called the queen of the garden, shining, as she invariably does, among her lustrous contemporaries as the moon among the lesser fires ("Luna inter minores ignes"), was perhaps the finest production of the late M. Guillot, of Lyons; the raiser likewise of Catherine Mermet, Horace Vernet, Madame Bravy (one of the sweetest-scented Tea Roses), Madame Hoste, Madame de Watteville, Madame Falcot, Comtesse de Nadaillac, and Ernest Metz. It is a remarkable fact that Guillot did not know the origin or parentage of La France; as he incidentally mentioned, soon after its appearance, in a conversation with the venerable originator of the National Rose Society, the Rev. H. H. D'Ombrain; but he felt assured that this incomparable variety would perpetuate his name. That prediction has been fulfilled. Perhaps the nearest approach to La France in colour, fragrance, and size of flower, is one of its own offspring, Caroline Testout, which as an autumnal bloomer I have learned to regard as even more valuable. The parent Rose has a tendency to deteriorate in autumn; that, at least, is the result of my own observation and experience. Caroline Testout, on the other hand, is finest at that season of the year, though it may be said with truthfulness that trustworthiness is always a notable characteristic of this invaluable variety. Mr. Wm. Paul's Duchess of Albany is a darker La France, possessing similar attributes, but in my own garden somewhat stronger in growth. Danmark, which is also deeper in colour, belongs to the same family, and may be similarly described. I saw it well exhibited by Mr. Paul two years ago at the Temple Show, where also I made the acquaintance for the first time of that fine dark, Clove-perfumed Carnation, Uriah Pike, which I have ever since assiduously cultivated here.

Augustine Guinoisseau has been dignified by the name of the "white La France," though it is distinctly shaded with rose. A pure white variation of equally perfect form is an acquisition which, I greatly fear, will never be attained. It is not impossible, but at least highly improbable; for even if Augustine Guinoisseau had been a spotlessly white variety, it has neither the fulness nor perfect form of the parent Rose. Gloire Lyonnaise, formerly supposed to belong to the hybrid perpetuals, is now relegated by Mr. B. R. Cant, of Colchester, and other great authorities, to the class of hybrid Teas. This is one of the largest and loveliest of Roses; and though it was acclaimed at the period of its introduction as the "first yellow hybrid perpetual," it has no claim to that distinction; here it is almost an absolute white. At the same time, I think it is a much grander Rose, and more perfect in formation than such yellow varieties of a kindred class as Perle des Jardins, whose anatomy can only be regarded as being lament-

ably defective. There is not a more beautiful garden Rose in existence than Gloire Lyonnaise.

Among climbing hybrid Teas, none is more meritorious than Cheshunt Hybrid, raised by the late Mr. George Paul in 1873. It is the finest of all companions for Gloire de Dijon. It is vigorous in growth, fascinatingly fragrant, and reliably floriferous. Reine Marie Henriette, a hybrid between Madame Berard and General Jacqueminot, has sometimes been called, by reason of this origin, "the Red Gloire;" but the relationship is, to my mind, as distant as the resemblance, most of its attributes, with the single exception, perhaps, of the climbing tendency, being derived from the venerable French hybrid perpetual to which I have just referred.

Rarely is the law of variation in favour of a Rose. Souvenir d'un Ami, for example, is surpassed by Souvenir de S. A. Prince, though the former is one of the finest of the older Teas; and in the adjoining department of hybrid Tea Roses, White Lady similarly eclipses, unless, indeed, in fulness, her august parent, Lady Mary Fitzwilliam.

A variety of greater substance than the latter beautiful Rose, and, therefore, more enduring, is Kaiserin Augusta Victoria, noblest of all Teutonic creations, raised by Lambert & Reiter in 1891. Among recent French contributions to the family of hybrid Teas are La Fraicheur, for which we are indebted to Messrs. Pernet & Ducher; light carmine-rose in colour, with long, graceful buds, expanding into impressive blooms. Gustave Regis, very beautiful in bud, but a veritable abortion when fully blown; Madame Pernet Ducher, which is exquisite in every stage of its evolution, though not very full; and Charlotte Gillemot, ivory-white in colour, and artistically formed—raised by Guillot in 1894.

From Messrs. Alexander Dickson & Sons, of Newtownards, have come two hybrid Teas; (1) Mrs. W. J. Grant, of whose great merit I need say nothing, as it has been awarded the Gold Medal of the National Rose Society, and which unites the dignity of Lady Mary Fitzwilliam with the distinctive fragrance of La France; and (2) Marjorie, said to be a variety of considerable promise, but of whose qualifications I am as yet incompetent to write, as, owing to the sultriness of the early summer, it has taken a long time to establish itself in my garden, declining to grow until the arrival of the recent rains, when it began to develop its latent capabilities with gratifying activity. It is, I learn, an excellent Rose for garden decoration, with a character and complexion somewhat resembling those of the Hon. Edith Gifford.

Of English Hybrid Teas, three of the most valuable are Viscountess Folkestone, Grace Darling, and Clara Watson, all of which were originated by the late Mr. Bennet of Shepperton. Clara Watson was introduced into cultivation by the famous raiser of that loveliest of pure white Tea Roses, Souvenir de S. A. Prince, the late Mr. G. Prince of Oxford. *David R. Williamson.*

LONDON PARKS.

Finsbury.—This is well worth a visit in May and early June, to see the tender green of the young leaves of the Planes, Limes, and other trees in the avenues and groups; the different coloured Thorns, Laburnums, the Bird-Cherry, Lilacs, Gueldres-Roses, Weigelas, and Berberis Wallichiana. Rhododendron Cynthea, and other flowering trees and shrubs, give colour as well as verdure with no sparing hand. A few white Spanish Brooms were as graceful as they were chaste, but I could not find the golden Spanish; nor a single common Broom, the grandest of them all. The common white Lilac and the purple Persian were conspicuous for their beauty. A few late Tulips and double Narciss remained of the bulb harvest; Pansies and Violas, Polyanthuses, &c., were also hastening on to supply the missing links of colour, while the usual bedding plants were as yet unplanted. But the most striking floral feature at Finsbury Park was the profuse and skilful use of a threefold cord of beauty of the simplest description. This consisted of two Wallflowers of contrasting colours—one a brilliant yellow, grown as the German dwarf; the other a dark crimson, of about the same height as dwarf Tom Thumb. Associated with these in great numbers in beds and borders was the wood Forget-me-Not, Myosotis sylvatica. The three go well together; though as to the latter, the large variety of Myosotis dissitiflora major, which I did not see in any of the London parks this May, is richer in tint, and better.

Repeats of this threefold cord of colour began at the main entrance-gate, and ran through most of the floral parts of this beautiful park. Two points more of considerable practical interest were noted: one was the very hard or severe pruning of the large beds of dwarf Roses—almost cut to the ground; the other was that in the remnants of Tulips, Bluebells, Narcissus, Daffodils, &c., on the grass near to the chief group of flower-beds, Wallflowers, Polyanthuses, and Forget-me-Nots have been mixed with the bulbs. This seems almost a new departure which might be carried further, through the use of Aralias, Aubrietias, Saxifrages, dwarf Phloxes, Lily of the Valley, &c. Can one say why the latter which mostly blooms early in May, is not used in the London parks? Some annuals, such as the Virginia Stock—Malcomia maritima, especially when the white and pink are kept separate, form charming ground-work plants in bulb-beds.

Lordship and Clissold Parks.

These are on the other side of the road, on one's way back to the City from Finsbury Park, *viâ* Newington Green. They join each other, are richly wooded, and furnished with excellent roads. The belt of trees of very considerable age against the street casts a most useful shade over the main road in the park on a hot day. There are also fine trees in these parks, and this comparatively rich boon—they were opened about three years ago—seem greatly appreciated by residents in the neighbourhood, some of whom seem afraid lest these parks should become excessively gardenised. At present the babies, the nursemaids, and the general public seem equally at home and happy in these fine parks. *D. T. F.*

BELGIUM.

HORTICULTURE ROUND ANTWERP.

M. Florent Pauwels' houses now contain some Anthuriums of great beauty, there being among them well-flowered specimens of A. Dr. G. Jorissen, roseum superbum, Andreanum, Ed. Pynaert, Pauwelsianum (a seedling from Veitchi, and with a leaf nearly as large), Dr. Gravis, an exceptionally bright-coloured variety, the spadix drooping, garnet, reproductive organs yellowish-white; Louis Fournier, highly scented; grandiflorum, and other varieties. Among the Anthurium Rothschildianum mention should be made of the variety Leeraar de Beucker.

The cultivation of Codiæums (Crotons) is extensive here. I noted C. Reidi, anectonense, Queen Victoria, Hanburyanum, Disraeli, and others, with finely-coloured foliage. Orchids are largely grown. In good flower were Cattleya Schilleriana, with a large bloom nicely coloured, especially about the lip; C. Mossiæ, Phalænopsis amabilis, cornu-cervi, and Luddemanniana; numerous Cypripediums, including C. Stonei, and good varieties of C. Veitchi; Mormodes citrinum, Aërides suavissimum, with two long floral racemes, and one in bud; two Odontoglossum citrosum album, pure white, and O. citrosum, with forty-four blooms; Phajus Humbloti, with five trusses, Thunia Bensonæ, Brassia verucosa, Anguloa uniflora, masses of Odontoglossum crispum, a pretty variety of Lycaste plana, Brassavola fragrans, quantities of Epidendrum vitellinum majus and O. Rossi majus, all in fine condition and blooming well.

Caladiums receive much attention, the specimens are sturdy, the leafage fine (one leaf measured about 3 feet wide by 4½ feet long), and colouring good. Maranta, Alocasia, and other plants are creditable to their cultivator, M. Louis Henneghien. M. Pauwels has a beautiful rosary now in full bearing.

At Merxeur MM. Janssens & Co. have a large establishment, in which three houses are devoted to Orchids, and hundreds of Odontoglossum crispum are now in flower there; eleven houses are full of Palms, Phœnix, Latania, Corypha, and Kentia.

At Berchem, M. Guill. De Bosschère has a charming establishment where are some fine Cattleya Mossiæ, good varieties of Lælia purpurata, and Masdevallia Harryana with eighteen flowers and in a pot 4 inches across.

Horticultural Meeting at Ghent.

Certificates of Merit *par acclamation* were awarded for: — Cattleya Mossiæ alba Excelsior, flowers large, petals broad, lip pure white, the throat only lightly tinged with pale yellow; Lælio-Cattleya Hippolyta (L. cinnabarina × C. Mossiæ), very distinct in colour, sepals and petals orange, lip bright cerise; these Orchids were from M. Jules Hye. M. L. De Smet-Duvivier showed a Croton, Madame De Smet-Duvivier, leafage broad, slightly undulated, variegated with yellow, red, and green, a plant of good habit and very effective. The Société Horticole Gantoise sent a fine Vriesea Wartelli, imported from Venezuela, an improvement upon V. splendens major, the spike is larger and broader, the bracts are a brighter red. M. Pynaert staged Adiantum macrophyllum var. striatum, a good Fern for grouping, the young fronds are rose, streaked with white, the old leaves green, striped with white, a variety which tufts freely.

Certificates of Merit were awarded for:—Amorphophallus campanulatus, from M. L. De Smet-Duvivier, a curious plant, with a very large petiole, surmounted by a leaf, forming a crown; it is distinct from A. Rivieri by the leaf-petiole, which is covered with numerous white marks (they are black in A. Rivieri) Bentinckia nicobarica, a hot-house Palm, with large wide leaves, not much cut, thick in consistency, and a beautiful emerald-green colour, sent by M. Petrick; Begonia Gloire de Gandbrugge, from MM. Vermaercke et Cie., with a bloom 11 inches by nearly 8 inches across, of good form, but rather pale rose-colour; Cattleya Gaskelliana alba (*par rappel*) and C. Schilleriana, with dull brown sepals and petals, the lip handsomely streaked with violet and white, and like that of Zygopetalum Mackaii; these two Orchids came from M. J. Hye. The same exhibitor showed four Orchids remarkable for their flowers; Oncidium macranthum hastiferum, with forty large flowers, yellow with a white lip; Cypripedium Veitchii, with fifteen blooms; C. Charles Canham, with twenty well-opened flowers; and Cattleya Mossiæ alba Wagneri, a splendid specimen as regards health, cultivation, and flowers, of which it bears eighteen. Aralia leptophylla and A. elegantissima, from M. L. De Smet Duvivier, are specimens about 3 feet high, furnished down to the pot, and well grown. *Ch. de B.*

FLORISTS' FLOWERS.

THE CARNATIONS AT WARREN HOUSE, HAYES.

Mr. Martin R. Smith is now so well known as a raiser of new Carnations, that it will not surprise those who have some aquaintance with the work he is doing, to be told that this season he has surpassed all his previous efforts in the production of new Carnations. The seedlings of last year grown to be tested this year are so numerous that it required three hours to examine them carefully. And it was a pleasure indeed to spend three hours discussing the relative merits of these new Carnations with their enthusiastic raiser. Three large span-roofed greenhouses contain the plants, and here one may be met with the remark, "Why grow border Carnations in a greenhouse?" It is a pertinent question, and is easily answered. The plants are grown out of doors in the open border, as well as under glass; but if Carnations are to be seen grown to perfection it is impossible to be sure that this can be attained in the open border. Heavy rain one day, scorching sunshine

the next, earwigs sawing the petals through before the flowers are half open by night, and thrips sucking the substance out of them in the bud-state by day. The gardener cannot combat with these things, unless he has his plants fairly under control. In a glass structure, tobacco-smoke speedily settles all insect-pests, and it does not injure even the fully-open flowers. The gardener with a good lamp at night finds the earwigs feeding, and speedily disposes of them with the other items. "But what a bother!" exclaims some would-be Carnation grower. "Are the flowers worth it?" On this point there is certainly room for difference of opinion. My own views are very decided. If a Carnation fancier is not prepared to treat his plants well, he does not deserve to have them.

The Carnations at Hayes are most carefully tended, and the production of new varieties has been reduced to a science, with the result that a revolution has been effected, and the old varieties in all the classes are being steadily superseded. As a result of careful selection, I noted the following as the best:—Endymion, a large, handsome, well-formed variety, of a salmon-pink colour, the petals exquisitely formed; The Cadi, fine rich scarlet, medium-sized flowers, of superb quality. Haidée: this is the best variety of what has been termed the heliotrope colours; it is best described as a purplish-mauve. Lady Hindlip has large, full, crimson-scarlet coloured flowers, of good form and petal. Cinnamon: this variety is best described as of the colour of the aromatic bark from which it derives its name; the petals are of good form, and the plant of vigorous growth. I noted five yellow selfs, all good: Miss Willmott is a fine clear yellow, of good form and quality; Burgess, a full flower, and good yellow; Sir Isaac, lemon yellow, fine form; Saul, a fine large flower, clear yellow, good form, and free grower; and Paragon, large and full, fine yellow, and not the worst of them. White varieties were most promising in the seed-beds last year; some of them still stand to their first maiden promise of excellence. If they surpass Mrs. Eric Hambro in purity of the white, and in the almost unsurpassable form they will be gladly welcomed. Erin is very pure, form and quality excellent; Nevis, pure white, large, and of good quality, but not quite up to last year's standard; Titania, pure white, also of fine form; Mrs. Gascoigne, clear pink, flowers of large size; and to say good form is an endless repetition, as none are admitted but such as are of good form. May Yohé, deep reddish-pink, large flowers, and very sweet; Regatta, soft pink, very full flowers, and of large size; Kenilworth, rich crimson-scarlet, of super excellent form of flowers and petals; Mrs. McRae, rich crimson-scarlet, a tall-growing plant, but flowers very rich and striking; Prince Charlie is of a bright scarlet, with the petals well arranged; York, a fine blush variety, with well-formed flowers; Clio, a distinct pink self, flowers of large size, the plant of rather low growth—good outer petals; Sappho, pink, large full flowers, good petals.

In what amateurs term the Fancy class, for want of a more appropriate name, there are some new types, and improved varieties of the older types. Mr. Benary, of Erfurt, has made a most creditable advance in the production of fancies, the best of these have doubtless been the groundwork of the Hayes fancies. Don Juan, buff heavily splashed purple, large and fine; Zant, white, with a delicate rose-flake, scarcely observable, fine, sturdy growth; Dragoman, buff-ground, crimson-margin, medium-sized flower; Naseby, light buff-ground, flaked, barred, and margined with violet-purple. Caique and Egham are two varieties quite out of the usual types found amongst seedlings, the ground-colour is buff or yellowish-buff; Egham is marked heavily with crimson. Delila, lightish-buff, deep reddish-crimson edge; Evening Star, fine fancy yellow-ground, with rich purple markings.

Of yellow-ground Picotees there are some good and distinct forms, but the one that stands out full and clear before all others is Mrs. Tremayne; the flowers are large, well-formed, of a good yellow, margined and marked with bright scarlet. Badminton, large, good flower, lightly edged scarlet. Hygeia is the largest of this class; it has immense petals, and is a striking variety. Lord Warden is distinct; the flowers are of a good yellow, the petals edged with rose, like a fine hair. Empress Eugénie, next to Mrs. Tremayne in quality, but distinct, in that it has a medium rose margin; Dervish, pale yellow, very finely margined lilacy-rose; Mohican, large full flowers, clear deep yellow-red edge; Yale, deep yellow ground, with a heavy scarlet margin; Gabrielle, lemon-yellow, edged rosy-red, good petal and handsome form.

There are others I noted, but the above form a selection of the best of the seedlings. The foundation has been laid of new forms in the flake and bizarre section, and a new departure is urgently needed, as the varieties now in cultivation are many of them of very weakly constitution, and one may not suggest any alteration in the markings, or even in the shade of colour, without being pounced upon as a heretic; but this is a complicated subject from the florist's point of view, and can be best dealt with by the comparison of new types with old.

PELARGONIUM DISEASE.*

We have received from a correspondent ("D. M.") some stems of Pelargonium for investigation. It is to be regretted that they were packed in cotton-wool, which much increased the difficulties of examination. There is no more objectionable material for packing plants or fungi than cotton-wool. The information furnished is to the following effect:—"I enclose stems of Pelargonium Henry Jacoby, which I have cut from plants which have unaccountably died off. I first noticed this peculiarity or disease amongst a few hundreds of Vesuvius which we had occasion to buy in three years ago. It appeared to extend to our own stock of Vesuvius, and last year some large beds in the flower-garden of Vesuvius and Henry Jacoby were spoiled by a considerable percentage dying off. Trentham Rose showed some trace of the disease in a less degree.

"This year I have almost discarded Vesuvius, but kept some beds of Henry Jacoby, keeping a reserve of plants to make up any vacancies. About seven per cent. of the plants of Henry Jacoby have been attacked, and gone off this year already. Some kinds of Pelargonium show no signs of disease; among others, Trentham Pink or Christine, Niphetos, Tom Thumb, Raspail, &c.

"The plant seems to stop growing, and in a few days some of the lower leaves turn yellow; then the stem appears to get black, although the mischief whatever it is, seems to be going on underground before showing above ground. I am burning all infected plants as they are replaced. The kinds Vesuvius, Henry Jacoby, and Trentham Rose, will have to be discontinued here after this season."

The stems sent are decayed and blackened at the base just above the ground, and over these decayed spots are scattered pallid, mealy-looking little patches, not more than a line in diameter, and sometimes with a tinge of flesh colour. These superficial patches may be removed on the point of a pen-knife, and seem to burst through the cuticle. At first they are probably a little gelatinous, but soon become dry and powdery. Under the microscope this exudation is found to consist entirely of long spindle-shaped conidia, curved at each end, and attenuated to a point; when mature they are 60 to 70 micromillimètres long, and about 6 μ in diameter, at first with three, and afterwards five transverse septa, and uncoloured. These particulars indicate the genus Fusarium, but the species is one which we do not think has yet been recorded, and hence may be spoken of as Fusarium Pelargonii, a new species which affects the stems of cultivated Pelargoniums.

As suspected by our correspondent, this would seem to be an endophyte, which makes itself evident in the tissues before it breaks through the surface, and hence is most difficult to influence by the use of fungicides. Meanwhile, in order to prevent spreading, the only method is that already pursued of burning all diseased plants.

Naturally the question arises whether this specific mould is the cause or consequence of the diseased tissues. Although many of the species of Fusarium are saprophytes, and grow only upon decayed matter, others are undoubted parasites, and cause much mischief. Although the evidence is not entirely conclusive, we are of opinion that Fusarium Pelargonii (Cooke) is the cause of this disease, which we have never met with before, but has the capability of being very destructive. *M. C. C.*

* *Fusarium Pelargonii*, Cooke.—Sporodochia sessile, discoid, circular, or hemispherical, confluent or irregular, pallid, gregarious, conidia fusiform, curved and pointed at each extremity, 4 to 5 septate, hyaline, 60 to 70 by 6 μ. On decaying stems of cultivated Pelargonium. Sutherland.

FRANCE.

EXHIBITION OF THE SOCIÉTÉ CENTRALE D'HORTICULTURE OF NANCY.

Part of this exhibition was held under tents, where were greenhouse plants and cut flowers; in the open were plantations and beds; it was organised in the town park of the Pépinière. Among the most interesting exhibits were some unnamed seedlings of double tuberous Begonias from M. Crousse. Among the noteworthy Orchids were:—Odontoglossum Pescatorei var., with the lip handsomely spotted, and the tip of each division striped with purple; Phaius Humbloti var. carmineus, very distinct; Cattleya granulata du Buyssoni, with a large well-coloured bloom; and C. Warscewiczi.

MM. Victor Lemoine et fils staged some cut blooms of Delphinium, Ceanothus, Potentilla, Gladiolus, Syringa japonica, Rhus Cotinus atro-purpurea, and a series of novelties, among them Lonicera Morrowii, Hypericum densiflorum, Olearia Haastii, Begonia flamboyant, Primula Poissoni, Spiræa Bumalda Anthony Waterer and ruberrima, Cuphea Llavæ, Russellia intermedia (R. junceo × sarmentosa), and Ligustrum Walkeri.

M. Léon Simon showed a good collection of trees, shrubs, and herbaceous plants from the nursery of Simon Louis Frères, at Plantières, near Metz.

There were some good floral decorations and ornamental groups from M. Blaison Forêt and M. A. Grandjean. Cut Roses from MM. Soupert & Notting, Lamesch, Crousse, and Müller were well selected; zonal Pelargoniums (both single and double-flowered), Fuchsias, &c., were effectively bedded out, as were large-flowered Cannas.

Every day during the exhibition an open conference was held for the visitors, while on one day the members of the Society convened a conference to debate on the popular cultivation of plants. *Ch. De B.*

FORESTRY.

DROUGHT AND NEWLY-PLANTED TREES.

In a season like this, when all vegetation is, or has been, suffering more or less from insufficient moisture in air and soil, we are often surprised to find trees and shrubs standing the weather better on light and naturally dry soils than on stiff and heavy ground The explanation of this is simple enough, when we consider the mechanical condition of soils, and their behaviour under different climatic conditions. In dry weather, adhesive soils, such as clays and marls contract, leaving cracks and fissures in the soil which allow the drought to be felt to a considerable depth, and this contraction exerts an injurious tension on the roots of plants near the surface. Light soils, on the other hand, have no such adhesive or contractive property, and their mechanical condition varies little, whether the weather be wet or dry. When once the upper 2 or 3 inches of a sandy soil have become dry, its further drying is a slow process, providing it is not stirred or moved so as to destroy capillarity. Of course, this only holds good on soils of a fair depth, such as deep beds of sand or light loam. On very shallow soils overlying solid rock of a non-absorbent nature, drought of even a short duration soon

makes itself felt; the more so when the climate is generally moist, and the plants unaccustomed to dry periods.

Under natural conditions, such as exist in thick forests, drought has comparatively little influence upon vegetation so far as the condition of the soil goes, and it is principally through the atmosphere that its effects are felt. In such forests, various causes combine to render the trees independent of those frequent summer rains which are necessary to keep grass and other shallow-rooting plants fresh and green. In the first place, the deep-root system of trees brings their roots in touch with soil which is comparatively unaffected by an ordinary spell of dry weather. But the most important factor in preserving the soil-moisture is the humus layer which covers the ground in all thick woods, and which acts as a mulch and a fertiliser at the same time.



Fig. 16.—View in the Royal Botanical Garden, Glasnevin, with O'Connell's Monument.
(see p. 89.)

This layer prevents any cracks being formed in heavy soil and evaporation from the surface, and retains any rain which falls in thunder-showers, which, on hard, dry ground, usually runs off without doing much good.

It is chiefly in young plantations, however, that drought gives the forester any anxiety, especially the first summer after planting, and it is not uncommon to see a few weeks' dry weather in spring kill a large percentage of newly-planted trees. How far the drought alone is responsible for their death, we do not pretend to say in all cases, but assuming that the trees were perfectly healthy when planted, and the roots uninjured by exposure, their death is usually attributable to one or more of the following causes—late planting, unhealthy condition of the soil, and the presence of a thick matted turf. Late planting is chiefly injurious to coniferous or evergreen plants, but affects all kinds when hot sun and drying winds arrive before the roots are in a proper condition for taking up moisture. Unless moved with a ball of earth, or transplanted with uncommon care and despatch, no transplanted tree returns to its normal condition until fresh rootlets have pushed into the surrounding soil, and are carrying on their proper functions. Hence, all these transplanted in the ordinary way should be well established by the month of March on all dry soils, if they are to be safe against spring drought. The condition of the soil has already been referred to, but this may be greatly modified by preparation of the ground and methods of planting. On all stiff soils, the best results are obtained when pits for the plants are dug some months previous to planting, so as to thoroughly aërate and pulverise the soil before the roots are put into it. When so treated, the soil is less subject to cracking, and if planting is done when it is dry and friable, as should always be the case, little fear need be felt regarding the future. A frequent cause of failure on such soils is planting by the slit-system, and treading the soil firmly around the plants. In such a case, the latter are practically enclosed in a brick-like mass when dry weather sets in, and growth becomes an impossibility. In the third cause of failure—a matted turf—the plants simply die of starvation. This chiefly happens on dry soils when the trees are slit-planted, and where the roots of the turf are in possession of the uppermost layer of soil. The roots of the plants being in or immediately below this turf, the available moisture and plant-food are too small to carry the trees through the critical stage, and a short spell of dry weather is usually fatal. On such soils it is not uncommon to find plants die the second summer after planting, should this be hot and dry—a clear proof as to the nature of the complaint. On dry, peaty soils, the same thing frequently happens, the only remedy being either pit-planting, or the removal of the fibrous turf or peat before planting, so that the roots are placed in fresh and friable soil. Nothing is better for newly-planted trees than a good mulch of decaying vegetable matter; but except when replanting old woodland, this is difficult to give in ordinary plantations. *A. C. Forbes.*

The Larch Disease.

You were good enough to publish a few observations I sent you on this subject in your issue of April 4 last. My views, although those of an amateur arboriculturist, comprised theories founded on a long experience among woods and plantations, and I may say it was for the purpose of eliciting further information from practical foresters that I ventured to address you on this important question; but, with the exception of a few desultory remarks from time to time, and at length a summary, as he calls it, of what had been said by your Banffshire correspondent, nothing has emerged of any importance, or calling for reply.

What I maintain is, that no one who has studied animal and vegetable physiology can deny that any kind of tree which is not indigenous to this country requires careful treatment in its propagation and cultivation. I have seen the result of planting Larches in cold wet moorlands, with a hard retentive (almost impervious) subsoil. These plantations became branchy, and productive of cones at an early period of their existence; were, in short, affected with disease of one kind or another long before they were removed, and during the period of their decline men came regularly to gather seed from them for the nurseries. Now as the law of like begets like in both the animal and vegetable kingdoms, we are bound to believe that, notwithstanding the hardihood of the Larix, its constitution has been degenerated by mismanagement, and hence the want of success in growing this valuable tree all over Scotland, at least during the latter and greater part of this century.

On referring to what Brown of Arniston, as he is generally called, says on the subject of Larch diseases, I find he corroborates my conclusions. At pp. 280-81 of the *Forester*, he says:—"In collecting the seed of the Larch, great care should be taken not to gather it from diseased trees; nor should it be gathered from trees of a small size, for the very fact of small Larch trees having seed upon them is enough

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to point out that they are not of sound constitution. The seed of the Larch, as well as of all other trees, should be gathered from trees of large size, and which are known to be sound. Were this point more attended to, that disease in the Larch termed the rot might in a great measure be in future prevented; for it is well known if the parent be diseased, that the seed of that parent will be in a degree diseased also. Moreover, as the most diseased trees generally bear the greatest quantity of seed, the seed-gatherers who collect it for nurserymen by the bushel will be ready to take it where it is most plentiful, and will pay them best." Again, after descanting on the rapid growth of the Dunkeld plantations in the latter end of the last century, as well as on the valuable properties of this timber, Mr. Brown goes on to say, that on the advice of the scientists of the day, the Larch was planted extensively in all sorts of soil and situation. According to their opinion, it was one of the hardiest and most easy of culture among our forest trees; and proprietors, relying too implicitly in this matter upon the soundness of these opinions, planted Larch too indiscriminately upon all kinds of soil, without having due respect to the nature of the tree; for the Larch, as well as every other tree, is influenced by a natural law which restricts it to a particular state of soil in order to develop itself fully and perfectly, and from neglect of this the disease, now so prevalent in the Larch has originatsd. It is well known that, in many instances, whole plantations of Larch trees have died—I may say almost suddenly."

Your correspondent, Mr. Michie, makes a sweeping assertion in his letter of the 30th ult., viz.:—"I have with great care dug up trees of different ages quite leprous with blister, and found the roots, the neck of the plant, and a portion of the stem joining the root, quite stout and healthy. It is a very common thing to find the trees producing shoots from the lower part of the stem below the blisters, and these shoots afterwards producing healthy trees, all of which combine to prove that it is not any constitutional defect in the tree which causes this blister, nor because it was raised from seed from diseased trees, &c.," which, being a plain contradiction to almost all I have advanced and can prove to be correct on the subject, I must either leave to more experienced men to respond to, or do so myself at some future period. And yet in the same communication Mr. Michie admits "Frost, combined with dampness, is doubtless destructive to the tree, which indicates that cold soils, cold situations, and cold climates should be avoided, and the opposite conditions carefully chosen and adhered to. Excess of moisture is also fatal to the tree, and must likewise be studiously avoided." Now, really after all is this not nearly admitting all I have been contending for? *L. Capuh, 22nd June*, 1896.

ORCHID NOTES AND GLEANINGS.

CATTLEYA LABIATA MENDELI "HER MAJESTY."

THE varieties of Cattleya Mendeli, which are so splendidly grown in an adapted fruit-house by F. C. Jacomb, Esq., Cheam Park, Cheam, and which we have previously had occasion to note, have been even finer than usual this season, and the lofty house in which they are grown has been brilliant with their fine flowers for a month past. None that is not considered a good variety is retained, and consequently the species is represented at its best. But among the many fine things which have flowered this season, none is comparable to the noble C. Mendeli Her Majesty, which took the highest award, and was so much admired at the Manchester Royal Botanical Society's Show on May 31, 1895. It seems scarcely possible to conceive a more beautiful Cattleya than this is, for it is excellent in every respect. Its finely-formed flowers have white sepals and petals, delicately tinted with rose, like the tinting of a pearl. The beautiful labellum is white at the base, with a chrome-yellow zone, and an indescribably fine violet-tinted crimson front lobe; delicate rays of white and purple springing from the base of the lip, and extending to the front lobe.

CATTLEYA GASKELLIANA ALBA.

The differences between the varieties of Cattleya labiata are often more marked by their flowering at different seasons than by any definite variation in the flowers themselves. Such as they are, they are more marked in the albinos than in the forms having normal colours; so much so, indeed, that had the fine flower I have received recently from D. B. Rappart, Esq., Liscard, Cheshire, been sent to me a few months later, it would have passed muster as a fine form of the old autumn-flowering labiata. As it is, it requires careful examination to determine that it is not C. Mossiæ Wagneri, or C. Mendeli alba. But there is the well-known odour of C. labiata Gaskelliana and the characteristic rounded front to the lip, which there is also no mistaking. The flower is of fine shape, pure white, with a clear yellow tinge from the base to the middle of the lip. C. labiata Gaskelliana shares with C. l. autumnalis the reputation of being the easiest Cattleya to grow, and the freest to bloom. *J. O'B.*

THE SEED TRADE.

THE PROMISE OF THE SEED HARVEST IN LINCOLNSHIRE: GARDEN SEEDS.—A visit to the districts of Lincolnshire, where seed-growing is a staple occupation, has afforded an opportunity for making a kind of forecast of the probable yield of the various crops. Lincolnshire possesses some advantages over the seed-growing portions, say, of Bedfordshire and Essex—especially those parts of the latter county where the soil is lightest—in that the ground is heavy and retentive of moisture, therefore crops do not so soon suffer from drought; still, most parts of the county have suffered in this way, the effects being, of course, more marked in some parts than others.

Peas are largely grown for picking green and for seed, and it was readily seen that early, mid-season, and late varieties have suffered from lack of rain from the time of sowing to ripening, and especially is it true of the late varieties which have strong and very succulent foliage, and which bloomed during the driest and warmest weather. Very large breadths of this variety were observed in some districts, which promise a short yield of seed. In many instances very few pods formed, and the plants are infested with mildew, thrip, and all other insect pests which attack Peas, making them comparatively worthless in some cases, and doubtful if even the return will equal that which was sown. The yield of the early varieties, although small in quantity, is generally of good quality. The quality of the seed of the late Peas depends upon the character of the weather at the time of harvest, and it will not occasion surprise if after so fine and dry a summer the season of harvest should prove a wet and stormy one. Some of second early varieties, such as Harrison's Glory, which is largely grown in Lincolnshire, podded before the hot weather set in, and the return from these promises to be much better than the others.

Broad Beans.—In the case of Broad Beans, the hot weather ruling at the time of flowering caused the flowers to fall, and the yield therefore cannot be a large one. The plants are generally healthy; the pods short, for the reason above stated; and the quality promises to be good.

Cabbages.—On the other hand, the seed Cabbage-plants have kept clean and healthy, and a good seed-harvest may be anticipated—that is, about the first week in August.

Carrots.—The Carrot-plant also suffered much from the drought; the growth is very dwarf, and the crops by no means promise well, the dry weather having caused a great deal of waste, many of the plants decaying, and making no yield. The varieties chiefly grown for seeds are the Altrincham, James's Scarlet, and the New Red Intermediate.

Parsley.—The crops of Parsley standing for seed look fairly well, but like the other plants they are affected by the drought, being stunted in growth.

Beet.—The promise of the seed crop from selected roots is by no means good, it might be termed an indifferent one; and the yield must be very small. Middleton Park Favourite as one of the best of the dwarf crimson-leaved types; and the Covent Garden red, a large type suitable for market, are the two principal varieties grown.

Radish.—This is only partially grown for seed in Lincolnshire, and also only occasionally; what plantations there are for seed promise a very short yield, as owing to the dryness of the soil the plants could have made but little growth after being transplanted.

Turnip.—The choice early garden Turnips, white and yellow, were much blighted, and when threshed out the crop must be a light one.

Cress is not much grown, and the crop will be a small one.

Mustard.—Very much smaller breadths than usual of Mustard, both white and brown, were sown, owing to the prices realised during the last few years proving unremunerative, and owing to the extreme drought, and in some districts to the prevalence of the Mustard-beetle; the yield from crops now standing must be limited in quantity, the plant of the brown looking even less promising than that of the white, as the beetle devours both leaf and blossom.

Kales and Broccolis show healthy plants, very clean, and promise well for the seed-harvest.

Potatos.—Early varieties, which are much grown in Lincolnshire for market purposes, were dwarf in growth, as a result of the drought, but the haulm was clean and healthy. It is only off the best land, where the Potato is well grown, that anything like a good crop has been realised. The late varieties have suffered much from the drought, and on heavy lands the yield must be an indifferent one. Spare as the crop comparatively is, the prices at present being realised are low. Should a heavy rain set in, a good deal of super-tuberation may be looked for, and if this should happen, it will be at the expense of quantity and quality. *Pisum.*

THE RABBIT AND THE GARDENER.

THE *Gardeners' Chronicle* has often had occasion to speak favourably of the publications of the United States Department of Agriculture. It may be remembered that a few weeks ago mention was made in these columns of a bulletin on the common crow of the United States, which went to prove that this bird was to be regarded more as the friend of the gardener, the fruit-grower, and the farmer, than as their enemy.

There has just been issued from the Government Printing Office at Washington an interesting and instructive report on the "Jack Rabbits" of the United States. Although over here we are not troubled with a plague of rabbits, yet it may not be uninteresting to English gardeners and fruit-growers to read something about the damage done to grain, orchards, crops, &c., in the States by those animals which are known over the Atlantic as "Jack Rabbits." These animals feed almost exclusively on the bark and leaves of shrubs and on herbage. They will eat Buffalo and Grama-grass and Cactus, and are fond of vegetables and Alfalfa, and also of tender bark.

Everyone knows the disastrous results which followed the introduction of the common European rabbit into Australia some thirty years ago, and nowhere have the methods of destroying rabbits and protecting crops been so carefully investigated as on that continent. While the old-world rabbit belongs to an entirely different species from the jack rabbit of the West, and differs from them in habits, some of the Australiam methods, it is thought, might be used with advantage in the States, where the damage done to crops by rabbits has been illustrated very forcibly during recent years by the losses sustained by farmers and orchardists in the arid regions of the West through the depredations of the large native hares, or jack rabbits. The introduction of irrig-

tion and the cultivation of large tracts of land have favoured the increase of rabbits in several States by furnishing a new source of food-supply. To such an extent have their depredations increased, that the extermination of jack rabbits has become a serious question in California, Colorado, Idaho, Oregon, and Utah. Dr. Palmer gives a general account of the distribution and habits of the various species of rabbits found in the United States; he shows the methods which have been used to exterminate the animals, and to protect crops from their depredations. Finally, he brings together facts and figures concerning the economic uses of rabbits in general, for the purpose of indicating how the native species may be more generally utilised.

The fact that the large ears of the jack rabbits resemble those of the well-known pack animal of the West, has suggested the common names of "jackass hares," "jack rabbits," or "jacks." In some parts of California jack rabbits are called "narrow-gauge mules" and "small mules," but these absurd terms are not likely to come into general use. It may be interesting briefly to sum up the contents of the report:—

The cost of properly protecting orchards and Vines is often a large item in the expense of setting a new orchard or vineyard.

In Southern California, experience has shown that a fence about 2 feet high affords ample protection, and many orchards are surrounded by lath fences 2 to 2½ feet in height.

In other districts, higher fences have had to be built, and barbed wire extensively used.

Where the expense of fencing is too great, young trees have been protected by wrapping the stems with strips of burlap, gunny sacking, or coarse cloth, an inch or two wide.

Some orchardists advocate painting the trunks of the trees with mixtures distasteful to rabbits.

Whitewashing is said to prove effective in some cases, particularly if a mixture of glue and copperas be added to the solution.

Too much reliance cannot, however, be placed on smearing the trunks of trees.

The various species of jack rabbit are all more or less alike in habits, and all feed largely on bark and herbage. When food is easily obtained, and particularly on newly-cultivated land, the rabbits increase rapidly, and do great damage to crops. The black-tailed species are more gregarious than the prairie hare, and, as a rule, are more destructive. In Modoc county, in the northern part of the State of California, nearly 25,000 jack rabbits were said to have been killed in three months, on a tract of land only 6 by 8 miles in extent; this being during the period when the county law was in force. On a ranche in the San Joaquin Valley, about 8000 rabbits were killed in nine days. It will be seen that jack rabbits have a pretty tenacious hold on life when it is stated that Ada County, Idaho, which has been systematically killing off the jacks for fifteen years under the county system, received more scalps and expended more money for this purpose during 1895 than in any year since the county law first went into effect in 1878.

The best means of protecting crops from the attacks of rabbits, and, in fact, the only method which can be relied on, is the use of rabbit-proof fences. Under favourable circumstances, great numbers of jack rabbits may be killed by drives or large hunts; but this means of destruction will only serve to reduce their numbers, and cannot be used to exterminate the pests. Bounties are of little use, and the extermination of rabbits can only be accomplished by co-operation on the part of individuals. Commercial utilisation is the most promising and least expensive method of keeping these pests in check in localities where they are unusually abundant; but returns from this source will only partially offset the losses sustained on account of injuries to crops. Jack rabbits may be used for coursing, for their skins, or for food.

In America, the rabbit question never has, and probably never will, assume the proportions it has assumed in Australia. The jack rabbits of the United States are all indigenous species, and ordinarily are held in check by natural enemies and by disease. Although local conditions may sometimes favour their temporary increase, yet natural agencies, aided by the persistent and constantly-increasing war of extermination, are gradually, but none the less surely, diminishing their numbers. *Herbert C. Fyfe.*

CHESHIRE NOTES.—I.

Ashford, Alderley Edge.—Ashford is a fine old residential mansion of Gothic character, with numerous pedimented roofs and black and white enrichments, standing in the midst of a wooded park, and led up to by a fine beechen avenue, entering from the public road between Wilmslow and Alderley Edge. The Beeches are getting up towards their prime, and formed in the month of June, when my visit was made, a splendid leafy arcade, as one moved along from the entrance, in a fine sweeping curve, towards the house. This has been quite a record year all over the country for the profusion of flowers on all species of "Thorns," and the gaiety of the crimson and pink blended charmingly and most effectively with the white of the common Hawthorn. Nor did the Horse-Chestnuts lack of crops of blossom, which together about this park made a splendid show, and acted as a florist foil to the greenery of other neighbouring trees, of which there is a good assortment at Ashford. The flower-parterre, gay with Rhododendrons, Azaleas, and such-like June flowering-plants, afforded a welcome enrichment to the lawn, so beautifully green in an average year of rainfall, but lacking in verdure now owing to the drought, and in that way lessening the usual intensity of the contrasts of colours. The grounds are well kept; and the whole place, which was a "bit rough" in former years, has been remodelled and beautified by George Shirland Ball, Esq., who has recently bought the property. This gentleman, as some of my readers may be aware, resided at Earl's Court, Bowdon, and founded a collection of Orchids there, among which were many notable things.

The whole of the Orchids have been transferred to Ashford, and new houses erected suitable, according to the idea of their owner, for their culture. The whole of the wood-work consists of varnished teak; the whole of the fittings are either brass or galvanised iron, doing away altogether with paint, and they bear on their face, as one examines details, a substantiality and neatness, which shows that the first cost must have been considerable, but that wear and tear will be practically absent; and the work done looks as if it would last a lifetime. The stages are also of teak, as are the lattice-work laid on the paths. The brickwork is of that fine ruby-red Ruabon brick, which does not easily alter its colour under exposure to the baleful smoke; and then the archways to uphold the stone slabs that make a cover for the staging, are after the style of those in the Stand Hall Cattleya-house, from which Mr. Ball says he took his model. They have the advantage of giving off moisture copiously. There are skeleton stages in all the houses, the stone slabs being covered with charcoal, and then after a 6-inch vacancy stands the teak staging upon which the plants are placed. The necessary work is reduced to a minimum by ample provision of taps and India-rubber hose, which is made to play not so much upon the plants as upon the charcoal midway between the stone and the teak staging, and upon the floors themselves. The piping is ample, and the boiler-power therefore never put to too severe a test. The shading is of those chip or lath blinds which are fast coming, and very properly too, into general use for Orchid culture particularly, and the whole to an "old hand" looks as if it had been supervised by a skilful hand.

There are two cool houses, one in which plants of Odontoglossum crispum fill by far the larger part. Each is 27 by 12 feet, with a pathway running up the centre, and the plants are kept well up towards the roof glass. This is always an advantage, as we see here the strong, finely-developed young growths, and these in flower of lasting quality. The white O. crispum here very fine, and there are some spotted and flushed ones that command attention. There is a great variety, and nothing in the flower way is more generally useful. O. Pescatorei was in fine form; as also O. Andersonianum. Plants of O. cirrosum and Epidendrum vitellinum were in fine flower. In this house there were remarked plants of Lælia Dayana, Oncidium macranthum, Cattleya citrina, &c.

No. 2 house is a show-house, and its temperature is kept on the cool side, and a little less moist, so as to afford longevity to the flowers. Chief among the novelties in flower were Dendrobium atro-violaceum, a plant after the way of D. Veitchianum in habit, and in flower conspicuous for its blackish-purple rayed lip and green-and-white segments; Cattleya Mendeli and C. Schroderæ were represented by specimens in flower, as was O. vexillarium in several varieties. In this cool climate Zygopetalum Gautierii, the boldest-looking and best of the Z. Maxillare section, was growing beautifully in more than one specimen on a Tree-Fern, which was also living and sending out fronds. This state of life for an epiphytical Orchid may have something to do with the remarkable exuberant state of the Z. Gautieri.

The Cattleya-house is 27 feet by 14 feet, and is filled with some of the best forms of Cattleyas. That they have improved in this new house was conspicuous to one who had seen them in their old quarters at Bowdon. The climate was particularly agreeable—far more pleasant than under the mid-day sun on the day of our visit. Root-action is in the meantime, so to speak, rampant, and the young shoots are developing in proportion. A fine lot of C. labiata, and none rarer or better than C. l. alba and C. l. Ballæ, formerly described in the *Gardeners' Chronicle*. Then there was a fine piece of C. Schroderæ alba, a promising plant of C. Gaskelliana alba, also of C. Mossiæ alba, several plants of C. Skinneri alba, a valued plant of C. Holfordi, C. Bowringiana, some fine C. Trianæi, several Lælia tenebrosa, but singular to say, no Lælia purpurata.

The Cypripedium-house is also 27 feet by 14 feet. The collection is very choice, and of the best kinds. We place at the head of the list C. callosum Sanderæ, then C. insigne Sanderæ, Lawrenceanum-Hyeanum, a pretty yellowish crest of green, but too stiff and petals incurved—withal a beautiful thing; venustum Measuresianum, said to be a yellow venustum, C. × Leeanum giganteum, Rothschildianum, still the best of that division of the species, grande atratum, and lots of others, all doing well.

The Dendrobium-house is a span-roof, lighter than the others, and is constructed for the hanging up of plants, not one above another, but with a clear passage below. The path is 12 feet wide, covered with teak, and what water falls from the plants above gets between the teak openings. This is a capital arrangement. The finer plants are suspended, the commoner herd are placed on stages surrounding the house. Mr. Ball has a very fine assortment of choice Dendrobes, and the collection is very promising. Some grow in pots, some in teak baskets, and some in open pot-baskets. The best piece of D. nobile Ballianum we ever saw is here, and it does not show that "miffy" disposition which most of the special variety does. It is evidently a natural hybrid, else there would be no pinkish frayings about the lip—and to boot, nobile is a free grower. D. Wardianum album is pushing strong growth, and it is of the best variety too. There are others here, but the one in question is a "champion." D. nobile giganteum, Stand Hall var., stands at the head of the section, always barring nobilius, an improvement, however, on that variety in form, standing flat, on a plane. D. × Schneiderianum is in several plants, and it is one of the best hybrids; it is a pity that Mr. Holmes, the raiser, cannot reproduce it. D. nobile Amesiæ is doing well; also D. × Rœbelini, the pelorial D. n. Cooksoni, the D. × Cypheræ, D. × melanodiscus, D. × Venus, D. Johnsoni—a lovely white form, worthy of getting up into specimen size, and one, too, of the most distinct. There are many others which one finds in all collections. So far as we have seen, most growers can handle Dendrobes, and grow them to please the eye well, but some of our best growers fail at finishing them so as to produce flowers of best quality. Some

evidently winter them too cold, some too hot; the happy medium would doubtless produce the best results.

There are houses in which flowering plants and Ferns are grown to supply indoor demands. There was a capital show of Grapes in a vinery 30 by 14 feet, in which there is a mixed company of Black Hamburgh, Muscat of Alexandria, and Alicante; the canes strong, the leaves large, stiff, and full of vigour, and the bunches show high promise—all growing in an inside border. The question is, will they last? Melons, Cucumbers, and Tomatos look vigorous and promising.

The place is under the management of Mr. Alexander Hay, who evidently understands his work, and does it very well. That he was appreciated by his fellow gardeners residing about Bowdon there is evidence in a fine barometer that was presented to him, bearing the following inscription, "Presented to Mr. Alexander Hay by the members of the Altrincham Improvement Society, April 8, 1896." *J. A.*

METHODS OF PROPAGATION.

(*Continued from p. 23, July 4.*)

Bell-glass Work.—The raising of plants from cuttings is such a simple matter that it is practised with much success by amateurs, professionals, and even the dear old lady, who attributes her good luck to inserting a Barley-corn in the peth (*sic*) of her cutting to ensure its rooting, and who boasts with pardonable pride that all the plants in her "winder," and in her "garding," too, were raised by herself. Doubtless, she will consider any hints from me entirely superfluous. I am addressing other readers, however, and first, we will take what may be called for distinction, "Bell-glass" work. The great secret of success in this is cleanliness.

The pot or pan, the bell-glass, the soil, the crocks, and the sand, must be specially cleansed and prepared, as well as the cutting. The pot should be a new one, fully porous, but immersed in water a few hours before using it. The bell-glass should be thoroughly washed in soda ley, dried and polished with a leather. The soil must be mixed according to the kind of plant to be struck, but as a rule peat and loam, with enough sharp Bedford or river-sand to make it porous, is suitable, and some clean dry crocks (potsherds), for drainage, with an admixture of small pieces of charcoal to prevent the mixture souring. The silver-sand to cover the surface of the soil must be baked before using, this being necessary to kill any spores of moss, or Liverwort (Marchantia), that may be adhering to the granules. Neglect of this may ruin all, as in a short time these minute spores will grow, covering the surface of the sand with the interlacing threads of minute mosses, or the close cellular fronds of the Liverworts. The pots should not be larger than 32's, even 48's are preferable, and the bell-glass should just fit inside the rim of the pot. Let us now prepare some pots. Place over the hole a curved crock, concave side downward, and then on this some smaller ones, and above these a little clean peat fibre, and then add the prepared soil up to within an inch of the pot rim; press firmly and evenly with the bottom of a pot, and then fill up level with the rim with the baked sand, sprinkling the same with water from a fine-rose pot. Stand each on one side until you have a sufficient number ready, and then prepare your cuttings. Being comparatively easy, let us begin with the soft-wooded Heaths (which should be struck about midsummer), such as E. gracilis, hyemalis, caffra, Wilmoreana, regerminans, and persoluta (in variety). Cut off some stout free growth of the current year, and holding it by the base, proceed to trim off their small circular leaves with a pair of sharp scissors from the base up to within ½ inch of the growing point. Cut the cutting with a very sharp knife about 1½ inches long, and when you have prepared enough, proceed to dibble them into your propagating-pot. If only a few are required, let them be put in as near the outside of the pot as will allow the bell-glass to be put over without touching them; be careful to close the soil well round them, and finish up neatly and level, finally putting on the bell-glass. Do not water again, but plunge the pot to within an inch of the rim, and shade by a piece of brown paper laid on the knobs of the bell-glasses. Next morning these glasses will be dull from the moisture condensed on the inner surface, therefore lift them one at a time, and wipe each thoroughly dry, and clean, and replace them over your cuttings, shading as before. The third morning proceed similarly, but in addition give the cuttings a little water, being careful to avoid wetting the foliage. In less than a month the cuttings will show signs of growth, when they may be allowed a small quantity of fresh air by tilting the glasses on one side, but continuing the shade. The temperature of the plunging-bed should not be less than 60° or 70°, and the house about the same at night, with a slight increase during the day. In from six weeks to two months, all the cuttings will be rooted, when the bell-glasses may be left off, but the shading continued; and in a short time the little plants may be potted into thimbles (smallest 72's), using the same compost, but adding a little sifted well-decayed manure. Shade for a few days, and then transfer them into a cooler house, giving light and air freely except in the middle of the day, when the shading should be used. Other Heaths may be raised thus, such as some of the ventricosas, vestitas, and Cavendishii, but they take a little longer to root. The most difficult are the "tricolor" section; these require lighter soil and a double pot, that is, if the cuttings are put into a 60-pot, this should be stood in a 48-pot, resting on some fine crocks at the bottom, and then the space between the sides of the pots filled in with fine crocks and charcoal, the bell-glass resting on this mixture. The enemies to be fought are damp and rust, both inducing destructive fungoid growth. Only put in one, or at most two, rings of cuttings in your 60-pot, as near the outer rim as possible, and then pile a few pieces of broken charcoal in the centre, covering up closely with a bell-glass. If any rust or mildew shows itself in minute spots on the leaves, put a pinch of flowers-of-sulphur on the charcoal at night; cover up, and remove it in



Fig. 17.—Interior of the Palm Stove, Royal Botanical Garden, Glasnevin.
(see p. 89.)

the morning, when you clean your bell-glass. This may be repeated at intervals of two or three days until all danger has passed.

Among greenhouse plants the Acacias stand prominent, both for their early flowering, brightness, and grateful fragrance. Such free-growing kinds as A. dealbata and A. Riceana are admirable for covering back-walls or pillars. Many of them are easily raised from cuttings, such as A. armata, A. Drummondi, but the longifolia section are a long while rooting, but if grafted on young seedlings of A. lophantha, they not only make good plants more rapidly, but flower sooner and more freely. Merely cut the stock half through, the scion likewise, bind together with worsted or cotton, and plunge in a close heat for a few days. Aphelexis and Phœnocoma can be struck freely in gentle heat, and soon make good useful plants; but, though the Boronias may also be easily rooted under bell-glasses, they are better grafted upon a stock of B. serrulata. The deliciously fragrant B. megastigma roots freely treated in the same way as the hard-wooded Heaths.

Pimeleas should also be grafted in this simple manner, using Pimelea Hendersonii or decussata for the stock. P. spectabilis and P. hispida, two of the best, make neat and useful plants thus grafted, but both may be struck from cuttings of the young wood when a heel is taken, though they are a long time about. Many gardeners find a difficulty in striking the variegated Cobæa, a most effective climber for large conservatories and winter gardens, but if they will take the young wood in the spring with a heel, they may make sure of 50 per cent. succeeding under a bell-glass.

The Correa does not strike easily, but may be grafted on C. bicolor or C. alba; C. cardinalis especially, perhaps the most useful and showy of all, should be put on the stock as near the surface of the soil as possible. Among the Cactaceæ none are more useful than the winter-flowering sections known as Epiphyllum. They all make plants easily from cuttings, but these are more useful for hanging basket work than for stage decoration. To have tall useful plants of them flowering freely from every point, graft them on the curious Pereskia aculeata, which seems to hold an intermediate place between the leafless Cacti and the Euphorbias. Cut your Pereskia to the height you require, and split down the top joint. Then take a piece of the Epiphyllum—say two or three phyllodes or mock leaves, and place the lower end in the cut of the stock, so that the split pieces may rest on each side of the woody centre of your scion; bind with wick cotton, and keep all close in the double light of your propagating-pit, and in a month a good union will be effected. The most distinct and useful old varieties are Madame Courant, tricolor, violaceum superbum, and Veitch's very lovely novelty, Russellianum Gaertneri, which has flowers almost as large as Cactus speciosus, of a brilliant orange-scarlet colour, which are produced at every point of its gracefully-drooping branches. It grafts easily on Pereskia, and soon makes a good plant.

When we were writing of indoor grafting, a genus of greenhouse shrubs, the Neriums (Oleanders) was omitted. These are known on the Continent as 'Laurier Rose," and in the south make trees and shrubs in the open air. They have been much improved by the hybridiser of late years, and now present us with many exceedingly lovely and desirable forms. These are all grafted on the common single-flowered Oleander, either by approach grafting, or by tongue or cleft grafting, merely keeping the worked plants close for a few weeks after working. The most distinct are Madoni grandiflorum (a semi-double white), the Double Pink, and Double White. To bloom them well, give manure-water while growing, and when the buds have set, take care never to allow the soil to get dry; indeed, standing the pots in pans of water is advisable. On the continent, amateurs often raise Oleanders by putting a cut branch in a bottle of water, and then suspending it on a south wall, adding more water as evaporation takes place. Pleroma and Lasiandra macrantha will root in this manner—by plunging the bottles in the warm tan of the Pine-stove.

There remain yet a few plants which should be raised as cuttings under bell-glasses, but which are not difficult subjects. The Australian Milk-worts (Polygala) strike freely if small cuttings of the young wood be taken and inserted in sandy soil under a bell-glass. The same may be said of other pretty winter and early spring-flowering plants: the Sollyas, and the Tremandras—one that used to be called "Tetratheca ericoides," makes a very graceful table-plant, grown in a 60 or 48-pot; while the Heaths of New Holland (Epacrids) can be increased freely by striking cuttings of the young wood under bell-glasses in gentle heat, being careful to avoid getting much water over the foliage till the cuttings have struck.

The criticism of your correspondent, Mr. C. Itoll, in your issue for May 9, had escaped my notice. I do not court a paper war, but would call attention to the fact that I was advising quite an exceptional method of grafting, necessitated by the circumstance that the tree to be grafted was already old and established. If Mr. I. has followed my papers, he will find I do not advocate grafting by the cleft, but I thought it the best way in this case. *Experience.*



Fig. 18.—Addison's Walk—Yews, Royal Botanical Garden, Glasnevin. (see p. 89.)

Plant Notes.

Gaillardia aristata grandiflora.

Amongst hardy herbaceous plants, the varieties of Gaillardia aristata are great favourites here, owing to their long-continued flowering and graceful appearance. The flowers last for a long time after being cut, a fact which was illustrated lately by a box of blooms I received through the post from Messrs. Kelway, of Langport, which were in good condition a week afterwards. Judging from the collection, great pains have been taken in improving this species, and the colours of the blossoms varied from pure yellow to almost entirely brown, and some of them had the tubular florets of G. Lorenziana, only they are arranged in a single row; and these varieties, if not quite so showy as the others, afford a pleasing variation in form. Plants may be easily raised from seed, which will flower the same season if sown early

on a slight hotbed, and transplanted to the flower-border when large enough. These last for several seasons, except in very severe winters, with but little attention. The plant may be likewise increased by division of the roots. The soil for Gaillardias should be moderately rich and moist, and the position open and sunny. The plant shows to great advantage when situated on a rockery at a few feet above the ground-level. *W. H. Divers, Belvoir Castle Gardens.*

FOOD OF CROPS.

IT must always be remembered in estimating the manurial value of garden-refuse, stable litter, seaweed, or any other vegetable matter, that a considerable portion of the plant-food ingredients contained in these substances, namely, phosphoric acid, potash, and nitrogen, possess little if any value in excess of that which is already in the soil in the shape of undecomposed crop residue. A soil may show by chemical analysis to the depth of 9 inches from the surface to contain 4000 lb. of nitrogen per acre, and yet the yield of crop will be very small; and the addition of 150 lb. of nitrate of soda or sulphate of ammonia, providing only some 22 lb. of nitrogen available to the growing plants, is of more immediate value to that crop than the 4000 lb. that is practically locked up and unavailable. Yet from a purely chemical standpoint, by laboratory-test, the soil may be already supplied with enough nitrogen for the production of average crops to last 100 years and more.

Some important investigations at the experiment station of Sir John Lawes, show that the Rothamsted soil may contain in its first 9 inches of depth 2452 lb. of phosphoric acid, and yet the addition of 3 cwts. of superphosphate, as manure, will increase in the average of years the crop of Barley from 28 to 42 bushels per acre, provided available nitrogen is present. The same soil shows on analysis in the top 9 inches of depth the enormous amount of 35,845 lb. of potash per acre, and yet the addition of sulphate of potash as manure, which provides potash in a much more readily and usable form, is found to increase in a marked degree the yield both of grain and straw; and under corresponding conditions, the production of starch in Potatos, and of sugar in root-crops, is largely increased by the use of potash as manure. Where very large dressings of good and well-made stable or farm-yard manure is used, the direct application of potash will be less necessary, because animal excrements contain a large proportion of this element. *J. J. Willis, Harpenden.*

THE WEEK'S WORK.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Burford, Dorking.*

PHAIUS HUMBLOTI.—From the time of its introduction from Madagascar this lovely species has been cultivated very generally in the house with the highest temperature, and many of us know from experience that this has after a while resulted in the plants deteriorating in condition. On several occasions cultivators have been advised in these columns to try the plants under ordinary Cattleya-house treatment, under which they undoubtedly here have made much progress, but which was not altogether satisfactory. For the benefit of cultivators, the advice given me by an enthusiastic amateur who is successful in the cultivation of this family of Orchids, is well worth following by those who have hitherto failed to obtain good results. After trials in various warm and intermediate temperatures, some few plants were placed in a shady position in the cool Odontoglossum-house, where, under the ordinary treatment as to watering, &c., they quickly regained health, with good leaves and strong flower-spikes. I am assured that this species, which hitherto has been placed in the category of plants difficult to manage, is now happily considered to be the easiest Orchid to grow amongst a large and varied collection. Any plants of this species which have finished flowering will begin to grow afresh, and some may require to be repotted. They should be potted a little below the rim of the pot, like an ordinary stove-plant, the potting material being of a firm though porous nature, such as fibrous loam, leaf-soil, and sphagnum-moss, in equal parts, with a large proportion of small crocks, mixing the whole well together. Previous to repotting, examine the base of the pseudo-bulbs and roots in case mealy-bug or scale may be present. The potting should be done moderately firmly, but do not afford much water till the roots are seen to be pushing through the compost, when the quantity should be gradually increased. When grown in the warmer divisions this species is always infested with yellow thrips, which, without doubt, cause unhealthiness, but if placed in the cool-house, these insects may not give trouble—at any rate, cultivators should give this cool method of culture a trial.

OTHER SPECIES OF PHAIUS that do well in the warmer houses, as P. Sanderianus, P. grandifolius, P. Wallichii, P. tuberculosus, P. Blumei, P. assamicus, P. Cooksoni ×, P. Marthæ ×, P. Owenæ ×, P. Owenianus ×, and Phaius-Calanthe Arnoldiæ, being now in full growth, should be afforded water copiously at the root, and shaded from strong sunshine.

ERIAS. — Among Orchids not generally sought after are the Erias, several varieties of which are really worth cultivation, well-bloomed plants of the following species being very pretty and interesting objects: E. densiflora, E. floribunda, E. bractescens, E. stellata, E. acervata, E. flava, E. excavata, and the graceful E. æridostachya; all of them flower freely, and their cultivation presents no difficulties. These plants, which start to grow at this season, should be repotted if the compost be decayed, using fresh materials, viz., peat and sphagnum-moss in equal quantities, in well-drained pots. The Cattleya-house, or that part of the warmer division which is freely ventilated, will suit them.

DISA GRANDIFLORA AND ITS VARIETY, BARRELLII.—These plants have their flower buds well advanced. They are liable to be infested with green-fly, which, if not destroyed, soon spoils the beauty of the flowers. The brush and sponge are the best means of ridding the plants of aphis, afterwards laying the plants on their sides, and syringing them till quite clean. It is not advisable to fumigate these plants with tobacco at any time, the foliage being very tender, and liable to injury. The plants should be freely supplied with water till they go out of bloom, when the quantity should be gradually reduced, but not entirely withheld.

FRUITS UNDER GLASS.

By W. POPE, *Gardener, Highclere Castle, Newbury.*

MELONS. — The plants which are to furnish a supply of late fruits should now be planted. Melon plants carrying several fruits will require very liberal supplies of water at this season, much more being now needful than the earlier plants required when the days were shorter and the sun-heat less. The watering of the beds should be thoroughly done, small quantities frequently afforded doing harm by the roots often being left dust-dry whilst the surface may be moist. In affording water, it should not come in contact with that part of the stem that is, as it were, between wind and water, and a close stagnant state of the air in the house should be avoided, otherwise canker may be set up. If the surface of the Melon-bed cracks, as will occur when a clayey kind of loam is made use of, a thin coating of well-rotted manure should be applied as a mulch. Remove all the superfluous growths on the bine, and properly support the fruits. Excepting at the times of flowering and setting or ripening, the foliage may be syringed daily in fine weather when the pit or house is closed in the afternoon, and at other times sufficient moisture will be secured by sprinkling the floor, walls, &c. Plants growing in dung-pits and frames should have the growth thinned and regulated, and sun-heat fully utilised by shutting up after sprinkling the plants and the soil; with more air and less moisture, however, as soon as it is observed that the fruit is beginning to ripen.

FIGS.—Trees with ripening fruit should be afforded air abundantly, day and night, the soil should be kept less moist, and aërial humidity reduced, but care should be taken that the trees are not impoverished. Old Fig-trees which are swelling-off the second crop of Figs should be liberally supplied with manure-water at the root, and freely and forcibly syringed on fine afternoons. The fruit on such trees should be somewhat severely thinned if the same trees will have to furnish early fruits next year. The shoots should be thinly laid-in, so that there will be ample space between them, and laterals should be stopped at the fourth or fifth leaf, reckoning from the base; or if crowding be feared, remove them entirely. The mulching may be renewed if this be thought desirable, using the dung of corn-fed horses, which, besides admitting air and water freely, contains considerable quantities of ammonia, which is very beneficial to the Fig. It is prudent to afford but little stimulus to very vigorous trees, whether young or old, or excessive growth will result, which is sure to mature unsatisfactorily. Fig-trees growing in pots or tubs, and intended for forcing early next year, should be well supplied with water at the roots, also with manure-water occasionally, and syringed once or twice a day. The very vigorous growths on these trees will require to have the points pinched out so as to preserve a proper balance of growth, and induce fruitfulness. Afford the trees plenty of space for light and air to play around them, so that the shoots make sturdy and thoroughly ripened wood by the end of the season.

CUCUMBERS.—The plants which are to supply Cucumbers in the autumn till the winter Cucumber plants come into bearing, should be planted forthwith. Those plants now in bearing should have all exhausted growths removed once a week, fresh bine laid-in, stopping all secondary shoots at one leaf beyond the fruit, affording water copiously at the roots, and avoiding overcropping.

THE KITCHEN GARDEN.

By C. HERRIN, *Gardener, Dropmore, Maidenhead.*

LATE CELERY.—Although Celery-plants put out at this season cannot be expected to produce large heads, the smaller heads produced are very acceptable in the spring, when the best are consumed. Owing to these late plants not being large, they are the better able to endure the severity of the winter with but little injury, if slight protection be afforded them. Should the Celery-trenches be not taken out, they should now be prepared as advised for earlier crops, with the exception that they may be narrower, i.e., 18 inches wide, and 3 feet apart. Each such trench will accommodate two rows of plants, and afford sufficient earth for efficient moulding-up. A few hours before the planting is done, which should be late in the day, afford water copiously to the soil in the trenches, and moderately to the plants to be transplanted. A slight shade should be given for a few days after planting, by sticking some tree branches along on the sunny side of the trench.

EARLY AND MAIN-CROP CELERY will require frequent watering whilst the drought lasts, otherwise growth will be stunted, and the sticks acquire toughness. The earliest-planted Celery, if well attended in this respect, will have made good growth, and it may now be earthed-up for a few inches in length, or stout brown paper bound round the sticks, leaving the earthing to be done later on.

WINTER SPINACH.—This usually important vegetable requires a thorough preparation of the land. Choose an open quarter, for instance that which has been cleared of the early Potato crop, and if the soil be in good heart, no further manuring will be needed; but as the ground should be moderately rich, some short well-decomposed manure may be forked-in if it be considered necessary, keeping it, however, near the surface. After breaking down the clods, trample it evenly and regularly all over, making the surface fine, and apply a slight dressing of fresh soot. Now draw the drills, which should be rather more than 1 inch deep, and 15 inches apart. Providing the seed is new and good, thin sowing is to be recommended, as the plants will eventually require to stand at about 8 or 9 inches asunder. The best time for sowing Spinach varies with the locality, and two sowings should be made, one forthwith, and the second one about August 10, which will suit the majority of gardens. It should be borne in mind that a good strong plant will stand a severe winter better than a small late-sown one. Either round or prickly-seeded varieties may be sown; and I find that the selected Victoria, or Long-standing Round-seeded, answer well for most gardens and soils for winter use, and it is an improvement on the Prickly-seeded Winter Spinach. The leaf-production of this variety is very marked, as compared with the old prickly-seeded variety.

LIFTING POTATOS.—Early and mid-season varieties have quickly ripened off, and in the event of wet weather setting in, it will be advisable to lift all that have their skin sufficiently set, otherwise a second growth may be made, much to the deterioration of the quality of the tubers. After lying an hour or two, those intended for consumption should

be gathered up and stored thinly in a cool, dark shed; and those for seed may be left for a few days, and then be stored thinly on shelves in a cool frost-free place. Should wet weather occur, the Potato-disease would probably spread rapidly, as was the case last year; and where Potatos are ripe enough for storing, it is advisable, if only for this reason, to store them while they are in a dry condition. The tubers should be handled carefully, so as to preserve the skin intact.

SHALLOTS AND GARLIC.—These bulbs will now be ready for lifting, and after letting them lay on the ground for a day or two, they may be stowed away in the root-store, or some other cool and dark place. Shallots have made good firm bulbs this year.

FRENCH BEANS IN COLD PITS.—About the end of the present month any vacant cold pits may be utilised for raising a crop of French Beans. If the old soil, &c., remain in these pits, a small quantity of fresh soil and rotten manure should be stirred into it, made quite firm by trampling, and the seed dibbled in, in lines 15 inches apart. The plants from this sowing should come into bearing before the end of September. The lights should be kept off the pits until there is danger from frost.

PLANTS UNDER GLASS.

By Jno. McIntyre, *Gardener, Woodside, Darlington.*

LILIUM LANCIFOLIUM.—This species of Lily, if grown one bulb in a small pot, are pretty objects in the conservatory, or when grouped with other plants in entrance-halls and similar places. The bulbs will now have pushed out roots, and if space was left when the bulbs were potted for moulding-up the growth as it advances, the size of the bloom and the vigour of the plant will be much assisted by filling up the space that was left with loam and peat in roughish pieces—these the young roots quickly seize upon. A small quantity of Clay's or Thompson's fertiliser may also be mixed with the soil.

AZALEA INDICA.—These plants having completed their chief growth, should be placed out-of-doors, in a warm position, sheltered from wind, and where the sun does not reach them for a longer time than three hours; at the first, even less than this is advisable, as the foliage having been made indoors, soon gets discoloured if exposed all at once to much sunshine. In fourteen days they will stand longer and fuller exposure to the sun. When turning these plants out-of-doors, if thrips or red-spider are seen on examination of the leaves, syringe them thoroughly with Fowler's Insecticide, doing this in the manner advised by the sellers. If the plants were repotted a few years ago, and they are in a root-bound state, it will be well to assist them with liquid farmyard manure freely diluted with clear water. If frequent overhead syringing be practised with weak cow-dung water, insect enemies are prevented from attacking the foliage of Azaleas, and a healthy green appearance is given the plants, without which specimen Azaleas are poor things. Many other species of hard-wooded plants should now be withdrawn from the houses and placed out-of-doors, such are Acacias, Ericas and Camellias, Pittospermum, Myrtus, Eugenia, Oranges, Lemons, &c., all of which should be placed in shaded positions at first.

CYTISUS.—These plants, if they are placed out-of-doors, should have their pots plunged in some cool material, such as leaf-soil or sand, and, in fact, all plants in pots and tubs should, when put in the open, have protection afforded the latter, or injury to the roots may occur.

CROTONS.—Afford these plants weak liquid-manure twice a week. The following may be employed with success, viz.:—cowshed-drainings, Clay's, Thompson's, and Beeson's Fertilisers.

GARDENIAS.—Any plants brought on from the spring strikings may now receive a shift—say into flower-pots of 6 inches diameter, placing them when repotted in a Melon-house or warm pit in order to obtain rapid growth. Later-struck plants may have their final shift, using 4 or 5 inch pots, in which they will flower well. As a compost for this last shift use peat, loam, and dried cow-dung, the first two in a coarse state, and the last finely broken up.

REIDIA GLAUCESCENS is a pretty subject for the dinner-table, its beautiful foliage being alone sufficient to recommend the plant for this purpose, although when covered with its small flowers it has its charms heightened. It is an easily-propagated plant, and one which, with ordinary cultural attention, can be had in good condition throughout the season. Cuttings should be struck in heat, and potted in 4-inch flower-pots in peat, leaf-mould, and loam, with a sprinkling of silver-sand. A 4-inch pot will grow a Reidia of a desirable size, and large plants are not of so much usefulness as small ones.

GLOXINIAS.—Plants that are now going out of flower should be brought to a state of rest gradually, any hurrying of the process resulting in weakened bulbs another year. Afford less and less water till the leaves die down, then store away in a cool place at this season. Where a succession of flowers is looked for late this season, the plants will have been raised from seeds sown at the end of the winter, and grown on without large shifts, these plants being now pushed on rapidly in heat, with a considerable amount of humidity in the air.

GENERAL HINTS.—The work of ventilating the various houses will now require much vigilant attention, many of the plants having completed their growth for the season, and more air will be needed than earlier to get the new wood matured. Stove-plants should be very carefully watered, as any lack of moisture at the roots is injurious at this hot season, the larger plants growing in tubs requiring to be watered at least twice a day, particularly those which are filled with roots.

THE HARDY FRUIT GARDEN.

By G. Woodgate, *Gardener, Rolleston Hall, Burton-on-Trent.*

STRAWBERRY-BEDS.—Strawberry plants which have been cleared of fruit, and of which no runners are required, should have the latter cut off, and the beds cleaned of weeds. As but little rain has fallen in many parts it may be found prudent to afford the beds a thorough application of water, following this with another of manure-water on the next day. If this be not done, the plants may prematurely lose their foliage, and the crowns fail to reach perfect development. All runners should be removed from the planted-out forced plants, and the latter well supplied with water.

RUNNERS. — When the layered runners have filled their pots with roots, they may be severed from the parent plants, copiously watered, and stood for a few days in a shady position. Continue to layer Strawberry runners in pots, for forcing or planting out purposes.

FRUIT TREES.—The soil for some distance around all young fruit trees carrying a crop of fruit should be well saturated with water. Pyramids and other small trees which have been mulched, or the soil rendered crumbly, or which is lightly dug over, can be easily afforded water; but larger trees in orchards under grass are not so easily afforded water, and they should have holes made with a sharp pointed crow-bar, about 1 yard apart as far as the roots extend, to allow the water to percolate down to them.

WASPS are now becoming numerous, and their nests must be sought for and destroyed. It is wise policy to buy queens at a penny apiece about the end of the month of May, and give sixpence for every nest taken within the radius of a mile of the garden. If this were generally done their numbers would be greatly lessened. As man is powerless to destroy every nest, and a good thing that he cannot do so, it is well to be provided with a number of wide-mouthed bottles, which should be half-filled with stale beer, or sugar and water, to be hung up in the branches of trees on which fruit is ripening. Immense numbers of wasps and flies are caught in these traps.

THE FLOWER GARDEN.

By Hedley Warren, *Gardener, Aston Clinton, Tring.*

GENERAL WORK.—The floral display is now at its best, and the time is propitious for note-taking to serve for future reference. It can now be seen where mistakes have been made in the arrangements of colour or of plants, and what would be better adapted for certain positions, aspects, &c. Box, Laurels, Cupressus Lawsoniana, Thuia sibirica (T. plicata), Holly, and other hedges of evergreens may be clipped or cut with *Sécateur* or the knife; and all growths of shrubs and trees may be removed when encroaching on the walks and lawns, or on other plants. Lawns and walks should be kept neat and trim, and the paths of gravel, sand, and spar kept free from weeds, and rolled in the case of binding materials. All flower-beds should be cleared of weeds, and the plants of seed-vessels, decaying blooms, and leaves. Groups of shrubs and trees standing near to frequented walks should be freed of all disfiguring undergrowth of Nettles or other weeds. The suckers arising from the stocks on which Roses and Rhododendrons are worked should be pulled up and not cut off, a second lot of suckers coming up if they are cut off during the present season. All inferior blooms on Roses should be removed, and the longest growths of hybrid perpetuals should be somewhat shortened back, Teas and Noisettes being, however, allowed to grow unchecked. Subtropical plants growing in beds or borders should receive timely support, or serious damage may be done them by the wind or rain. Where such plants are planted in beds, the undergrowth, if any, should be kept closely pegged down to the soil.

MARGUERITE CARNATIONS raised from seed sown early are rapidly coming into flower, promising to furnish a large quantity of bloom by the time the ordinary border varieties of Carnations go out of bloom. My experience of Marguerite Carnations suggests that two sowings should be made late in the winter, and again in the spring, about six weeks apart, the batch of plants raised from the first sowing being planted out on an open border, and those from the second sowing cultivated in pots. The first raised plants flower throughout the season till the autumn; and the latter, if removed to a warm house, give a supply of bloom up to Christmas, and later. This strain of Carnations is so much improved, that many of the varieties possess blooms equal to named varieties, and if seed be obtained from a trustworthy source, 90 per cent. of double flowers may be expected.

PINKS AND CARNATIONS.—The former may now be propagated by pipings, or slips of the plants taken off with a number of shoots, these slips being dibbled-in deeply and kept moist. Where the layering of Carnations cannot conveniently be carried out, propagation may be done as for Pinks, that is, by pipings. When the pipings of Pinks or Carnations are made, insert them in sandy soil, 2 inches apart, in a cold frame or handlight. Some gardeners prefer to strike them in a frame placed over a partly-spent hotbed, but under these conditions the plants must be potted off or transplanted as soon as rooted to ensure success during the next season, whereas under the cooler treatment the cuttings take a longer time in forming roots, but on the whole they are sturdier, and better able to withstand a cold winter.

MYOSOTIS and other plants intended for the spring flower garden should now be transplanted, so as to have sturdy plants of fair size when planting-time arrives. Nothing is worse for these plants than to allow them to be crowded together in the seed-beds, as they never then assume their proper appearance, and usually have a weedy appearance in the autumn and winter, a time of the year when neatness in the flower-garden is of much importance. A showery day is the best for the job of transplantation, and renders shading and much artificial watering unnecessary, the plants at this season commencing to make new roots within a very few hours of their removal. Pansy seed may now be sown if the plants are required for the spring display, sowing on an open border, and lightly covering the seeds with fine soil. Keep the bed moist until the seedlings make their appearance, and afterwards.

Kaffir Corn-Flour and Mealie Cultivation.—The great increase in production of non-sweet Sorghums in the trans-Missouri territory, and their heavy yields of seed or grain, are causing not a little interesting investigation as to what various uses it can be put; and this is especially true in Kansas, where a probably larger acreage of these crops is grown than in all the rest of the world. Within the past year considerable attention has quietly been given to testing its milling and culinary qualities, and one roller milling company at Marquette, McPherson County, reports to Secretary Coburn, of the State Board of Agriculture, having ground not less than 1000 bushels of Kaffir and Jerusalem corn for household uses. From their experience, these millers find that the Jerusalem corn "mills" to much the best advantage, and although the flour as at present made has not the extreme whiteness of that from Wheat, Secretary Coburn vouches that it makes delicious biscuits, muffins, and griddle-cakes; while the millers claim the Kaffir flour is not quite so desirable for bread, but makes an excellent pancake flour. Important developments in the adaptability of these new grains for milling and food purposes seem likely in the near future. It is said that when ground on rolls by a gradual reduction process, the bran is readily separated; but the difficulty of ridding the flour of its dark specks, so formidable from the cook's standpoint, has not yet been overcome. The product of these grains is on the market to some extent, as "Kaffir-meal," "Kaffir-flour," "Kaffirina," "Kaffir Graham," &c, and challenges comparison with any of the so-called "health" flours, at one-half or one-third their prices. *Quarterly Report of Kansas State Board of Agriculture.*

APPOINTMENTS FOR AUGUST.

MEETINGS.

SATURDAY,	Aug. 1	Société Fraŋ. d'Hort.
WEDNESDAY,	Aug. 5	Royal Botanic Society, Musical Promenade.
MONDAY,	Aug. 10	—Royal Botanic, Anniversary
TUESDAY,	Aug. 11	Royal Horticultural Society's Committees.
WEDNESDAY,	Aug. 12	Royal Botanic Society, Musical Promenade.
TUESDAY,	Aug 25	Royal Horticultural Society's Committees.

SHOWS.

SATURDAY,	Aug. 1	Royal Horticultural Society of Southampton; and on Aug. 3 (Bank Holiday).
SUNDAY,	Aug 2	Royal Horticultural and Agricultural of Ghent.
MONDAY,	Aug. 3	Bampton, Oxon. Beddington, Carshalton, and Wallington, in Carshalton Park. Mansfield, Notts. Northampton (two days).
TUESDAY,	Aug. 4	—Leicester, in Abbey Park
WEDNESDAY,	Aug. 5	Great Show, Chester (two days). Chesterfield Rose Show. Forest Hill, S.E. (two days). Ancient Society of York Florists.
THURSDAY,	Aug. 6	—Grimsby (two days).
FRIDAY,	Aug. 7	—Driffield.
TUESDAY,	Aug. 11	Weston-super-Mare Horticultural Society. Clay Cross, Malvern (West) Society.
WEDNESDAY,	Aug. 12	Salisbury. Sevenoaks. Cardiff (two days). Bishop's Stortford.
THURSDAY,	Aug. 13	Leighton Buzzard, Taunton, Farringdon, Maidenhead, and Rothesay (two days).
FRIDAY,	Aug. 14	Broughty Ferry, Alderley Edge, and Wilmslow (two days).
SATURDAY,	Aug. 15	—Dumfries and Bingley.
MONDAY,	Aug. 17	—Felling (two days).
WEDNESDAY,	Aug. 19	Shrewsbury Floral Fête (two days), Trowbridge, Worthing, and Eastbourne
THURSDAY,	Aug. 20	—Abingdon.
FRIDAY,	Aug 21	Devon and Exeter Show. Royal Horticultural of Aberdeen (two days).
SATURDAY,	Aug. 22	Keighley Horticultural. South Manchester and District.
TUESDAY,	Aug 25	—Brighton (two days).
WEDNESDAY,	Aug. 26	Harpenden Bath (two days).
FRIDAY,	Aug. 28	—Falkirk.

SALES FOR THE ENSUING WEEK.

WEDNESDAY,	July 29	Unreserved Sale of Palms at the Oxford Nurseries, Oxford Road, Gunnersbury, by Protheroe & Morris.
FRIDAY,	July 31	Orchids from Messrs. F. Sander & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK —63·3°.

Bromeliads.

A Monograph of Bromeliaceous plants has been awaiting notice for some time.* It forms one of the series of monographs of flowering plants instituted by the late ALPHONSE DE CANDOLLE on the termination of the *Prodromus*, and is the work of Dr. CARL MEZ. The Bromeliads have been favourite subjects of study with such botanists as KARL KOCH, REGEL, ED. MORREN, WITTMACK, and other Continental botanists; whilst in this country, Mr. J. G. BAKER has added to his many services to horticultural botany by the publication in 1889 of his *Handbook of the Bromeliaceæ* (GEORGE BELL & SONS). Mr. BAKER adopted thirty-one genera, and about 800 species, stating that in all probability this number would be largely increased. And so indeed it has proved, for Dr. MEZ recognises forty-five genera, and nearly a thousand species, not including many doubtful horticultural forms.

As an order the group is very distinct, and easily recognisable. The leaves are usually in dense tufts or rosettes, and it is but rarely that a development in length of the leaf-bearing stem takes place as in some Puyas. For the most part of the species are epiphytes growing on trees, but some are terrestrial. Many are propagated naturally by offshoots or by easily separable branches, and flowers and fruits are correspondingly rare. The inflorescence is generally terminal, and either contracted or elongated, often furnishing excellent specific characters, and the bracts which it bears are very often highly coloured as in many Tillandsias, and constitute the chief feature of the plants from a cultural point of view. The leaves crowded in rosettes often form cups, in which the rain-water is retained in such quantities as to be serviceable to travellers, though the water contained in the leaf-cups is mixed with decaying vegetable and animal matter. These decaying matters afford a supply of nitrogen. Acting on this hint, our late much-regretted friend, Professor MORREN, scattered fragments of ammonium carbonate among his plants with great advantage; and Dr. MEZ tells us that he himself kept a plant of Vriesea carinata in good health for a whole year —until, in fact, fruits were produced. The plant was destitute of roots, but the leaf-cups were kept filled with a $\frac{5}{10}$ per cent. solution of ammonium carbonate, together with small portions of nitre, phosphoric acid, and sulphates of lime and iron. The general appearance of the leaves of these plants is sufficiently familiar to our readers to preclude the necessity of any lengthened reference to it. Their thick dry epiderm, scaly surface, and often spiny edges, are so many indications of their power to resist undue evaporation, to protect the young flowers from climatal inclemencies or injurious insects.

As to the flowers, they present little variation in essentials, though the details are diversified. The most interesting feature connected with them is the fact that some of the groups have uniformly a superior, others as constantly an inferior ovary, so that a character important enough, and constant enough, to distinguish one order from another, as Lilies from Amaryllids and Irids, is in the Bromeliads, of such minor degree of constancy as only to be available for distinguishing certain tribes. The presence of certain scales or "ligules" on the petals is very characteristic of many of the genera. As to the colour of the flowers, it is noteworthy that in the same group, yellow is represented together with blue—the xanthic and cyanic series in this case occur in one flower.

The pollen-grains are sometimes furrowed, at other times porous, and this character has been deemed of sufficient importance by Dr. MEZ to be employed as a means of distinguishing the primary sub-divisions of the order. Dr. MEZ has some interesting statements as to the relation between the varied forms of pollen-grains, and the way in which the flowers are fertilised by insects or by the agency of the wind.

Without entering into technicalities, which are not desirable in this place, we cannot enter into further detail on the conformation of the flowers. The reader will find in DR. MEZ'S introduction numerous interesting and suggestive notes, in which the co-relation between the structure and conformation, and the manners and customs of the plant are pointed out, thus adding interest to the dry descriptive details.

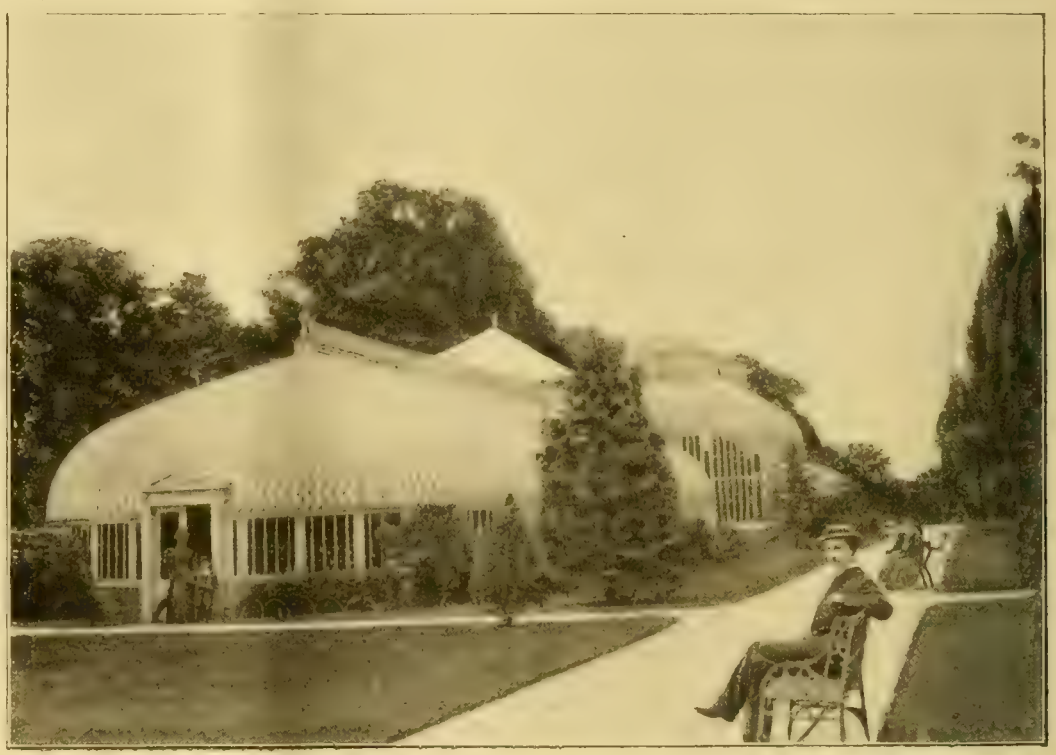


FIG. 19.—RANGE OF HOUSES, GLASNEVIN. (SEE P. 90.)

* *Monographiæ Phanerogamarum* . . editore et pro parte auctore, Casimiro de Candolle, vol nonum, Bromeliaceæ, auctore Carolo Mez, Parisiis sumptibus, Masson & Cie

The Pine-apple (Ananas) furnishes an unique example, wherein the axis of the inflorescence and the bracts, all become fleshy and incorporated with the ovaries into one mass, which we know as a Pine-apple, it having as little to do with a Pine as with an Apple! The seeds furnish valuable points of distinction, some being provided with wing-like processes, by which their dissemination is effected.

The internal anatomy of plants so peculiar in their habits, and in their appearance, must need be of great interest, but for the details we must refer the reader to the text, merely mentioning



F. W. MOORE (Veitch Medallist)
(Director of the Royal Botanical Garden, Glasnevin).

that the scales, which occur so abundantly on the leaves, play a double part. Sometimes they act as absorbent organs, whilst in other parts they are protective, and prevent undue evaporation. The white, powdery substance on the inflorescence of the Bilbergias is composed of isolated ovoid cells. The Bromeliaceæ, like the Cactaceæ, are exclusively of American origin, extending from 38° N. latitude to 43° S., in Chile. Mexico, Ecuador, and South-east Brazil are the head-quarters of the order so far as the number of indigenous species is concerned.

Dr. Mez divides the group first of all into those with inferior ovaries, indehiscent fruit, and wingless seeds, including Bromelia, Nidularium, Æchmea, Bilbergia, and many other genera; secondly, into those with superior or partially superior ovaries, capsular fruit, and winged seeds, including Pitcairnia, Puya, and others. A third group has a superior ovary, capsular fruit, and plumose seeds. This group includes Vriesea, Tillandsia, and others.

Subordinate divisions are founded on the nature of the pollen-grains—smooth and destitute of furrows or pores—wind-fertilised plants, which Dr. Mez characterises as Archæo-bromeliæ, as if they were the original types. In the second group, Poratæ, the pollen-cells are provided with pores, through which the pollen-tubes pass; whilst in the third group the pollen-cells are sulcate or furrowed. The relative position of the ovary and the nature of the seed furnish, as has been already said, other points of distinction.

Dr. Mez's work is purely botanical, hence, unless incidentally, he says little as to their culture. In this country, in spite of their often brilliant coloration and easy culture, they are little grown. On the Continent it is far otherwise. In almost every market-place the visitor sees little plants of Nidularium, excellently suited for room-plants; and one of our compatriots, at least by birth, Mr. Wood, of Rouen, has a nursery largely and almost exclusively devoted to the culture of these plants for the Paris markets.

The origin of our cultivated Pine-apple is ascribed without any hesitation to Ananas sativus, Schultes, a native of Central Brazil. The Smooth-leaved Cayenne and other spineless forms, belong to the variety lucidus. It must have been introduced to Europe since the discovery of America, and is consequently not mentioned in works previous to that period, and is one of the few cultivated plants the origin of which is known with anything like certainty.

Royal Horticultural Society.—The next meeting of the Royal Horticultural Fruit, Floral, and Orchid Committees will take place on Tuesday, July 28, in the Drill Hall, James Street, Victoria Street, at 12 noon. At 3 P.M., a lecture on "Cacti," will be given by Mr. E. H. Chapman, F.R.H.S.

The Gardeners' Royal Benevolent Fund.—On Sunday last the Rev. E. S. Bourne, of Narcissus fame, preached in York Minster, on behalf of the funds of this Institution. The Minster was elaborately decorated with Palms and flowers on the occasion.

The Show of the National Rose Society at Ulverston.—Mr. Edward Mawley, Hon. Secretary of the National Rose Society, says of this exhibition, that it proved much more extensive than had been anticipated, and the general quality of the flowers was higher than at either the southern or metropolitan shows. The total number of exhibition Roses amounted to 2610, or about 500 less than the average for the previous eight northern shows. Two of these exhibitions were, however, decidedly smaller, viz., that held at Sheffield in 1889, and that at Worksop in 1893. The show-day was nearly perfect as regards weather, and the attendance of visitors, as shown by the gate-money (£112) was large, the usual receipts at the local show from this source being between £20 and £30. In such a remarkably early season, it may be interesting to note the different parts of the kingdom from which the exhibits came. Excluding the local classes, forty-two of these were grown in England south of the Trent, thirty-seven in England north of the Trent, while fifteen came from Scotland, and the remaining eleven stands from Ireland.

National Chrysanthemum Society.—The annual outing of the members and friends of this Society took place on Monday last, a visit being made to the grounds and gardens of Aldenham House, Elstree, the residence of Lord Aldenham. Ample provision was, by the kind permission of Lord Aldenham, made for cricket, lawn tennis, and croquet, and a considerable number proceeded to the lake to fish. Dinner was served in a marquee on the grounds, Mr. B. Wynne, the chairman of the committee, presiding. The health of Lord Aldenham, with thanks for the use of the grounds of Aldenham House, was received with enthusiasm, and Mr. E. Beckett, his lordship's gardener, suitably responded. After dinner, a perambulation of the gardens and grounds was made, Mr. Beckett acting as conductor. The grounds are suffering severely for want of rain, but the admirable condition in which the gardens are kept, and the perfect order everywhere observed, called forth the warmest praise. The bedding-out is elaborate and attractive, Fuchsias being employed with singular success; there is, in addition to many beds, an enormous ribbon border, an extensive and elaborate sub-tropical garden, as well as many other interesting features. The large collection of Chrysanthemums in pots had a special interest, and they are so well-grown as to possess high promise for the coming season. The company, numbering some 150, returned to town in the cool of the evening, having greatly enjoyed the visit.

STARCH IN POTATOS.—M. COMON has communicated to the Société des Agriculteurs du Nord, France, the result of analyses made by him on specimens of four varieties of Potatos supplied by fourteen growers with the object of ascertaining the influence of manure on the richness in starch of the Potato. The following are the conclusions arrived at:—1st. The same variety of Potato may show great variations in the quantity of starch it contains, according to the locality whence the specimens came. 2nd. These differences are observable in all four varieties under observation. The cause is not to be sought in the plants, these coming from the same growers; the nature of the soil has no influence, but upon examination of the manures it is shown that in a general way the exclusive use of manures in which nitrogen predominates is prejudicial to the formation of starch; on the contrary, the combined application of nitrogenous manures, with phosphates and potash salts, is favourable to the formation of tubers with an increased richness in starch. *Revue Scientifique.*

THE SURVEYORS' INSTITUTION.—The Council being about to commence the construction of new and enlarged premises in Great George Street, the Institution will be removed to temporary premises in Savoy Street, Victoria Embankment, on August 17, 1896. Ample accommodation will be provided for arbitrations and consultations similar to those which have been held for the last 25 years at the Institution's house in Great George Street, and may be secured by applying to the secretary, by letter addressed "The Surveyors' Institution" (temporary premises), Savoy Street, Victoria Embankment, W.C. The entrance to the Arbitration Rooms will be from Savoy Hill (on the east side of the Savoy Hotel).

STRAWBERRY VEITCH'S PERFECTION.—Under this name the new Strawberry, the result of crossing British Queen with Waterloo, raised by Messrs. JAMES VEITCH & SONS, Chelsea, was exhibited by them to the Fruit Committee of the Royal Horticultural Society at Chiswick on June 29, when it was recommended for a First-class Certificate at the next Drill Hall meeting. That award was unanimously made to it on the 14th inst. The fruits were fully described in the *Gardeners' Chronicle* of July 4, at p. 17, when it was called Majestic, but it has since been re-named as above.

PRESENTATION.—We learn from the *Sheffield Daily Telegraph* of 17th inst. that the curator of the Botanical Gardens, Sheffield, Mr. WILLIAM HARROW, under whose skilful management the grounds and conservatories always present a beautiful appearance, has been the recipient of a handsome present from the committee on the occasion of his marriage. The present consisted of a silver tea and coffee service in Queen Anne style, and a salver, which bore the following inscription: "Presented to Mr. WILLIAM HARROW, with a tea and coffee service, by the committee of the Botanical and Horticultural Society, on the occasion of his marriage, as a mark of respect. May, 1896." In making the presentation, Ald. W. E. CLEGG, the chairman of the committee, alluded to the excellent work done by Mr. HARROW during the five years he has been at the gardens, and to the splendid condition of the gardens owing to his untiring exertions. Mr. WM. HARROW suitably returned thanks.

CHESTER ART CLUB.—The museum building is now completed as originally planned and intended. As an Institution it incorporates the museum of the Archæological Society, the museum of the Natural Science Society, an art gallery, a lecture theatre, an art and science school, a library, and other rooms and appointments. It is fitting that it should be the home and centre of scientific, artistic, and literary education and culture. It is felt that the time has now arrived when some better and more continuous arrangement may be made for the advancement of art locally, and it has been suggested and urged that an art club for Chester would be in itself most desirable; and whilst finding commodious quarters and a suitable home within the museum, with surroundings exactly suited to the requirements, the future organisation of art exhibitions and lectures would receive due and proper attention. Mr. EDMUND J. BAILLIE is the Hon. Secretary of the Museum Management Committee.

SHIRLEY AND SURROUNDING DISTRICTS GARDENERS' AND AMATEURS' MUTUAL IMPROVEMENT ASSOCIATION.—The monthly meeting of the above society was held on the 13th inst., at the Parish Room, Shirley, near Southampton, when the President presided over a large attendance of the members. Mr. J. JONES, the gardener at Terrace House, Polygon, gave an interesting lecture on the "Culture of the Cyclamen;" and one of his chief points was, that better plants can be obtained by sowing seed each year than by growing on old corms. The photographs of plants so grown, and shown by Mr. JONES, proved that to be the case. A hearty vote of thanks was accorded Mr. JONES for his excellent paper. The annual outing was held on the 20th inst., the places visited being Hampton Court and Messrs. J. VEITCH & SONS' Nursery, Chelsea. About seventy of the members, and a number of the Botley Gardeners' Association, travelled by a special train to Surbiton, and here they were met by Mr. A. DEAN, who had kindly saved the party a long wait by engaging some omnibuses, by which Hampton Court was reached. Having spent some time in the gardens and viewed the great Vine, the party proceeded to Messrs. J. VEITCH & SONS, Royal Exotic Nursery, Chelsea; and two hours were well spent in inspecting the glass-houses, and various objects of interest. The party then dispersed to see the sights of London, returning by special train at 12.15.

TOMATOS.—There would be small sale for the half-ripened foreign Tomatos sold now in the market at low prices, if we were equally well supplied with home-grown fruit of as good quality and as ripe as that which reaches us from Mr. ROLFE, of Providence Nursery, Stamford-le-Hope, Essex. The variety, a selection from Perfection, is named Rolfe's Challenge, an uncorrugated, oblate-shaped, dark crimson fruit, the fruits sent averaging 11 inches in circumference. They were sent packed in precisely the same manner as the grower sends them weekly to Mr. G. MONRO, of Covent Garden Market. The variety is not only a handsome fruit, but it is a heavy cropper.

DRYING FRUITS.—The following figures may prove of interest to those intending present experiments in the field of dried fruit production for home consumption:—

Apricots, green	...	...	5½ lb. make 1 lb. dry
Peaches	...	...	6 lb. ,, 1 lb. ,,
Prunes, French	...	...	2½ lb. ,, 1 lb. ,,
,, Silver	...	...	3½ lb. ,, 1 lb. ,,
,, German	...	...	2½ lb. ,, 1 lb. ,,
Pears	...	...	7½ lb. ,, 1 lb. ,,
Nectarines	...	...	8 lb. ,, 1 lb. ,,
Apples	...	...	6 lb. ,, 1 lb. ,,

These figures, it should be noted, show the average shrinkage of a mixed lot of fruit; the loss of weight is not so great with varieties specially selected for drying purposes. These figures are given on the authority of Mr. J. C. BLACKMORE, whose opinion has much value in the New Zealand fruit-growing districts.

SOCIETY OF JERSEY GARDENERS. — This society held its first public show and floral *fête* on the 16th inst., in the public park at St. Heliers. Though this was the first attempt of the kind made by the young and flourishing society, the Mayor of St. HELIERS, who opened the show, declared that he hoped to see it repeated. The Lieutenant-Governor of the Island (Major-Gen. HOPTON) and Mrs. HOPTON, with a host of the local *élite*, visited the show, being received by the President of the Society, Mr. A. LUXON. There were no fewer than 169 classes in this maiden show, the entries numbering considerably over 450, and the exhibitors over eighty. A number of special prizes were given by various firms and private persons, while a floral go-cart competition was organised for children, the rewards consisting of a Gold and three Silver Medals. Jersey has a justly-earned reputation for the beauty and luxuriance of its floral and fruit productions, and this show was pronounced by impartial observers to be fully up to the standard of British exhibitions. A few English firms exhibited some specimens, but did not compete. The band of the old 58th Regiment was in attendance. The gate-money during the afternoon alone totalled over £50, which is considered capital for Jersey; and in the evening, when the price of admission was reduced by one-half, thousands passed the barriers.

MR. REDFIELD'S HERBARIUM.—Mr. MEEHAN writes:—By the will of Mr. J. H. REDFIELD his herbarium is to be sold, the proceeds to go to a fund for the benefit of the Herbarium of the Academy of Natural Sciences of Philadelphia, in which he took so much delight. His *Herbarium of North America* was intended as a companion to TORREY & GRAY'S *Flora of North America*, and GRAY'S *Synoptical Flora*, and except GRAY'S own *Herbarium* and the *Herbarium of North America*, is probably the best representative of the flora of North America extant. There are 16,829 sheets. More than half of these are recognised species, and the other varieties or duplicates showing geographical range. They are all glued down on fine paper of herbarium size, and labels fastened on. Mr. Canby, our well-known botanist, places them as cheap at £2000, which we ask for them. His Fern collection is separate. We ask for them £500. These, with Lycopods, and the few other vascular Cryptogams, 3121 sheets, divided in about two sheets to a full species as before.

A MEMORIAL OF LINNÆUS.—An interesting souvenir has lately been presented to the Natural History Museum of Paris by M. DEYROLLES, of Bourg-la-Reine. It is the snuff-box which THUNBERG had made in Japan for his friend and master, the great LINNÆUS. Unfortunately, LINNÆUS had been dead over a year when the box reached its destination, and it consequently passed into the possession of his son. It has since formed a conspicuous object in several famous collections. The box is about 8 centimètres in diameter; it is lacquered with gold in several colours, and the rural scenes on it are singularly appropriate to the habits of LINNÆUS. *Athenæum.*

"JUGLANDACEÆ OF THE UNITED STATES, by WILLIAM TRELEASE. This is a paper reprinted from the *Seventh Annual Report of the Missouri Botanical Garden.* It is devoted to "such a tabulation of the fruit, twig, bark, and bud characters as it is thought will be helpful in field studies, with notes on the hybrid forms referred to." The information is so clearly given that it should not fail to secure the desired end, while it is aided by the addition of twenty-five plates made from drawings and photographs specially prepared for purposes of illustration and definition.

YORKSHIRE NATURALISTS' UNION.—The 126th meeting of the Yorkshire Naturalists' Union will be held at Staithes for the investigation of the neighbourbouring coast, and the Easington and Roxby woods, on Bank Holiday Monday, August 3, 1896. Members desiring accommodation should communicate with Mr. James Spink, Station Hotel, Staithes, R.S.O., Yorks. The district for investigation is included in Sheet 104 S.W. (New Series Sheet 34) 1-inch Ordnance Map (also published geologically coloured), and falls almost entirely within the limits of Sheet 19 of the 6-inch Map, but a small portion is in sheet 18. Reference may be made to Tate and Blake's *Yorkshire Lias*, Phillip's *Geol. Yorks. Coast*, Young & Bird's *Geol. Survey of Yorks. Coast.* Permission to visit their properties has been kindly granted by Sir Chas. M. Palmer, M.P., and Captain Turton, and by Mr. Samuel Broune (shooting lessee). The district for investigation includes the coast-line from Runswick Bay to Boulby Cliff, and the wooded glens, the drainage of which falls into Staithes Beck.

The Yorkshire Geological and Polytechnic Society have organised an excursion on Friday and Saturday, July 31 and August 1, for the examination of the coast sections between Blea Wyke and Whitby, under the leadership of Mr. P. F. Kendall, F.G.S., Dr. W. Y. Veitch, and Rev. J. Hawell, M.A., with a meeting at Whitby on Saturday evening. Monday's geological route, given above, is planned in continuation of these arrangements. The geological section will be represented by its President, Mr. P. F. Kendall, F.G.S., and its secretaries, Rev. W. Lower Carter, M.A., F.G.S., and Mr. J. W. Stather, F.G.S. The botanical section will be officially represented by its President, Mr. M. B. Slater, F.L.S., and one of its secretaries Mr. J. J. Marshall, and the Mycological Committee by Mr. Chas. Crossland. The Vertebrate section will be represented by its President, Mr. Thos. Nelson, M.B.O.U. Marine zoology, conchology, entomology also form subjects of investigation. The President of the Union is John Cordeaux, Esq., Great Cotes, Lincolnshire; Hon. Secretary, W. Denison Roebuck, F.L.S., Sunny Banks, Leeds;



Fig. 21.—VIEW IN THE ROYAL BOTANICAL GARDEN, GLASNEVIN. (SEE P. 89.)

and Hon. Secretary for this meeting, Rev. J. Hawell, M.A., Ingleby Greenhow Vicarage, Middlesborough. Programme of meetings: — 4.15 P.M., meat-tea, 2*s*. each, at the Station Hotel, Staithes; 5.0 P.M., sectional meetings; and 5.15 P.M., general meeting, at the Board-School, Staithes. The chair at the general meeting will be taken by Mr. T. H. Nelson.

Hints to Emigrants.—The July Circulars of the Emigrants' Information Office and the annual Handbooks show the present prospects of emigration. There is a demand for farm labourers in the north-west of Canada and in New Brunswick, but in Ontario the local supply of men is for the most part sufficient. There is little or no demand for mechanics in any of the Canadian towns, and in Toronto especially employment is very scarce. The demand for female servants continues. In New South Wales the output of gold in 1895 showed the very satisfactory increase of 35,378 oz. as compared with that in 1894, the increase being largely owing to the number of unemployed men sent by the Sydney Labour Bureau to work on the gold fields. The production of coal in 1895 was 66,000 tons more than in 1894, but the aggregate value was less, the selling price of coal having been the lowest on record. The establishment of village settlements for the unemployed has not been encouraging, only one having met with any amount of success. About thirty-five branches of the Sydney Labour Bureau have now been opened in country districts; the number of unemployed who have registered at Sydney has slightly decreased of late. Applications for homestead selections under the Land Act of last year continue to be very numerous. Considerable reductions are being made in the number of civil servants, involving a large annual saving of money. The irrigation colony of Mildura is in liquidation, but it is said that the Victorian Government may assist the settlement. General female servants, able to do cooking, washing, and housework, are in good demand in Victoria, and cooks, housemaids, nurses, &c., in the larger towns. There are excellent openings in Victoria for farmers, dairy-farmers, fruit-growers, and wine-growers, if they have a little capital, and some experience of the country. In South Australia there is a plentiful local supply of mechanics, and of farm and general labourers, and there is no demand for more hands. Recent returns show that the value of the imports in 1895 into South Australia was the smallest for many years, and that of the exports was considerably below the average. The decrease in the value of the exports appears mainly in agricultural produce and in minerals; in animal productions there was a fair increase. The value of the manufactured articles exported in 1895 was greater than that of any previous year, and was nearly double that of 1893. In the Northern Territory of South Australia the exports and imports in 1895 were less than those in 1894; little progress was made in agriculture and the mining industry, with the exception of gold-mining, which is carried on almost entirely by Chinese, was still very small. The export of cattle to Java showed a large decrease, and the only industry which really improved was the pearl-shell industry. There is no demand for more labour in the Territory. In Queensland, speaking generally, prospects are improving throughout the colony, but there is no demand at present for more hands. Agriculturists can now obtain steerage passages to the colony at £12 a head, by applying to the Agent-General in London. There are excellent openings for farmers with a little capital in the sugar districts, after they have acquired some experience of the country. Female servants are difficult to obtain at Brisbane, as young women prefer to engage in the tailoring or some other trade. In Western Australia there is a good demand for carpenters and bricklayers, and for mechanics generally. There is also a good demand for miners at £4 per week in the Coolgardie and Murchison gold-fields, and at Coolgardie men competent to work on the roads (not railways) are wanted at £3 10*s*. a week. The demand for female servants continues.

Buds and Grafts of Fruit Trees.—Only those of limited means know of the difficulty that is experienced in obtaining fruit trees of good varieties, and many a cottage garden remains treeless from the sheer inability of the tenant to purchase worked trees. Moreover, were the demand for fruit trees greatly increased, it could not be met by our present nurserymen, seeing that they now dispose of all that they can raise. Why, therefore, should they not advertise the sale of buds (on the shoots) at this season, and scions for grafting in March and April? These, if sold at a penny or twopence per shoot, according to rarity or the reverse, would be readily bought up in a season or two. Stocks of various kinds might also be sold in small numbers at an equally cheap rate, benefiting both nurserymen and cottagers. Once start the cottager in the business of fruit-growing in this cheap fashion, he would in a few years be able himself to become a purchaser of one, two, and three-year-old trees and bushes from the nursery.

Flax and Hemp Culture in England.—At the invitation of Hanslip Long, Esq., J.P., a number of prominent landowners and farmers recently attended a meeting at Shippea Hill, near Ely, to meet Mr. A. Kinnear, the fibre expert and managing director of the English Fibre Industries, Limited, whose offices are at 52, Coleman Street, London, E.C., and works at Shelford, Cambridgeshire, and Long Melford, Suffolk, for the purpose of inspecting Mr. Long's first crop of Hemp grown for the company. One twenty-acre field was inspected, and the height of the crop of Hemp was ascertained to be 6 feet 4 inches, the plants still growing strong, with a wonderfully healthy look. This was sown on April 25, and on June 6 it was 1 foot 10 inches high; on the 22nd it was 5 feet 4 inches, showing a growth in sixteen days of 3 feet 6 inches; and on the day of inspection, June 29, one week later, it measured as above—6 feet 4 inches. The crop will be ready for harvesting about the end of this month, when it will probably be 9 feet high. No doubt five tons will result to the acre instead of three tons, as held out by the English Fibre Industries, Limited. The cost of growing is about £6 per acre:—

Cost of Seed	0	10	0
Rent, Rates, Taxes, and Tithe ...	1	10	0
Manure (Artificial)	1	0	0
Ploughing 3 times)	1	1	0
Hoeing	0	3	0
Harrowing and Drilling ..	0	5	0
Harvesting	1	10	0
Total per acre .	£5	19	0

The produce per acre will be five tons, and the company pays £3 10*s*. per ton, which equals £17 10*s*. per acre, and, after deducting cost of growing at £6, leaves a net profit of £11 10*s*. to the grower.

Pink and Blush coloured Souvenir de la Malmaison Carnations at Newstead Abbey.—These afforded a lovely sight on June 24, and were perhaps at their best, with about 600 fully-expanded flowers open at the time. The house in which they are flowering is one of a new range erected about two years ago, and measures 28 feet long and 13 feet wide, a span-roof, with top and side ventilation. A path is down the centre, and two beds, one each side, both of which hold some 280 fine plants in excellent health, and entirely free from disease. The two-year-old ones are in 9-inch pots, which will be layered this month, average twenty-two and twenty-four strong shoots each, and those 7½-inch pots were layered in the middle of July, 1895, and are good stuff, with about ten and twelve strong shoots each, in robust health, with nice

glaucous foliage. They are not growing in Baustead loam, but in the ordinary sandy loam out of the park, with other mixtures. Mr. McCULLOCH takes a pride in doing the Malmaisons himself, being an old pupil of Mr. SMITH, Mentmore, where Malmaisons abound, as at Ascott and Tring Park. I may add that close upon 4000 of the leading sorts of border Carnations are planted in the borders round the Rose garden, and look remarkably well, considering the dry season.

NEWCASTLE AND DISTRICT HORTICULTURAL MUTUAL IMPROVEMENT SOCIETY.—The monthly meeting of this Society was held at their room, 25, Westgate Road, Newcastle-on-Tyne, on Tuesday, July 14. Mr. JNO. BULLOCK presided over a good attendance of members. There were several collections of cut blooms of herbaceous plants, shown by members, which were much admired, and created a good deal of discussion. The remainder of the evening was profitably spent with the microscope, through which many interesting objects were viewed, including various species of fungi, sections being made and mounted by Mr. CH. INNES.

ROYAL SCOTTISH ARBORICULTURAL SOCIETY.—The nineteenth annual excursion of the Royal Scottish Arboricultural Society will take place on Tuesday and Wednesday, August 4 and 5, 1896, to the district lying between Stirling and Loch Lomond. A general meeting of the society will be held in Edinburgh on Monday, August 3, of which further notice will be given. On Tuesday, August 4, the excursionists will leave Edinburgh (Waverley Station) at 7.5 A.M. by train due at Stirling at 8.25, where breakfast will be served in the Station Hotel. Leaving the Station Hotel at 9 o'clock, the party will then drive in succession to Airthrey, Keir, Doune Castle, Blair Drummond, and Lanrick. Callander will be reached about 7 P.M., where the members will dine together in the Dreadnought Hotel at 7.30, and afterwards spend the night there. Professor SCHWAPPACH, of the Forest Academy at Eberswalde, Prussia, will be the guest of the society at dinner. Second day: After an early breakfast, the party will leave the Dreadnought Hotel, Callander, at 7.30 A.M., drive through the Trossachs, sail up Loch Katrine, and drive to Inversnaid on Loch Lomond. Here a special steamer will be in waiting to convey the party to Balmaha Pier, which will be reached about 12.15 P.M. The members may also have an opportunity of visiting Inch-Lonaig—the Island of Yew Trees—and Inch-Cailloch. The remainder of the day will be spent in walking through and inspecting the extensive policies and woodlands around Buchanan Castle. The party will leave Drymen Station by train at 7 P.M., arriving at Stirling at 8.18, and Edinburgh at 10 o'clock. The Council have agreed to recommend to the Society that the excursion in 1897 should be held in the United Kingdom—probably in Ireland; and that in 1898 the forests of some country on the Continent of Europe should be visited, notice of which will be intimated to the members as soon as the preliminary arrangements are settled. There are still for sale a few copies of the two large photographs of the excursionists, and of the Album prepared by the Excursion Committee after their return from Germany. Further particulars in regard to the cost of the excursion, provisional deposit, &c., will be furnished by Mr. ROBERT GALLOWAY, Secretary, 5, St. Andrew Square, Edinburgh.

PLANT PORTRAITS.

ANTHURIUM MADAME DU TRIEU DE TERDONCK. - Spathe white, irregularly marked with short, narrow, transverse red bars. *Illustration Horticole*, June 30.

ROLLEA SCHRODERIANA, *Garden*, June 27.

CYMBIDIUM TRACEYANUM. *Lindenia*, t. DXIII.

CYPRIPEDIUM LEEANUM VARIETIES, *Lindenia*, t. DXV.-DXVI.

DENDROBIUM FINDLEYANUM, *Garden*, June 13.

DENDROBIUM VIOLACEUM, *Lindenia*, t. DXIII.

DIPLADENIA ATROPURPUREA, *Moniteur d'Horticulture*, June.

LILIUM BIONDII, *Bull. Soc Toscana di Ortic.*, t. vi., 2, June, 1896.

LILIUM CHINENSE, *Bull. Soc Toscana di Ortic.*, t. vi., 1, June, 1896.

ROSE GABRIELLE LUIZET, *Canadian Horticulturist*.

HOME CORRESPONDENCE.

EXAMINATIONS IN HORTICULTURE.—An inspection of the list of honours lately issued in the *Gardeners' Chronicle* shows that those with most leisure for study manage to secure the highest places in the results. It would be a privilege if your columns could be open to receive the experiences of your readers on the reasons why so few practical gardeners attend the examination. Information on two points would be valuable, viz., (1) What spare time can the average gardener devote to study? (2) Is the busy month of May the most convenient to practical men? [We believe the date will be altered. ED.] A contemporary suggests that gardeners keep aloof because the examination is open to amateurs and to women. This suggestion seems childish, in face of the fact that a practical gardener holds a better place in the lists than seven Chelmsford students and twenty-eight college candidates. *Practice with Science.*

VENETIAN SUMACH—RHUS COTINUS.—There is to be seen just now at Luddington House, near Egham, a fine bush of the above in the utmost perfection. The bush, notwithstanding it has been considerably curtailed, in consequence of its being planted too near the carriage-drive, measures over 63 feet in circumference, and is of considerable height. I had this beautiful shrub in fine feather at Enville, and it used to be greatly admired by the numerous visitors; it was also a special favourite with the late Earl of Stamford and Warrington, but I never saw one so beautifully coloured and densely flowered as the above. Why it is not more planted seems a mystery, for it is one of the most elegant shrubs we possess. There are also to be seen there two fine Judas trees, Cercis siliquastrum, and an immense evergreen Oak. *Edward Bennett, Queen's Road, Egham.*

A PROLIFIC CUCUMBER.—I enclose you a photograph of a bunch of six Cucumbers named Blendworth Perfection, which I have hanging at the present time. The average length is 21 inches, and girth 7 inches. It is a flat bine 3 feet before the fruit, and 2 feet above the fruit. The six fruits come from two axils only 2 inches apart, so that the fruit all hang together; therefore I was obliged to loop them out to get a view of the six, and, as you will see, the leaves broke out all round the bine. *John Bushy, The Gardens, Blendworth, Horndean Loddon, Hants.*

HER MAJESTY AND DUKE OF YORK GLOXINIAS.—A few days ago I saw one of the finest private collections of these varieties which I have seen for some time past at Fairy Hill, Swansea, the residence of Mrs. Benson. There are some 250 plants in fine condition, some of them being two years old, which carry from fifty to sixty fine blooms on each. Last year's seedlings are carrying from twenty-five to thirty blooms. The majority of the plants are growing in 5-inch flower-pots, which Mr. Miller, the gardener, told me are intended for decorative purposes in the dwelling. I may say that Mr. F. J. Benson is much interested in these and similar plants, and in Border Carnations, of which he has a very fine collection. *R. Milner.*

EARLY PEARS.—It was odd that but a few days prior to the publication of "Beurré Hardy's" note respecting early Pears last week, there should have been exhibited at the Drill Hall three dishes of Citron des Carmes, represented by him as an August Pear, yet fully ripe. The best flavoured, undoubtedly, was the dish sent by Messrs. Veitch & Sons from Langley, along with a dish of Doyenné d'Été, both equally ripe. Yet the latter is by the writer named mentioned as a July Pear, and the former as ripe in August. Again, the Drill Hall meeting of the 14th saw the first competition for the prizes offered to amateurs for the best-flavoured Pears, when two dishes were staged, both being Citron des Carmes. Evidently this variety was held to be by the senders better flavoured than Doyenné d'Été, which is here to-day and gone to-morrow, so far as quality is concerned. The sub-committee of three members appointed at the meeting to act as judges in this competition, Messrs. A. F. Barron, J. Smith, and H. Balderson, taking the higher flavour found in Messrs. Veitch's dish of Citron des Carmes, grown on ordinary nursery trees as a standard, awarded the 2nd prize only to the dish sent from the Royal Gardens, Frogmore, the other dish having fruits over-ripe and under-ripe. At the next meeting on the 28th the same variety from other districts, and others named by "Beurré Hardy," may be looked for. *A. D.*

GOLDEN CHAMPION GRAPE, SPORT, OR SEEDLING, OR BOTH?—There can be no doubt that the Golden Champion, as grown by Mr. William Thompson of Clovenfords, was a seedling, and raised by him, as stated in last week's *Gardeners' Chronicle*. Like many others, I went to see the Champion as well as the Duke, and there heard the genesis of the Grape, as far as it could be told, from the raiser's lips. Another fact, however, is comparatively little known, viz., that at Culford Hall, in Suffolk, the Champion was reproduced on a Sweetwater, if I remember rightly. There can be no doubt of the extraordinary versimilitude of this sport or bud variation to the true Champion, in size, colour, texture, and flavour. There was always a certain amount of mystery about its development. As I understood it and dear Peter, and I often talked the matter over with him, the Champion was once worked on the Vine, and there, as in many other places, it did not come up to expectations, and was cut down considerably below the point of union. The following year the Vines pushed out a branch of Champion wood, and with it a bunch of Champion Grapes, and the Champion character adhered to this portion for some years. The Culford case, however, although curious, hardly goes to establish an independent sport, but rather the prepotency of the Champion over its old stock. *D. T. Fish.*

STRAWBERRY GARIBALDI, SYN. VICOMTESSE H. DU THURY, OR OTHERWISE?—A discussion that brings such great authorities into the field as Messrs. A. F. Barron, so long and so ably presiding over the gardens of the Royal Horticultural Society at Chiswick, and Edward Bennett, to say nothing of others, can hardly fail to prove interesting to your readers. How far their statements are calculated to convince doubters that these two Strawberries are one and the same, and if so, that one must of necessity be Vicomtesse Héricart du Thury, is quite a different matter, as no question of shifting the labels of these Strawberries of set purpose or mere caprice, and so confusing their identity, has been raised. It is difficult to see the bearing of Mr. Bennett's successful dexterity in label-shifting among Tricolor Pelargoniums to the question before us, the distinctness or otherwise of these two Strawberries. Besides, such experts among tricolors as our late friends Messrs. Peter Grieve and Mr. Wills, could possibly easily have replaced the labels, and, after all, Mr. Bennett winds up "Garibaldi and Vicomtesse are not the same." "no doubt, they are not the same variety." Cultivators will be prepared to accept all that Mr. Barron says, especially when backed by the yet higher authority of the late Mr. Robert Thompson of Chiswick, the first pomologist of his country. But it is very important to note exactly what was said and done. According to Mr. Barron, the late Mr. Robert Thompson saw the Vicomtesse Héricart du Thury first in France, and advised that it should be taken special care of. Later on it had been transferred to Chiswick, and was noticed by Mr. A. F. Barron, and the late Mr. Gilbert of Bureigh, who questioned Mr. Thompson about the stranger. Next day they found it named Vicomtesse Héricart du Thury. And Mr. Barron assures us that thousands of plants were distributed among the Fellows, of which no one can have any possible doubt. Mr. Barron, however, adds that later on the Vicomtesse became very popular for market purposes around Edinburgh, Aberdeen, &c. It would be interesting to learn if these commercial centres were also supplied with plants from the Chiswick stock. Mr. Barron establishes several points. Mr. Robert Thompson saw and selected the Strawberry in France. Possibly he gave it, he certainly imported it under, its present name. Finally, it was propagated and distributed from Chiswick as Vicomtesse Héricart du Thury. All these facts prove what no one denies, that the Vicomtesse exists in abundance and flourishes. But how can they prove the non-existence of Garibaldi? It is grown under my eyes here distinct and different from Vicomtesse Héricart du Thury. Unfortunately my long journey to Edinburgh forced me to leave some tons of reference-books behind me. But Garibaldi lives in our horticultural literature. One of the earliest references to it that I can lay my hands on at present is by Ferdinand Gloede of Hamburgh, who, writing in the *Garden*, December 9, 1876, twenty years ago, says:—"Many years ago Mr. Nicholson, of

Eaglescliff, near Yarm, in Yorkshire, raised a seedling Strawberry, to which he gave the name of Garibaldi. I had plants of it from him which I cultivated for several years in France." Could Garibaldi have been re-imported under its new name of Vicomtesse Héricart du Thury? Meantime, Garibaldi having been distributed in England got mixed up with Vicomtesse, and grown as Garibaldi. If, adds Mr. Gloede, Mrs. Nicholson has still Garibaldi, as raised by her late husband, it may be got at Eaglescliff true to name, and thus everybody will be convinced that there is a great difference between Garibaldi and the Vicomtesse. In the same issue, William Tillery, of Welbeck, writes to state that Garibaldi as sent to him from Lawson & Co., Edinburgh, is quite a distinct variety from Vicomtesse Héricart du Thury. Another correspondent also writes to testify that Mr. Nicholson, the raiser of Garibaldi, is too honest a man to connive at that or any other deception; and Mr. Edward Bennett, who used to live at Rabley, should be able to speak with special authority as to the merits of Garibaldi for forcing. The following notes are from the *Garden* of some twenty years ago: "Garibaldi is the name of a Strawberry



Fig. 22.—View in the Rock Garden, Royal Botanical Garden, Glasnevin. (see p. 89.)

extensively forced for the market by Mr. Bennett, of Rabley. It seems to have merit as a forcing kind, being long-bearing, bright, and red in colour, and good in flavour. Mr. Bennett's plants have been gathered from eight times this season, and he says the last gatherings have furnished the finest fruits." A year later, April 7, 1877, it is said: "Garibaldi Strawberry.—Good punnets of this Strawberry are still being brought into Covent Garden Market by Mr. Bennett, of Rabley; the fruits are of fair size, and equal in colour to Strawberries in May. The plants on which they are produced were grown from runners last summer, brought gradually on, and some 200 of them are now loaded with fruits, which when placed side by side with Keen's Seedling, show a decided advantage, both as regards cropping qualities and appearance." My verdict as to identity is still the cautious, sensible Scotch one of "not proven." And if it can be proven, I should then emphatically vote for the shorter, perhaps older name, Garibaldi. *D. T. Fish.*

NEW STRAWBERRIES.—I should, with your permission, like to say a few words on new varieties of the Strawberry introduced during the last half-dozen years; and though a few of my readers may not think a Strawberry new which is six years old, there are many gardeners who do not grow new things much, if at all, at first, but wait till a variety has established itself, and at first they will not grow it largely. We gardeners are very conservative. Since 1890 some notable introductions have been made, which, I think, will come to be considered standard varieties. The raising of new fruits of any kind, and especially Strawberries, which are our most popular fruit, as it is one that can be grown by almost everyone who has a garden, is a good work; and he who succeeds in obtaining a variety superior to existing ones deserves the recognition of his fellows. It is a pleasure to find gardeners in private places as well as specialists striving to produce something better than we have got. Such success was Mr. Allan's in 1891, when he gave us three good new varieties. I will take Mr. Allan's seedlings first, as having priority in point of time; and though my favourite variety, viz., Gunton Park, was certificated in 1891, I place it first in my list owing to its being a good forcer, capable of standing drought, its splendid flavour, and fine appearance when grown at its best. Mr. Allan's idea in raising new varieties is not mere size, but good quality; and although we have both in the variety Gunton Park, he depended greatly on the influence of British Queen, which was one of its parents. It is an excellent variety in any soil, if the treatment is a proper one. The other varieties are Empress of India and Lord Suffield, the last-named being introduced in 1892. Its fruit is distinct; the plant is a good forcer, and flavour is very good. It is one of the finest Strawberries yet raised in regard to flavour. The variety Empress of India resembles more nearly British Queen than any of the others; it has bright scarlet-coloured fruits, which, though not very large, are in flavour far in advance of some other larger and older varieties. We now come to a distinct break in Strawberry raising in a variety which will, I think, be a favourite for years to come, on account of the freedom with which it grows, and great cropping properties, viz., Laxton's Royal Sovereign. In penning these lines, it occurs to me how much gardeners owe the late Mr. Laxton, not alone in new Strawberries, but other plants. I cannot say too much in favour of Royal Sovereign, and I believe that it will hold its own for earliness, size of fruit, and for freedom of growth—the latter a great point in some soils. I must say that I am an admirer of large fruits, it may be bad taste on my part, but it is one that at least, can claim to be common, most persons admiring a fine lot of Strawberries when placed upon the table. I am inclined to give this last-named Strawberry a high place for its general usefulness, as being also the best for forcing, and unequalled for size. The flavour is first-rate, although it lacks the sugary qualities that some other varieties possess, but this is an advantage, as we have none too many varieties of that description, and it is very good in every other point. It is not the largest Strawberry, Auguste Nicaise being larger, but if weight of crop be considered, it is a long way ahead of others. As an early fruiter there is none to equal it if it be treated as an annual plant, and it is the best of Strawberries for general cultivation. Another of Mr. Laxton's seedlings is Leader, recently illustrated in these pages, which promises grandly. It may be regarded as a mid-season variety. Messrs. Laxton say it will force well; it is certainly a fine fruit, and good in the open. Leader is one of last year's novelties, and time has not been given it as yet to test its forcing capabilities. One of its parents, Latest of All, is a special favourite, but this last-named requires special good culture; Nonsuch comes from the same source, and may be termed a grand fruit, large in size, and like one of its parents (Captain), the plant is a heavy cropper, and of distinct character. This is one of the seedlings of 1895. This year the variety will get a good test as to cropping capabilities. I should say that Monarch will be invaluable as a variety to follow Royal Sovereign as a forced plant, and besides, become a market fruit. I have previously noted the value of Latest of All, another of Laxton's raising, a grand fruit, but not the latest cropping variety. It is, as regards size and flavour, at the present without an equal. It has one blemish—the fruits are not always of the best shape, and like most of the Queen family, to which it belongs, it does not ripen at the point. The plant makes but few runners, and young plants, specially well done, crop splendidly. Laxton's Scarlet Queen and Sensation are new, but I prefer those previously named. These last two may be as good as those in some soils and localities. John Ruskin is much liked in the north, and some persons prefer it to those I have described. It has not been grown in quantity at Sion. A novelty that will be heard of again, viz., Veitch's Perfection, was certificated on July 14 by the Royal Horticultural Society; it was raised by Messrs. Veitch from British Queen and Waterloo, and is a splendid-looking fruit, with finest flavour. *G. Wythes.*

NEW STRAWBERRIES.—It must be regarded as an undoubtedly interesting though not a remarkable coincidence, that Mr. Seden of Messrs. Veitch & Sons, and Mr. Carmichael of Edinburgh, should have been effecting just the same crosses in Strawberries, and very possibly producing precisely similar results. The Southern raiser, largely because of his more favoured situation, is, however, the first in the field with his new production - and a very delicious one it is too. That there is nothing remarkable in the cross is due, of course, to the fact that British Queen is the best possible parent so far to use for the giving to Strawberries that flavour so much needed, and with so many otherwise fine varieties so much lacking. Waterloo, also, both because of its good sturdy habit, free-bearing, fine fruit, and comparative lateness, as well as rich colour, seems also to be a very natural variety to employ as a parent. We shall be glad to learn from both sources which of the two varieties was the pollen-parent. Of course, rich as the fruits of any new one may be in flavour, deep in colour, and large, yet so erratic are Strawberries that comparatively few varieties do well everywhere. General conduct is a point to be tested, but if none are planted there is no testing. We seem to have dropped just now upon an era of Strawberry raising. Those raisers who produce really first-class high-flavoured sorts that will be universally good doers, will indeed merit the highest praise. *A. D.*

CHURCH DECORATION.—I enclose photograph of a font decorated with Adiantums, Asparagus, Lily of the Valley, Callas, Primula obconica, Pandanus Veitchii, and double white Tulips. The occasion was a wedding in St. Nicholas' Church, Heythrop Park, Oxon. *C. Collett.* [The decorator availed himself of the peculiar shape of the font to produce the likeness of a floral basket, the handle lightly concealed with Asparagus, &c. At the base were white Arums, Pandanus Veitchii, &c., skilfully and effectively arranged. The general effect must have been good. Ed.]

NEPENTHES.—Mr. Rudolph speaks in his *Monograph* as if Nepenthes Rajah, N. Edwardsiana, N. villosa, Hook. f. (non. N. villosa, Hort. = N. lanata = N. Veitchii), N. Lowii, and others had been introduced alive when discovered by Mr. Hugh Low in 1848. He has N. Harryana, Burbidge, as a hybrid, which it probably is, but not a garden hybrid; and he puts N. Burbidgei, Hook. f., under N. phyllamphora,

whereas it only exists dried at Kew, collected by Mr. Low and by myself, and we both consider it a distinct thing. It differs from all the species I know by its stem, which is triangular in section, and by its decurrent winged petioles, while the urns are most elegantly shaped, more like those of N. Rafflesiana than those of N. phyllamphora, and their colour and translucent texture is that of egg-shell porcelain, ivory-white, with rose-pink blotches. As to the digestive power of the liquid there is no doubt; but, of course, there are bacteria there, as well both ærobic and putrefactive, but they do not appear until after the peptonised fluid is exhausted, or its action checked by over-dilution with water. The formic acid of the ants caught helps to intensify the action of the digestive fluid, no doubt. The natives of North Borneo drink the pure secretion of the fresh young pitchers as a certain remedy for indigestion, which is a practical commentary as to its digestive action. Nearly all the species that are epiphytal grow on living trees covered with wet moss and other vegetation; but N. Veitchii is an exception, affecting dead trees or dead branches of living trees, and thus it lays itself out for catching ants, coleoptera, and hordes of other dead-wood boring and crawling insects, rather than the flying kinds that afford food to those with brightly-painted urns. It is curious to see insect eating birds, like woodpeckers and borers, searching the urns of N. Veitchii for prey — their natural food, while ignoring those flying insects caught by other kinds of Nepenthes, and which are searched by bee-eaters and other insectivorous birds, and by rats. N. Veitchii clasps the stems of dead trees with some of its distichous leaves, in a different way to any other kind. *F. W. Burbidge.*

LAW NOTES.

MESSRS. MARSHALL BROS. *v.* CHARLES JOHNSTONE.

SHERIFF ROBERTSON, in the Aberdeen Sheriff Court, has just given decision on a point that is of some interest to dealers in fruit. Messrs. Marshall Brothers, Aberdeen, entered into a contract with Mr. Charles Johnstone, Regent Quay, Aberdeen, under which the latter agreed to purchase the produce of certain orchards of Pears which they had at their disposal. Under the contract the fruit was to be delivered to Mr. Johnstone as it arrived in Messrs. Marshall's hands; but, when the season was over, Mr. Johnstone declined to pay for three lots on the ground that the first lot, although delivery had been taken of it, was "disconform" to contract, and that he had refused the second two lots as disconform. Messrs. Marshall Brothers contended that the fruit was conform to contract, and that there had been in addition no "timeous" rejection. Sheriff Robertson has decided the case in favour of Messrs. Marshall Brothers, mainly on the ground that looking to the perishable nature of Pears, the first two lots were not timeously rejected and must be paid for, and that Mr. Johnstone had failed to prove that the third lot was disconform to sample and is bound to pay for it also. The first lot was delivered to Mr. Johnstone on or about October 16 or 19 last year, and rejection was not intimated till November 7; the second lot was tendered on October 24, but, though it was not taken into Mr. Johnstone's warehouse, the sheriff holds that he has failed to prove that he intimated its rejection as being "disconform" to sample until Nov. 7, which, in the sheriff's opinion, was far too late when dealing with such perishable articles as Pears. The third lot was tendered on Oct. 30, but was refused by Mr. Johnstone. The value of the second and third lots was £11 6*s.* 3*d.*, but when they were eventually sold by Messrs. Marshall Brothers, they fetched only £1 17*s.* With regard to this, Sheriff Robertson says, in the note to his interlocutor—"Apart from the poor price made by these two rejected lots, there is no sufficient evidence that they were in bad condition. As regards the small amount realised—and that, certainly, is remarkable and possibly hardly accounted for by the considerations suggested as to the weather, period of season, &c.—if any of these Pears were such as the defender was entitled to reject, which I think is quite possible he has himself to blame if he suffer any undue loss on that account—(1) because he did not reject them "timeously," and (2) because he did not have such an examination of the Pears made, and by such impartial persons, before rejection, as could satisfy any Court that the Pears were bad as against a statement to the contrary.

ST. LOUIS.

THE garden was very fortunate in the late cyclone. We lost about 200 trees—many very rare for this country, having been secured in Europe years ago by Mr. Shaw. Several hundred trees are badly damaged —broken, but by judicious pruning will be almost restored in a few years. The bed plants were almost totally destroyed, but have mostly been replaced. The shrubbery fared better. Much damage was done to several of the buildings by their being unroofed and otherwise broken, but all can be repaired, and most of them are now. The damage is estimated at several thousand dollars, but restoration is possible in almost every case. Compared with Lafayette Park and other parts of the city, we were indeed fortunate. Just now the wreckage is nearly all cleared away, and nothing remains to tell the story of devastation but the many thin spots throughout the garden. These are rapidly being replanted. All honour is due to Mr. Shaw that he left the finance of the garden in such admirable condition that restoration is not checked from that source—time only is required. *C. H. Thompson, Acting Director.*

NEW INVENTION.

PUMP FOR GARDEN WATERING, IRRIGATION, ETC.

A NOVELTY in garden watering apparatus has just been brought out by the makers of the well-known "Valiant" steam-pump, Messrs. Merryweather & Sons, of London. It has been constructed on lines laid down by Mr. Gibb, estate agent to Miss Alice de Rothschild, for that Lady's demesne at Eythorpe, Aylesbury, and appears to be well suited for its work. Complete with steam-boiler and four-wheel carriage, it weighs about 3 cwt., and can therefore be easily wheeled about by one man. The pump is entirely of gun-metal, and may be used for chemicals for Hop-washing, removing blight, &c., without injury to barrel or valves. The capacity is from 20 to 30 gallons per minute, and several hoses may be used simultaneously for lawn and garden watering. For watering race-courses, cricket and tennis grounds, and for use on large nurseries and plantations, this pump is designed to save the work of several men with hand-pumping apparatus, while it is constructed in such a simple way, and has so few working parts, that any person of ordinary ability can easily work and keep it in order.

TRADE NOTICE.

MESSRS. JOHN SHARPE & SON, of Bardney and Reading, desire us to inform our readers that Mr. J. H. Millard ceased to represent their firm on June 30 last, and that Mr. A. E. Fountaine, of Ivy Farm, Caversham, will represent them in the South of England in the future, and will take over the management of their Branch Office, Town Hall Chambers, Reading.

CHESTER HORTICULTURAL SHOW.—A timely reminder may be given to our readers of the fact that a conference in connection with this exhibition is to be held in the Town Hall, Chester, on the evening of August 4 next. His Grace the Duke of WESTMINSTER is to preside. Sir TREVOR LAWRENCE, Bart., the Dean of ROCHESTER, and Mr. F. W. BURBIDGE, are to be the speakers, and surely with such a platform of leaders of horticulture, the success of the conference ought to be insured. Admission to the conference is free, and we hope everyone within reasonable distance of the ancient city who may love a flower, or possess a garden, will make a point of being present at the opening meeting of the show.

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

JULY 14.—Dr. M. T. Masters (in the chair).

Picea Alcockiana Foliaceous Cones.—Mr. Meehan, of Germantown, Philadelphia, sent specimens showing the bracts of the cones becoming leaf-like, with the following observations:—"It represents a great struggle between the effort to make a cone and a branch. I have numbers on several plants. In some cases the branch and in others the cone nearly wins. The specimens are certainly due to the conditions of environment. There are about a dozen plants from 2 to 3 ft. high. Transplanted in the spring of 1895, it was with difficulty we got them through the drought and torrid heat of that exceptional season, the growth being but an inch or two. Other species of the order planted with them died absolutely."

Caladium, Variegated Leaf.—Mr. P. Crowley, of Waddon House, Croydon, sent a very curious example of dissociation of colours. The leaf was mainly of a pale pink colour, but one quarter, sharply marked off by two lines at right angles to one another, was white with green veins. The suggested interpretation was that the plant which bore it was a cross between two plants having the above peculiarities respectively, and that the parental characters had become suddenly dissociated.

Crinum capense, var.—Rev. W. Shirley, of Southwick Parsonage, Fareham, sent a flower, which proved to be a pale variety of this species. He remarks that he has succeeded in crossing it with C. Moorei (male parent), having raised four plants, but was unable to effect a cross the reverse way.

Parrot Tulips not Seeding.—In response to an inquiry from the Secretary, Mr. Barr writes:—"We have been making inquiries over Holland, and are informed that the Dutch growers do not remember to have ever seen seed to ripen on these Tulips." It was suggested that it would be worth while experimenting with them next year, to see if seed could be procured by artificial pollination.

Fungus on Primula.—A curious fungus upon leaves of Primula was sent by Mr. W. Hall, the superintendent of Parks, Sunderland. It was forwarded to Kew for further investigation.

Wild Chamomile Fatal to Lambs.—It was reported from the Bedford Woburn Estate, that this very common plant, Matricaria Chamomilla, had proved highly injurious to sheep and lambs, several having died in consequence of having eaten it. The plant has never been suspected of having dangerous qualities, though the flowers are naturally rather acrid and bitter, in consequence of the presence of the essential oil which they contain. If the report be true, it may be suggested that the intense heat may have intensified these properties, as is well known to be the case with Artemisias, &c., in subtropical countries.

DEVON AND EXETER GARDENERS' ASSOCIATION.

JULY 15.—This holy of horticulturists held their fifth summer outing on St. Swithin's Day, when about seventy-five members and friends answered to the roll-call.

Three well-appointed brakes carried the party, passing along the Topsham Road, and the old site of Messrs. Veitch's famous nurseries there, crossing the Exe at Countess Wear, and leaving the Forest-tree Nurseries of Robert Veitch & Son at Exminster on the right.

POWDERHAM PARK,

"Where Exe meets curled Kenne with kind embrace,
In crystal arms they clip fair Powderham's place,"

was reached, and the visitors were received by Mr. D. C. POWELL, the lessee of the gardens. The first trees to be noted were some grand Elms of about 130 feet in height, forming an unbroken line, and leading on to the Cedar Avenue, which is formed of a number of particularly healthy and well-furnished Cedars. Leaving the main drive, the ascent was made to the foot of the Belvedere Tower, which forms one of the landmarks of the county. From here the view is magnificent. Across the estuary of the Exe is seen the timber-crowned Woodbury Hill, the bold ridge terminating at Sidmouth Gap, and the many ancestral homes nestling in the bosom of the estuary between. To the south is the once important ship-building town of Topsham; Nutwell Court, the home of the Drakes; and in the distance Hayes Barton, the birthplace of Sir Walter Raleigh. The coast line, with Lympstone and Exmouth on the left, and Starcross and Dawlish on the right, forms a beautiful foreground to the picture.

Following a winding path through the woods, the descent was made to the American garden, in which were many subjects of interest. Here was one of the earliest specimens of Camellia japonica, which it is supposed was planted by Sir Joseph Banks, when on a visit to Powderham, towards the end of the last century. Here also was a fine C. alba plena, from which, a few years ago, over 600 blooms were cut the day before Easter. These are right out in the open. A noble specimen of Eucalyptus coccifera, about 70 feet high was noted. It had just passed out of flower, and was full of bud for next year's flowering. One or two fine Tulip trees were observed, one of 120 feet, just passing out of bloom. Pinus excelsa, with hundreds of its curious Cucumber-like cones hanging from it; Abies Smithiana, with drooping branch-

lets of 6 feet long; Abies Nordmanniana, Cephalotaxus drupacea, with its large Plum-like berries; a grand specimen of the Cork Oak (Quercus suber, and an Ivy with a stem 1 foot in diameter, clinging to an Elm, and which had assumed the colour and furrowed bark of its foster-parent. Hydrangeas of a bright blue colour, some fine Nymphæas in the pond, and other interesting subjects were also pointed out by Mr. Powell. Passing through the vineries, in which were some fine examples of successful Vine culture, the castle was reached, and the brakes re-entered, and the journey continued, this time along the coast, through the towns of Starcross and Dawlish to Teignmouth. The rendezvous at this place was

EASTCLIFF,

the seat of Col. HALFORD THOMPSON, J.P. As time was speeding along, the excursionists, under the guidance of their host at once started on their tour of inspection. Colonel Thompson, being the inventor and patentee of Jadoo fibre and Jadoo liquid, and the Chairman of the Jadoo Limited, much interest was felt in the experiments with these materials at Eastcliff. The conservatories in which Jadoo alone is now used were full of plants in the most perfect health, abundance of bloom and brilliancy of colour being most marked. The subjects treated were Begonias, Cannas, Fuchsias, Streptocarpus, Crotons, Coleus, Dracænas, Aralia Veitchii, Grevilleas, Adiantum Farleyense, A. gracillimum, Gymnogramma schizophylla gloriosa, Asparagus Sprengeri, Azaleas, Cyclamen, &c. Of the complete success of the new material for conservatory work there could be no doubt.

Some fruit trees (Apples and Pears) in pots, growing in Jadoo, were next noticed, and here were small trees bearing very fine fruit in abundance. Then some Potatos were dug which had been planted in a layer of Jadoo-fibre and moulded-up with ordinary garden-earth soil. The tubers came up almost perfect in every respect: the skin was soft and clear, and many tubers were, as they were dug, fit for the show-table. An adjournment was now made to the lawn, where an excellent luncheon was served. When the enjoyable *al fresco* feast was concluded, Mr. Hope proposed the health of Colonel HALFORD THOMPSON, and in doing so, referred to the successes he had achieved years ago as a Pansy amateur when he went up to Edinburgh and "bearded the Douglas in his hold." Since then he had gone on with his favourite pastime of gardening, and latterly he had thrown his entire efforts into his experiments with Jadoo, with what success they had that day seen in the ample evidence around them. The toast was warmly received, and Col. THOMPSON, in reply, gave some interesting facts in connection with the new material, which was now being exported in large quantities, and for which the home demand was steadily increasing. Jadoo must, the Colonel said, stand or fall by its merits, and his experiments with it, both at home and on the Continent, had been so extensive and exacting, and so universally successful, that he was well content it should be so. The advantages of its use were its lightness for pot-plants, its requiring less water, its greater cleanliness, its combining in itself a perfect plant-food, the greater floriferousness and brilliancy of colour in the foliage and flowers of plants grown in it.

A visit was next paid to the Jadoo factory on the quay, where the process of boiling, and pressing, and fermenting, and drying, was fully explained and demonstrated by the workmen. Messrs. C. T. K. Roberts and J. Littlejohn, Directors of the Company, were there to receive the visiters. The journey was then resumed, and after a delightful drive over the high hills commanding Torlay, Torquay, "the Queen of the West" was reached. After tea, the party under the guidance of Mr. H. A. Garrett, Borough Surveyor, and Mr. Dyer, the superintendent of the public grounds, inspected the public gardens. Special attention was here invited to reputed tender plants which were found to thrive on the terrace gardens. The rocks in the background are almost perpendicular, forming a shelter from the north and east winds. The following plants have stood several winters there without injury:—Large specimens of Palms, including Latania borbonica, Chamærops excelsa, C. Fortunei, and C. humilis; Dracænas, Phormiums, Camellias, Crinums, Eucalyptus, Callas, Abutilons, Acacias, Agaves, Araucarias, Azaleas, Brugmansias, Cannas, Citrus, Daphne, Ericas, Fuchsias, Sparmannia, Oleanders, Veronicas, Olives, Cactus, Yuccas, Aralias, Bamboos, Spiræas, Loquat, Magnolias, Myrtle, Cestrum, Ricinus, Mesembryanthemums, Imatophyllum, and several others. The rocks are covered with climbers, including Clematis, Ampelopsis, Clianthus, Passiflora, Solanums, Plumbago, Habrothamnus, Physianthus, Stauntonia latifolia, Tropæolums, Maréchal Niel and other Tea Roses, &c. The beds and borders along the whole length of the garden (about 430 yards) are planted with choice Begonias, Fuchsias, Heliotrope, Pelargoniums, Coleus, Echeverias, and Dactylis. Shrubs in great varieties are planted throughout the gardens, also a fine line of young Dracænas. The shrubs include Veronicas, Oleas, Olearias, Ceanothus, Escallonias, Pittosporum, Rhododendron, Cistus, Hypericum, Elæagnus, Coronilla, Choisya, Diplopappus, and a number of others.

Several of the party then proceeded on the invitation of Dr. HAMILTON RAMSAY, president of the Torquay Gardeners' Association, to Duncan House, in front of which is a fine collection of sub-tropical plants. Latania borbonica and Chamærops excelsa have stood out for years here, and two specimens for over twenty-four winters. Eulalia febrina, Aralia Sieboldi, Phormium tenax variegata, Spiræa ariæfolia, Myrtles, Bamboos, Pampas, and other picturesque subjects were planted in artistic groups and showed tropical luxuriance of growth. After perambulating the grounds, the stalwart and handsome old Scotsman led the way attended by his private piper in full highland costume, the visitors following, into the drawing-room where cake and wine was served. The piper (McInnes), is a descendant of Prince Charlie's piper, and is proud of the fact that his ancestor received 150 lashes for concealing his royal master, the "bonnie Prince Charlie." Bidding farewell to our entertaining and very genial host, the return journey was commenced, and after a long drive by way of Newton Abbot, Chudleigh, and Haldon Hill, the "Ever Faithful" city was reached a little beyond the witching hour.

ALTRINCHAM AND BOWDON HORTICULTURAL.

JULY 17, 18.—The annual exhibition of this society was held in the Athletic Grounds, Devisdale, Bowdon, on the above dates. Spacious marquees were erected, and the fine weather which has prevailed during the month, made it exceedingly pleasant for promenaders, the turf being in good condition; and there was a goodly assemblage of visitors. The committee offer very good prizes for plants, cut flowers, fruits, and vegetables, and both amateurs and cottagers enter with spirit into the competition. What largely helps to bring in funds, is the series of sports taking place on the last day of the exhibition, and the subscription-list amounting to about £140. The show of plants in pots was good, and the competition in the class for collections arranged for effect in oval and circular groups was keenly contested. The herbaceous plants in pots, particularly the group of twelve shown by Mr. JAS. SMITH, Bowdon, were large, well leaved and flowered, showing what can be done with this class of plants, and justifying the general encomiums bestowed upon the group by both gardeners and amateurs. The cut flowers formed a large exhibition, and the fruit for the season was above the average of that seen at local shows, while the vegetables were also a large and generally creditable lot.

For the large collections of plants arranged for effect, SAM HENCHLIFFE, Esq., and ADAM HOGG, Esq., were placed equal 1st. In the former collection were some good Palms, some bright coloured Crotons and Coleus, with the greenery obtained from miscellaneous Ferns, a fine edging of Caladium argyrites, and a few Orchids, comprising Cattleya Mendeli, Odontoglossum crispum, several Cypripediums (Lawrenceanum being notably good), one or two well-flowered specimens of Brassia verucosa, which told well in the group, and several other good things.

In Mr. HOGG's collection the Crotons were well-grown and particularly bright, and what the flowering plants were lacking in, was more than made up by an effective arrangement. Mr. H. T. GADDUM and Mr. HALL also showed well in this group.

In the circular groups, Mr. T. S. HAWORTH, Dunham Mersey, and Mr. E. BRATHY had the premier lots.

For six stove and greenhouse plants, Mr. BRATHY, Mr. HENCHLIFFE, and Mr. J. HAWORTH had well-grown, well-flowered plants. Dr. MOIR and Mrs. OLDFIELD had well-grown Ferns. Mr. HENCHLIFFE had a lot of good Orchids, and his Cypripedium Rothschildianum was a fine variety.

Mr. JAS. SMITH's twelve herbaceous plants, above specially noticed, were a remarkably even group, prominent in it being a plant of Spiræa aruncus, with beautiful feathery, arching plumes.

In all the twenty-seven open classes there was a fairly good representation. The cut Roses, particularly those from Mr. CHAS. BURGESS, Plumbley, were good, fresh, fairly sized, the best being Pierre Notting, Victor Verdier, Marie Baumann, and Mrs. Laing. Mrs. RAYNER, Marple; Mr. HALL, Hale; and Mr. BROWN, Heaton Mersey, taking premier positions in the various classes.

Mr. C. E. N. GADDUM had the best collection of fruit, consisting of Grapes, Peaches, Melons, &c. Mr. WATTERSON had well-finished, very good bunches of Black Hamburgh and Foster's Seedling Grapes.

Dr. MOIR and Mr. GILL, Ashton-on-Mersey, had excellent collections of vegetables.

NON-COMPETITIVE EXHIBITS.

Mr JOHN ROBSON, nurseryman, Bowdon, put up an effective group of pot-plants, and his collection of herbaceous cut flowers was varied and showy.

Messrs. CLIBRAN & SON, Altrincham, had also a large lot of border flowers, comprising Roses, Lilies, Gaillardias, &c.

DICKSONS, Chester, had a charming lot of Tea and Noisette Roses, among which several novelties were observed.

Messrs. CALDWELL, Knutsford, had a grand array of cut Sweet Peas in very numerous shades of colour.

Mr. HEYWOOD put up a good, semi-circular group of plants.

The Messrs. HOPKINS, Knutsford, had a varied and clean border Violas.

TIBSHELF HORTICULTURAL.

JULY 21.—The Tibshelf Floral and Horticultural Society held its show on the above date on the Cricket Ground, and the weather being beautifully fine, there was a large attendance of visitors. In connection with the flower show is a Rose show, under the rules of the National Rose Society, and this feature is becoming increasingly important. Indeed the judges on Tuesday declared the collection of Roses brought together to be the finest seen in the United Kingdom this year, notwithstanding the fact that the season is getting on. The National Society's Gold Medal was awarded to Messrs. HARKNESS & SON, Bedale, Yorkshire. The prize-list for Roses was as follows:—

ROSES.

Seventy two blooms, fifty distinct varieties.—1st, Messrs. HARKNESS & SONS, Bedale; 2nd, Messrs. MERRYWEATHER & SONS, Southwell; 3rd, Messrs. DICKSON & SON, Newtownards, co. Down; 4th and 5th, Messrs. COCKER & SONS, Morningfield Nurseries, Aberdeen.

Forty-eight blooms, distinct varieties. — 1st, Messrs. DICKSON & SON; 2nd and 3rd, Messrs. COCKER & SON; 4th, Messrs. MERRYWEATHER & SONS; 5th Messrs. MACK & SON; 6th, Messrs. HARKNESS & SONS; 7th, Messrs. TOWNSEND & SON.

Thirty-six blooms, distinct varieties.—Equal 1st, Messrs. COCKER & SON and Messrs. MACK & SON; 3rd, Messrs. DICKSON & SON; 4th, Messrs. COCKER & SON; 5th, Messrs. MERRYWEATHER & SON; 6th, Messrs. HARKNESS & SONS.

Twenty-four blooms.—1st, Mr H. V. MACHIN, Worksop; 2nd, Mr. W. BOYES, Derby; 3rd, Mr. WHITTLE, Leicester; 4th, Mr. R. E. WEST; 5th, Mr. MORRIS.

Eighteen distinct varieties.—1st, Mr. WHITTLE; 2nd, Mr. R. E. WEST; 3rd, Mr. MORRIS; 5th, Mr. J. BRADBURY.

Twelve distinct varieties.—1st, Mr. WHITTLE; 2nd, Mr. S. PRICE; 3rd, Mr. R. E. WEST; 4th, Mr. S. MORRIS.

Three large marquees were required for the accommodation of the exhibits, but there was a slight falling off, owing to the dry weather, in the number of exhibits from cottagers and artisans. The total number of exhibits, nevertheless, was in excess of last year. The groups of plants, occupying a space of 200 feet, were exceptionally fine; the middle tent, in which these were, presenting a beautiful sight. Nine prizes were offered, the highest amount being £15.

Mr. J. Ward, gr. to Mr. T. H. OAKES, J.P., of Riddings House, Alfreton, is always a formidable competitor at Clay Cross and Tibshelf, and, indeed, at any show in the Midlands in this particular department of shows. He carried off the 1st prize, as he has done six or seven years in succession at Tibshelf, and as he invariably does at Clay Cross.

Groups.—It was satisfactory to note that groups were of a uniform excellence than is usually the case, and the point upon which the judges had to attach the greatest importance in giving their awards was not so much the difference in artistic taste displayed in the groupings, but the quality of the component parts of the groups. In Mr. WARD's group every individual plant was a perfect specimen of its kind. The specialty consisted of drooping curly Crotons, which are seldom seen with such colour. The winner of the 5th prize, it should be stated, is a working collier, living at Tibshelf, and is a well-known prize-taker in the district. The following is a list of the prize-takers in this section: 1st, Mr. J. WARD, gardener at Riddings House, Alfreton; 2nd, Mr. J. Edmonds, gardener to the Duke of St. Albans; 3rd, Mr. C. J. MEE, Nottingham; 4th, Mr. W. Haslam, Harsloft; 5th, Mr. WILLIAM SHAKESPEARE, Tibshelf. 6th, Mr. Webb, gardener to Viscountess Ossington, Kelham Hall; 7th, Mr. Kemp, gr. to Mr. J. J. Chambers, Tibshelf.

Other prizes in the open class went to the following:—Ferns, collection of six: 1st, Mr. J. WARD; 2nd, Mr. J. NELSON; 3rd, Mr. W. KEMP; 4th, Mr. T. Butler.

Zonal Pelargoniums, six varieties.—1st, Mr. T. Butler. Fuchsias, six varieties: 1st, Mr. J. SWANWICK, gardener at Sherwood Lodge, Nottingham; 2nd, Mr. W. SHAKESPEARE, Tibshelf. Orchids, collection of six: 1st, Mr. C. J. MEE, Daybrook Nurseries. Six plants for table decoration: 1st, Mr. J. EDMUNDS, gardener at Bestwood Hall; 2nd, Mr. C. J. MEE; 3rd, Mr. J. WARD. Bouquet of flowers: 1st, Messrs. JOHNSON & WHEELER, Chesterfield. Vase of flowers: 1st, Mr. J. WARD; 2nd, Mr. W. LOWE; 3rd, Messrs. JOHNSON & WHEELER. Collection of cut flower: 1st, Mr. T. J. NELSON; 2nd, Mr. J. WARD. Verbenas: 1st, Mr. T. BUTLER; 2nd, Mr. S. PRICE.

The Secretary, Mr. R. HARRISON, on Tuesday attained his majority as the secretary of the Society, which under his able guidance has attained dimensions of a surprising character.

SURREY FLORICULTURAL.

JULY 22.—Though the name of this society connects it with the county, the exhibition is a purely local one, and as it is only open to exhibitors who are members of the society, to compete for prizes, the display should not be compared with many other exhibitions in this county where there is no such restriction. The fifty-second annual exhibition was held on the above date in the grounds of Brockwell Hall, adjoining Brockwell Park, and close to Herne Hill Railway Station.

There were numerous classes, but the competition was by no means keen. Details concerning a few of the principal classes are appended. Amongst some of the special prizes were several offered to exhibitors of the best plants which had been washed by a certain soap!

Mr. J. Lambert, gr. to H. W. SEGELCKE, Esq., Elfindale Lodge, Herne Hill, had the best collection of six foliage plants, showing three Crotons, and a plant each of Hyophorbe lutescens, Alocasia macrorhiza, and Anthurium crystallinum. The same exhibitor was 1st for six Fuchsias, and for six

distinct varieties of Ferns; and 2nd for four stove or greenhouse plants.

Six plants suitable for table decoration were best shown by Mr. A. A. Rofe, gr. to Mrs. COLE, Elmfield, Streatham. Mr A. A. ROFE had also the best half-dozen of Petunias and was 2nd for half-a-dozen plants of Coleus; and, in addition, 1st for six Caladiums, and 2nd for six Begonias in flower. The 1st prize in the last-named class was won by Mr. T. Pearce, gr. to S. G. C. SANSON, Esq., Leigham Holme, Leighton Court Road. This exhibitor won also for a group of miscellaneous plants, being followed by Mr. J. LAMBERT. Mr. J. LAMBERT won for six Dracænas.

Mr. ROFE, with two good bunches of Black Hamburgh, was 1st for black Grapes; and Mrs. HOLT, Waratah, Chislehurst, with Muscat of Alexandria, won for white Grapes.

Messrs. JNO. LAING & SONS, Forest Hill, London, S.E., helped towards the display by an exhibit of their plant specialties, and Mr. ROBT. NEAL, Trinity Road, Wandsworth, had a large group of miscellaneous plants (stove and greenhouse), and cut Roses, &c.

BECKENHAM HORTICULTURAL.

JULY 22.—The annual exhibition of the Beckenham Society was held on the above date in the Athletic Grounds under auspicious circumstances. Considerable interest is taken in the annual event by the people of the district, and Beckenham itself is made brighter for the occasion by the display of bunting in the more conspicuous places. The three good-sized tents were well filled, and the number of competitive classes was large, a great many of these being for the encouragement of "single-handed" gardeners, amateurs and cottagers. In connection with the last named section of exhibitors, the chairman of the district council who opened the exhibition referred to the fact that this body was now preparing for the benefit of Beckenham residents about ten acres of land to be used as allotments, and we hope the site chosen is a convenient one, in order that the most use possible may be made of it. In the open classes it is desirable that more competitors should engage, for, as will be seen from the details below, the number of prize winners is not quite satisfactory. Several varieties of plants were well shown, and none better than Achimenes and tuberous-rooted Begonias. We are unable to give details respecting the whole of the classes, and the following refer mostly to those open to all competitors. The arrangements were good, and a word of praise is earned by the energetic honorary secretary, Mr. T. W. Thornton, who for the past few years has been of very great help to the Society.

The groups of plants arranged for effect being only upon a space 10ft. by 5ft., there was not scope for a great effort. The arrangement to which was awarded the 1st prize, was exhibited by Mr. T. Crosswell, gr. to W. M. BULLIVANT, Esq., Homewood, and consisted of a groundwork of Ferns, among which were interspersed Fuchias, some very fine Gloxinias, Crotons, Caladiums, and a few Palms. The 2nd prize was taken by Mr. M. Webster, gr. to E. J. PRESTON, Esq. In this exhibit the plants used were rather too large for arrangement in so small a space. Table plants, though exhibited by two competitors only, were very good from Mr. J. Munro, gr. to J. L. BUCKWALL, Esq., Langley Court, his Crotons Aigburthensis and Domeii being of commendable colour. Mr. M. Webster, gr. to E. J. PRESTON, Esq., Kelsey Cottage, was 2nd.

Mr. J. MUNRO had the best collection of three flowering stove or greenhouse plants, showing Plumbago capensis, Allamanda Hendersoni, and Stephanotis floribunda. Mr. M. WEBSTER was 2nd.

Mr. F. G. Cogger, gr. to J. NORWOOD, Esq., Pembury Lodge, was 1st for three foliage plants, staging two Caladiums and one Croton; Mr. J. MUNRO being 2nd.

Eight miscellaneous plants were exhibited best by Mr. M. WEBSTER, in whose collection was noticed a pretty plant of Cissus discolor and two graceful Palms. Mr. J. MUNRO's 2nd prize exhibit contained two nice Crotons.

The best single specimen plant was a capital one of Plumbago capensis, shown by Mr. M. WEBSTER; the Anthurium Scherzerianum, by which Mr. J. MUNRO was 2nd, contained a large number of flowers.

Ferns were of commendable quality, the best collection of four plants being shown by Mr. F. G. COGGER, and the 2nd prize was taken by Mr. H. Cooper, gr. to C. W. HARRISON, Esq., Whitmores.

The few exhibits of tuberous-rooted Begonias deserve special commendation. The collection of four specimens with which Mr. T. CROSSWELL obtained 1st prize was capital; three of the plants were double-flowered, and the remaining one a single variety, the last-named being the most effective of them all. Mr. F. W. Price, gr. to H. C. CROWTHER, Esq., Broadclyst, was 2nd, and included all double-flowered varieties.

Mr. T. CROSSWELL had the four best Fuchsias, and Mr. M. WEBSTER was 2nd. In this latter collection the plants were but sparsely bloomed.

Coleus are usually very pretty at Beckenham, and on the present occasion some brightly coloured specimens were staged, though of moderate size. Mr. J. MUNRO was 1st again here, and Mr M. WEBSTER 2nd.

Gloxinias gave Mr. T. CROSSWELL another opportunity to score 1st, and he had a very satisfactory collection of six plants, which appeared, however, to have come from too hot an atmosphere. Mr. H. Cooper was 2nd with very much smaller plants, and Mr. F. W. Price, gr. to H. C. CROWTHER Esq., Broadclyst, was a good 3rd.

For Petunias Mr. WEBSTER staged most successfully, and he was followed by Mr. J. Galley, gr. to J. HORTON, Esq., Haynes House, and Mr. J. MUNRO respectively.

Achimenes were very fine, and the collection of four plants shown by Mr. W. Turle, gr. to A. H. BAKER, Esq., Elderslie, was worthy of much praise, a plant of the bright flowered variety Dazzle covered with blossoms was very effective. Mr. H. COOPER was 2nd, and Mr. F. Smith, gr. to M. JOHNSON, Esq., Moat Lodge, 3rd.

Mr. H. COOPER had the best Lycopodiums, but these were not exhibited largely.

Cut Roses in a collection of twelve blooms were best from Mr. A. C. GIFFORD, Cornwalls, Tennison Road, S. Norwood.

The best Grapes were from Mr. W. Taylor, gr. to C. BAYER, Esq., Tewkesbury Lodge, Forest Hill, who showed two bunches of Black Hambro; Mr. J. Amery, gr. to F. E LIEBRICH, Esq., was 2nd.

There were several collections of six Pelargoniums in bloom, and amongst these the collection from Mr. F. G. COGGER was awarded 1st prize.

The Beckenham people have always a model garden or two to inspect at their exhibition, and on this occasion the 1st prize for this class was won by Mr. A. H. BUTTON, Broadstairs Stables, whose exhibit evidenced the possession of a certain amount of ingenuity.

The table decorations were good, and the 1st prize in one case went to Mr. T. HORSMAN, Station Conservatory, Beckenham: and in the other to Miss EDITH HIGGINBOTTOM, Vernon House, and Miss E. M. HEWLETT, Elmhurst, equally.

MISCELLANEOUS EXHIBITS.

There were several honorary exhibits of a good character. Messrs. H. CANNELL & SONS treated the Beckenham people to a view of some of their Cannas, and Messrs. JNO. LAING & SON, Forest Hill, had a large group in which were Caladiums, Begonias, Orchids, and other choice plants, also cut Roses, and hardy flowers.

The Agricultural and Horticultural Association had a number of hardy flowers displayed, and from Reid's Nursery, Beckenham Hill, were shown cut flowers of Cannas and Carnations. Mr. E. M. RANDALL, Railway Bridge, Beckenham, had floral designs.

Mr. JNO. R. BOX, West Wickham and Croydon, exhibited an oval group of tuberous Begonias upon the grass, backed and faced with ornamental foliage plants of a miscellaneous character.

Messrs. JNO. PEED & SONS, Roupell Park Nurseries, Norwood Road, London, staged a small group of miscellaneous plants, chiefly remarkable for some choice Caladiums, and a well flowered Hydrangea paniculata.

THE NATIONAL CARNATION AND PICOTEE
(Southern Section).

JULY 22.—It was the presence of the exhibits brought by the Midland growers which helped so much to make up a Show worthy of the Southern Section of the National Carnation and Picotee Society. The hot, dry weather brought on the blooms of the southern growers unusually early, and they were practically unable to exhibit. As Mr. Smith said at the luncheon, no one, not even Zadkiel, could alter the weather; and he thought, in the face of the experience of the past two years, that for the future the show should be held a week earlier, say about the 15th of July. The Birmingham growers were favoured by having a season a week later, and they had larger, fuller, and fresher blooms than could be cut in the South. Still, the average of quality was below that of last year: some of the blooms were thin in substance, and lacking colour. The Selfs were in a few cases very fine; and the yellow grounds much better than might have been expected.

CARNATIONS.

With twenty-four blooms of Carnations, not fewer than twelve varieties, Mr. R. SYDENHAM, Birmingham, repeated his victory of last year by taking the 1st prize. He had good blooms of C. B. Lord Salisbury, P. F. George Melville, R. F. Thalia, P. P. B. Wm. Skirving, P. F. Gordon Lewis, R. F. Mrs. Rowan, C. B. J. D. Hextall, R. F. Thalia, S. F. Guardsman, C. B. Mrs. Burgess, S. B. Robert Lord, S. B. Robert Houlgrave, R. F. Rosa Mundi, P. F. Agricola, C. B. J. S. Hedderley, P. P. B. Edith Anne, and C. B. Master Fred; 2nd, Messrs. THOMSON & Co., Nurserymen, Sparkhill, Birmingham, who had varieties differing from the foregoing, viz., P. P. Barline, S. F. Sportsman, R. F. Cristi-galli, S. B. C. H. Herbert, S. F. Flamingo, P. P. B. R. Bealey, P. F. James Douglas, and C. B. Jos. Crossland; Mr. MARTIN ROWAN, Clapham, was 3rd, several other prizes being awarded in this and the following classes.

With twelve blooms, Mr. JOE EDWARDS, Blackley, Manchester, was 1st, having C. B. J. S. Hedderly, S. B. Evan Edwards, new, brilliant in colour; P. F. Gordon Lewis, S. B. Othello, R. F. Mrs. Rowan, P. F. Harmony, S. F. Sportsman, C. B. Stanley, C. B. Master Fred, S. B. Robert Houlgrave, P. P. B. Squire Llewelyn, and S. B. Admiral Curzon. 2nd, Mr. A. R. BROWN, Handsworth, Birmingham. 3rd, Mr. J. BROCKLEHURST, Moston, Manchester.

With six blooms, Mr. A. GREENFIELD, Sutton, Surrey, was 1st, having C. B. J. D. Hextall, S. B. Robert Lord, S. F. Sportsman, C. B. J. Simonite, P. P. B. Phœbe, and P. F. Charles Henwood. Mr. T. E. HENWOOD, Reading, was 2nd, and Mr T. ANSTISS, Brill, 3rd.

PICOTEES

With twenty-four Picotees, in not fewer than twelve varieties, Mr. R. SYDENHAM was again 1st, having clean blooms of Ro. E. Lady Louisa, L. Red E. Lena, Red E. Ganymede, L. P. E. Mrs. Kingston, L. P. E. Thomas William, Red E. Mrs. Wilson, L. P. E. Jessie, Ro. E. Little Phil, L. Ro. E. Nellie, P. E. Muriel, Ro. E. Mrs. Payne, P. E. Esther, L. Red E. Mrs. Gorton, L. Ro. E. Favourite, P. E. Mrs. Openshaw, Ro. E. Mrs. Coldridge, L. P. E. Pride of Leyton, L. Red E. Lena, and P. E. Amy Robsart. 2nd, Mr. A. W. JONES, Handsworth, Birmingham, whose finest blooms were Red E. Mrs. Wilson, L. P. E. Esther, Ro. E. Little Phil, Ro E. Norman Carr, L. P. E. Mrs. Gorton, Red E. Brunette, Red. E. Isabella Lakin, and L. P. E. Somerhill. 3rd, Messrs. THOMSON & Co.

With twelve blooms Mr. J. EDWARDS took the first prize, having differing from the foregoing Polly Brazil, Ro. E. Edith Dombrain, Red E. John Smith, Ro. E. Mrs. Sharpe, and P. E. Muriel. 2nd, Mr. A. R. BROWN, Handsworth, Birmingham. 3rd, Mr. B. SIMONITE, Brill.

With six blooms, Mr. C. HARDCOA, Ash, Sandwich, was 1st; M. T. E. HENWOOD, 2nd; and Mr. T. ANSTISS, 3rd.

SELF CARNATIONS

Were bright and pleasing. The dark and light tints mixed together made the stand very attractive.

With twenty-four blooms, Mr. C. Blick, gr. to Mr. R. SMITH, Hayes Common, Kent, was 1st, having the following fine varieties of his own raising: Shades of crimson and red—Salisbury, Brown Bess, Beacon, Banner, Warrior, Roma, and Prince Charlie; rose, Regalia, Sappho, Mrs. Gascoigne, and Winifred; buff, Dalkeith and Cinnamon; yellow, Gilda, Britannia, and J. H. Stuart; blush, Tredegone, Her Grace, and Abney; white, Lady Ridley. 2nd, Mr. J. DOUGLAS, Bookham, Surrey, who had Zadok, a large purple maroon self, Mrs. Eric Hambro, Diana, a fine pink self, Duke of Orleans, Eudoxia, Miss E. Terry, and Seedlings. 3rd, Mr. J. WALKER, Thame.

With twelve Selfs, Mr. A. R. BROWN was placed 1st. Chief among his blooms were Eudoxia, Britannia, Mrs. Eric Hambro, Mrs. Fred, Hayes' Scarlet, Mephisto, Germania, Braw Lass, Lady Ridley, Topsy, and Sadek. Mr. J. EDWARDS was 2nd, he having Mancunian, a very fine maroon self, Rose Celestial, Uncle Tom, Ruby, President, &c. 3rd, Mr. R. SYDENHAM.

With six blooms Mr. T. E. HENWOOD was 1st, and Mr. C. PHILLIPS, Bracknell, 2nd.

FANCIES.

Very fine indeed were the fancy Carnations. Especially a stand of twenty-four blooms, mainly of his own raising, shown by Mr. M. SMITH, such as Roland, Perseus, Vashti, El Dorado, Naseby, Flamma, Lorna Doone, Nestor, Leopold, Regent, Czarina, President Carnot, Melba, Khedive, Oliver, Figaro, Dalgetty, Hildago, a new and very distinct variety, bright gold ground, flaked on the edges with crimson and maroon; Aureola, pale ground, heavily edged with reddish crimson; The Baron, in the way of Aureola, Bertie, and Evening Star. Mr. J. DOUGLAS was 2nd, having Romulus, Coral, Cardinal Wolsey, Mogul, Old Coin, and Seedlings. 3rd, M. J. WALKER, Thame.

With twelve fancies, Messrs. THOMSON & Co. first with good blooms of Mrs. A. Tate, Brocklin, Cato, Gold Crest, Mrs. W. Spencer, Almira, Janira, Monarch, The Dey, Stadtrath Bail, and Cardinal Wolsey. 2nd Mr. A. J. SANDERS, his collection being for the most part seedlings.

With six fancies Mr. J. EDWARDS was 1st, he having in good form Almira, Stadtrath Bail, Cardinal Wolsey, Romulus, Yellow-hammer, and Mrs. HART. Mr. A. R. Brown was 2nd and Mr. C. HARDEN, 3rd.

YELLOW GROUNDS

Were also a fine feature, despite the heat. The best twelve came from Mr. R. SYDENHAM, who had Ladas, Mrs. Gooden, Florrie Henwood, Agnes Chambers, Countess of Jersey, Mrs. R. Sydenham, and Mrs. Douglas, duplicates being permitted, Mr. M. R. SMITH was 2nd, having Voltaire, May Queen, Golden Eagle, Professor, His Excellency, Fortune, Mohican, Dervish, Hygeia, and Mrs. Tremayne. 3rd, Messrs. THOMSON & Co., who had an unnamed Seedling of high quality with six blooms. Mr. A. W. JONES was 1st, having capital flowers of Mrs. Gooden, Countess of Jersey, Mrs. R. Sydenham, Mrs Douglas, Ladas, and President Carnot. Mr. A. R. BROWN was 2nd, and Mr. H. W. Weguelin, Teignmouth, 3rd.

SINGLE BLOOMS

of Carnations were as usual very good, the leading S. Bs. were Robert Houlgrave, C. H. Herbert, and Robert Lord. C. Bs. J. S. Hedderly, Master Freds., and J. D. Hextall. P. P. Bs. William Skirving, this variety being so good as to take all the prizes. P. Fs. Gordon Lewis, Charles Henwood and James Douglas. S. Fs. Sportsman and Guardsman. R. Fs. Mrs. Gunn, Mrs. Rowan and Thalia. Selfs—white, Mrs. Lee a very fine northern variety: Pearl and Mrs. Muir; rose or pink, Ruby, Macclesfield and Duchess. Scarlet or Crimson mainly Sports; maroon or purple Mancunian. A very fine dark variety, Yellow Germania: buff, Mrs. Colby Sharpin, and Persimmon; fancies—mainly Seedlings unnamed.

PREMIER FLOWERS.

The Premier bizarre Carnation was C. B., J. S., Hedderley, from Mr. J. EDWARDS; the premier flakes. Sportsman, S. F., from Messrs. THOMSON & Co.; the premier Self, Germania the premier Fancy, Hidalgo, from Mr. MARTIN SMITH.

A great many blooms of Picotees competed in the classes for single specimens; the best heavy reds were Brunette, John Smith, and Isabella Lakin; light reds, Thomas William, Mrs. Gorton, and Lena; heavy purples, Mrs Kingston, Elizabeth, and Ann Lord; heavy rose, Little Phil, Campanini and Madeline; light rose, Rosie Sydenham, Mrs. Deal and Blanche. Hoar; heavy scarlet. Scarlet Queen, Mrs Sharpe, and Duchess of York; light scarlet, Mrs. Geggie, Favourite and Dolly Dimple; yellow grounds, Mrs. R. Sydenham, Alice Mills, and Ladas.

Four classes were set apart for bizarres and flakes, self and fancies, and also for white ground and yellow groun Picotees, shown with a single spray of foliage; in some classes twelve blooms were required, in others six blooms. In one or two cases among the light ground flowers, and also among the yellow grounds, some pretty good blooms were shown, but they were generally poor. What useful purpose these classes serve it is difficult to conceive. There was no lack of exhibitors and blooms; but the best of the blooms appeared to attract but little attention. The yellow grounds were the most successful from the artistic point of view.

PLANTS IN POTS.

There were two classes for groups of plants, one to fill a space of 50 the other of 30 ft. The 1st prize in the larger class went to Mr. M. SMITH, who staged specimens of superb culture carrying fine heads of bloom, the leading varieties. Silver Strand, Banner, The Abbot, Mrs. Gascoigne, Kingussie, Miss Maud Sullivan, Florida, Britannia, Hampden, and Moscow, all Selfs of various shades, and the following fine yellow grounds: Xerxes, May Queen, His Excellency, Orestes, Robin Hood, Laura, Beauty, The Dey, with Andromeda as a yellow Self. Mr. C. TURNER was 2nd also with some finely grown specimens, mostly yellow grounds, Virgo and Primrose League predominating, with such Selfs as Cedric, Little John, Duchess of York, Waterwitch, &c.

In the smaller class, Mr. J. DOUGLAS was 1st, having also fine plants of Mrs. Tate, Braw Lass, The Dey, Sadek, President Carnot, Mephisto, Bendigo, a deep purple Self, Mrs. Colby Sharpin, a fine apricot Self, &c. The 2nd prize went to E. CHARRINGTON, Esq., Mayfield, Chislehurst, who had well-grown and bloomed plants.

The best twelve specimens in pots of any class came also from Mr. M. SMITH, having Benares, Hall, Endymion, Mansfield, Gilda, Perseus, Xerxes, Cupid, Mrs. Tremayne, and others, finely grown and bloomed, though showing signs of the hot weather. Mr. C. TURNER came 2nd, the best being Primrose League, George Cruikshank, The Gift, Tom Sayers, and others. Mr. J. DOUGLAS was 3rd.

Specimen plants, with the exception of one of Paragon from Mr. M. R. SMITH, which took the 1st prize, were very poor, and no further award appeared to have been made.

TABLE DECORATIONS

made a good feature, and there were eight Dinner Tables arranged as for twelve persons, the flowers Carnations of any class, with appropriate foliage and glasses. Mr. C. Blick, Mr. SMITH'S gardener, took the 1st prize, having a central epergne and a tall trumpet glass on either side, with small specimen glasses about them. Self and yellow ground Carnations of good quality were arranged with feathery asparagus, leaves of Caladium Argyrites, and Smilax, all well proportioned, fresh, bright, and highly attractive. The 2nd prize table came from Miss JACKSON, Weston Hall, Upper Norwood, the fact of an award being made to it occasioned great surprise. Mr. F. W. SEALE, Nurseryman, Sevenoaks was a good 3rd, his table arranged much as Mr. BLICK'S.

Mr. J. DOUGLAS had the best Vase of Carnation blooms, a little formal in outline, as it looked more like a bouquet; still it was deservedly awarded the 1st prize. Mr. C. HARDEN was 2nd.

There were a good many sprays of Carnations in threes, the leading prizes going to those of large size and large blooms.

Mr. C. BLICK, was again 1st, having undoubtedly fine blooms of Carnations, but much too large for the purpose; Mr. F. W. SEALE, was 2nd.

There were plenty of buttonholes also, those formed of the soft white and yellow grounds being the most effective.

The MARTIN SMITH special prizes, for flowers of Carnations from the open border brought as usual a good competition. The best border variety of self-coloured Carnation was the bright scarlet Jim Smyth, a handsome bunch of which was shown by Mr. H. G. Smyth of Drury Lane, W.C. Mr. A. J. SANDERS came 2nd with a white self-unnamed; and Mr P. L. BROWNE, Hallenbury, with a large pale scarlet self.

With six bunches of self-coloured border Carnations, Mr. H. W. WEGUELIN, Teignmouth, was 1st; Mr AUBREY SPURLING, Blackheath, 2nd; and Mr. A. J. SANDERS, 3rd; but all unnamed.

With nine bunches Mr. WEGUELIN was again 1st; Mr. J. DOUGLAS, 2nd; and Mr. M. V. CHARRINGTON, 3rd.

Seedlings were shown in great numbers, and the following Certificates of Merit were awarded to new varieties from Mr. MARTIN SMITH. Miss Maud Sullivan rose self; Endymion also a rose self, very fine; Gilda, yellow self; Perseus, crimson self; Erin, white self of the finest quality; Hidalgo, fancy white, we regard as the sensational flower of the year, so beautiful is it; and the following fine yellow grounds—His Excellency Dragoman, having a heavy purple edge; Caress, Empress Eugénie, Hygeria, Cupid, Mr. Mackrae, and Councillor To Mr. H. GEORGE for Rosedale Crystal Rose; Mr. M. V. CHARRINGTON for Vernon, a bright scarlet self; to Mr. E. C. SHARPIN, for Alice Mills, a beautiful yellow ground described by us last week; and to Mr. T. E. HENWOOD for Lord Wantage, a large pale yellow self; and Mrs. Albert J. Palmer, a buff self.

MISCELLANEOUS EXHIBITS.

Mr. J. DOUGLAS had a table of blooms of the new varieties he is sending out, such as Exile, a deep rose self; Her Grace, delicate blush, becoming white; Sir John Falstaff, light crimson, large and full; Sweet Briar, pale scarlet, bloom of fine shape; Winifred, rich deep apricot, yet soft and pleasing; Bendigo, a bluish-purple self; Britannia, a deep yellow self; Cardinal Wolsey, a fine yellow ground; Lady Ridley, white self; Mrs. Eric Hambro, white; Miss Audrey Campbell, yellow; Miss Ellen Terry, white; The Hunter, rich apricot; and the following very fine yellow grounds:—El Dorado, Golden Eagle, Mr. Nigel, Voltaire, Xerxes; also the following novelties of the present year:—Black Prince, deep maroon purple self; Distinction, rosy purple, shaded with deep purple; Mogul Y. G., edged with deep red; Mrs. Patrick Campbell, primrose self; and Paradox, a bright scarlet self.

Mr. T. S. WARE, Hale Farm Nurseries, Tottenham, staged a large bank of attractive bunches of Carnations, and also of Pentstemons and other flowers, which filled a great space—a bold feature.

NURSERY NOTES.

EDENSIDE CARNATIONS.

IT is immediately after the exhibition days of the Rose are past, that one's attention is taken by the Carnations and Picotees. During July and August, but especially in the first-named month, in gardens where these excellent border plants are given liberal and intelligent treatment, there is an abundance of blooms assured for cutting purposes, of so choice a nature that they are unexcelled for such purposes. During this month Carnations may be seen by everyone with but little difficulty; but if anyone desire to see thousands upon thousands of blooms upon pot plants, all representative of the best new varieties (some of them so novel that at present, nor for some time to come, will they exist in gardens), let him "book to Bookham," on the London & South-Western Railway, and in Mr. Jas. Douglas's collection will he be satisfied. Three span-roofed houses, each 100 feet long, have capacity for the accommodation of a great number of Carnations—nor is much room lost; but, broadly speaking, from end to end in either house is a continuous display of the very best varieties up to date. It is well known that Mr. Douglas limits not his collection to varieties that he has raised himself, successful though he has been in this interesting branch of horticultural pursuit, but the finest varieties that have responded to the skill of that eminent Carnation specialist, Mr. Martin R. Smith, are also contained therein. Doubtless it is open also for the reception of varieties from any other source, should they possess equal merit.

The following varieties were noticed of self-coloured border Carnations to be sent out in the present year: Nabob (Smith), an orange-buff flower, fairly distinct, and of good form and size, habit apparently strong, and not shy to flower. Blush tinted varieties are Her Grace (Smith), and Seagull (Smith), the former a large well-formed flower passing to white, vigorous; and the latter, possessing a bloom of fine form, maintaining the blush, and of vigorous habit. In Sir Jno. Falstaff (Smith) are seen fine full flowers of pale crimson, likely to be appreciated, it being an exceptionally large flower, with a good calyx. Miss Maud Sullivan (Smith) is salmon-pink, the flowers appeared to be good and full; and the grass, though rather small, yet vigorous. The flowers of this variety were passing. A rich apricot-coloured flower is borne by Winifred, and being good in form, somewhat distinct, and the plant vigorous, it should be welcome, though there are others of nearly the same colour. Exile (Smith) and Sweet Briar (Smith), the former a rose self, and the latter pale scarlet, complete the list of the new ones from Mr. Smith, but flowers of these two we omitted to see on this occasion.

Of the newest varieties of yellow-ground Picotees are those we now proceed to mention: Mr. Nigel (Douglas), a large bloom for this section, heavily edged with deep crimson, and doubtless a handsome acquisition. Xerxes (Smith), a flower with bright clear ground and rose margined; also El Dorado (Smith), a very fine variety with large well-formed flowers, having rich yellow ground, prettily edged, and otherwise marked with bright rose. Voltaire (Smith), has very large flowers with bright ground, and margined and marked with rose. The remaining variety, Golden Eagle (Smith), as the name would appear to indicate, has a golden-yellow ground, the margins being of bright red; the flowers are of good size and form.

The undermentioned we noticed of the new varieties of selfs and fancies other than those raised by Mr. Smith:—Distinction (Douglas), a rosy-purple flower, thickly spotted with purple; Mrs. Patrick Campbell (Douglas), a pretty and good flower of primrose-yellow, the petals being broad, and maintaining their form uncommonly well; Black Prince (Douglas), a deep maroon-purple flower, having good, well-formed petals, a capital and distinct variety; Mogul (Douglas) has extra large flowers, possessing a yellow ground, and marked effectively with blood-red There are other new ones, viz., Garville Gem, described as a heliotrope-coloured flower; and Paradox (Spurling), described as a bright scarlet variety.

A new self-coloured border Carnation named Mrs. Douglas must not be omitted from these notes, as it will sure to be a very valued one, but it is not to be distributed until next year. The flowers are of very fine form, of a handsome cherry-red in colour, and it apparently possesses a vigorous and free-blooming habit.

This season's novelties we have now mentioned, excepting the excellent new forms of the Malmaison section which were not in flower. None of them are other than excellent, and each adds to the variety of its particular section. We say this without in the least implying that all of them are superior to varieties which already exist. It is well known that in yellow-ground Picotees, for instance, there is no variety for exhibition even now equal to Mrs. R. Sydenham, and the same may be true in other sections. However, as we have said, all of the new ones possess some merits to recommend them. It would be too great a charge upon the reader's time as well as upon our limited space, to attempt to describe other varieties that were noticed in fine condition, and which are now in the hands of most Carnation lovers, but we may just mention the names of King Arthur, Bendigo, George Cruikshank, The Hunter, Cowslip, and Mrs. Dranfield, for they are remembered with greater vividness. All the plants at Edenside are grown well, but no thinning is practised, and in the place of a few exhibition blooms is seen many more of an average size, and therefore of a character less likely to mislead one.

TUBEROUS BEGONIAS, &C., AT FOREST HILL.

The tuberous Begonias, in the improvement of which Messrs. John Laing & Sons have worked so cleverly and so successfully for many years, are now making their annual display in the large block of houses devoted to them at Forest Hill. In the two great divisions of these showy and useful flowers, viz., the singles and the doubles, it seems scarcely possible to surpass those now in bloom; but still the firm is making provision now to get better things among the 500,000 or so seedlings planted out in the open ground, and which will form a magnificent sight in the autumn. But not only on the improvement of their noted fine strain are they at work, for several totally new types are being carefully worked up, and in each class the representatives already in flower are not only beautiful in themselves, but foreshadow much greater things in the same direction. Of the most marked of the new types is the scented-flowered Begonia, well represented by the large and richly-coloured B. Maréchal Niel, whose flowers have a distinct Tea-Rose scent, which is more marked in the morning than in the evening in some of the class; and the fringed Begonias, which have flowers resembling the best large single strain, but with beautifully and closely-fringed and crimped edges to the floral segments. Some of these are white, with a broad rose-coloured margin; some scarlet, others yellow

or white, and all are striking by reason of their finely-formed and novel flowers.

Other new classes which are being worked up are the crested Begonias, in which each petal has a raised band down the centre, terminating in a fringed tassel, the arrangement on the four-petalled flowers taking the form of a cross. The basket Begonias, which form such lovely objects suspended in greenhouse, conservatory, or portico; the bedding Begonias, which so many gardeners find better than the bedding Pelargonium; and these not only exhibit all the range of colour known in Begonias, but in stature are adapted either for whole beds or for edging, some of the varieties being extremely dwarf, brilliant, and floriferous. The new set of 1896, it is claimed, is the finest set of Begonias ever sent out, and a brave array they make. Of the doubles, J. T. Bennett-Poë is a brilliant crimson variety of the Camellia-flowered class, and beautifully fringed; Miss Russell is also a Camellia-flowered kind of a bright orange-scarlet; Snowdrift, the finest of whites, as the Hon. Mrs. Mulholland is of the primrose-coloured; Lady Clifford of Chudleigh, is a large chrome-yellow; Lady F. Fitzroy, light apricot; Mrs. F. W. Soames, a noble salmon-scarlet; Blush Queen, a charming light variety; and Marchioness of Downshire, rose-pink. Of the older, double-flowered kinds the best seemed to be Countess of Craven, a really fine white; Earl of Warwick, dark scarlet; Duke of Fife, salmon-rose; Countess of Warwick, light scarlet; Empress Frederick, rich rose; Invincible, brilliant crimson; Mrs. Hudson, cerise; and The Premier, crimson-scarlet.

Of the doubles for bedding, Duke of York, Stanstead Gem, Laing's Golden Ball, Lafayette, Marquis of Stafford, and Madame de Tourtell are excellent, and give the requisite colours.

The new singles of 1896 are Earl of Essex, a magnificent orange-scarlet; Viscount Grimston, crimson; Sir John Dorington, pink; Lady Ampthill, salmon; Lady Foley, light scarlet; Lady Wilkins, golden-bronze; Lord Aldenham, crimson-scarlet; and Marjorie Hoffman, a very fine rose. Of the older kinds were noted as very fine Countess Cowper, white; Distinction, crimson; Sir Chas. Pigott, orange-scarlet; Mrs. Geo. Reynolds, salmon-rose; Mrs. Arnold, yellow; Grand Duchess of Hesse, pure white; and Duke of Edinburgh, dark crimson. In other houses all sections of Begonias are represented, there being a very fine stock of the Rex, or coloured-leaf class; of the shrubby, both winter and summer-flowering, and Begonias of all sorts.

In the other plant-houses is a very good selection of Orchids, both intermediate and cool-house kinds, among those in bloom in the cool-house being the elegant Odontoglossum elegantulum, and another hybrid of some affinity to O. Coradinei, but with traces of O. triumphans; Lycaste Deppei, Masdevallia Chimæra, and other Masdevallias, Odontoglossum crispum, O. Pescatorei, Epidendrum vitellinum, &c. In the warmer houses with some Cattleyas were Chysis aurea, Dendrobium suavissimum, D. Dalhousieanum, D. Aphrodite, and other Dendrobes; Aërides odoratum majus, Stanhopea oculata, Cypripedium superbiens, C. Curtisi, &c.

In other houses was remarked a magnificent display of a superb strain of Gloxinias, two of the most distinct varieties being Mr. Edridge, a rich violet-plum colour, and Mrs. Edridge, white, with a dark violet-purple band round the segments. In the next house is a good show of Laing's strain of Streptocarpus, which each year seems to approach nearer to the Gloxinia, both in size and in variety of colour; and in other warm houses are the almost innumerable varieties of Caladium, with their varied and charming foliage, as showy as any flowers for which the firm is noted. In the greenhouses is a fine show of scarlet Kalosanthes, white and yellow Marguerites, and other flowers of the season, and the decorative houses are well stocked with Palms of all sizes, Ferns, &c.

Outdoors, the space is shared between the planted-out tuberous Begonias and the hardy herbaceous plants of the showy kinds, such as Phlox, Pentstemons, Antirrhinums, Carnations, Delphiniums, &c., all of which are brilliant with flowers representing the best selections in each class.

MARKETS.

COVENT GARDEN, JULY 23.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS. AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Adiantum, per doz.	4 0	12 0	Foliage plants, doz.	12 0	36 0
Aspidistra, per doz.	12 0	30 0	Heliotrope, per doz.	4 0	6 0
— specimen, each	5 0	15 0	Hydrangea, various per doz.	6 0	18 0
Calceolaria, p. doz.	4 0	6 0	Ivy Geraniums per dozen	4 0	6 0
Campanula, per doz.	6 0	12 0	Lilium Harrisii, pr. dozen pots ...	9 0	18 0
Cock's-combs, doz.	4 0	6 0	Lobelias, per doz....	3 6	4 0
Coleus, per doz. ...	2 0	4 0	Marguerites, p. doz.	6 0	10 0
Crassula, each .	1 6	3 0	Mignonette, p. doz.	4 0	6 0
Dracæna, each ...	1 0	7 6	Palms, various, ea.	2 0	10 0
— various, p. doz.	12 0	24 0	— specimens, ea.	10 6	84 0
Evergreen Shrubs, in variety, doz....	6 0	24 0	Pelargoniums, doz.	6 0	10 0
Ferns, small, doz....	1 0	2 0	— Scarlets, p. doz.	3 0	6 0
Ferns, various, doz.	5 0	12 0			
Ficus elastica, each	1 0	7 6			

Bedding Plants in variety.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arums, p. 12 blooms	2 0	4 0	Mignonette, p. doz. bunches	2 0	4 0
Bouvardias, per bn.	0 6	0 9	Pansies, doz. bun.	1 0	2 0
Carnations, 12 bun.	1 0	6 0	Pelargoniums, scarlet, per 12 bun.	2 0	4 0
— 12 blooms ...	0 6	2 0	— per 12 sprays ..	4 0	6 0
Cornflowers, p. doz. bunches ...	1 0	1 6	Poppy, doz. bun.	0 6	1 0
Eucharis, per dozen	2 0	4 0	Pyrethrums, 12 bn.	2 0	4 0
Forget-me-nots, p. doz. bunches ...	1 6	3 0	Roses, Tea, per doz.	0 9	1 6
Gardenias, per doz.	2 0	4 0	— coloured, doz	0 9	1 6
Gladiolus, doz. bun.	6 0	9 0	— yellow (Marechal), per doz.	2 0	4 0
Lilium Harrisii, per bunch	2 0	4 0	— red, per dozen	0 6	1 0
Maidenhair Fern, per 12 bunches .	4 0	8 0	— red, doz. bun.	4 0	6 0
Marguerites, per 12 bunches	1 0	2 0	— Gloire, doz. bn.	4 0	6 0
Orchids:—			— Safrano, p. doz.	1 0	2 0
Cattleya, 12 blms.	6 0	12 0	— Moss, doz. bns	0 6	1 0
Odontoglossum crispum, 12 bn.	2 0	6 0	Stephanotis, 12 sps.	1 6	2 0
			Stocks, p. doz. bun	3 0	6 0
			Sweet Peas, 12 bun.	1 6	3 0
			Tuberoses, 12 blms.	0 2	0 4

ORCHID-BLOOM in variety.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples, Suffields, per sieve ...	6 0	7 0	Grapes, Gros Maroc, per lb	1 0	2 6
— Quarrendens, ½ sieve	4 0		— Gros Colmar, per lb.	2 0	2 6
Apricots, per doz.	1 0	2 0	— Muscats, English, per lb. ...	2 6	3 0
Cherries, Napoleons, ½-sieve	12 0	14 0	— Muscat, Channel Islands, per lb. ..	1 6	2 0
Turks, do ..	9 0	10 0	Melons, each ...	2 0	2 6
— Flemish reds, do.	4 0	5 0	Nectarines, 1st size per doz. ..	12 0	
Currants, Black, ½-sieve	7 0	8 0	— 2nd do., p. doz.	3 0	6 0
— Red, ½-sieve ...	4 0	4 6	Peaches, 1st size, per doz. ..	10 0	12 0
Figs, per doz. ..	2 6	3 0	— 2nd do. doz.	3 0	4 0
Grapes, Alicante, 1st quality, per lb.	1 6	2 0	— 3rd do., doz.	1 6	2 0
— Hamburgh, 1st quality, per lb.	1 6	2 6	Pine-apples, St. Michael, each ..	7 0	10 0
— Alicante, 2nd quality, per lb.	1 0	1 3	Plums, Early Rivers, per ½ sieve ...	5 6	6 0
— Hamburgh, 2nd quality, per lb.	1 0	1 3			

VEGETABLES.—AVERAGE WHOLESALE PRICES

	s. d.	s. d.		s. d.	s. d.
Beans, Scarlet Runner, p. ½-sieve	2 6		Cucumbers, per dz.	2 0	3 0
— French, do. ...	2 6		Peas, per sieve ...	1 0	4 6
Marrows, Vegetable, per 5 doz. tally ..	7 0	10 0	Tomatos, home-grown, smooth, per doz. lb. ..	3 6	4 0
Mushrooms, per lb.	1 0	1 3	— ordinary kinds, per doz. lb....	2 6	3 0
— (Outdoor), per half-sieve ...	4 0	6 0			

SEEDS.

LONDON: *July 22* — Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., describe to-day's market as poorly attended. There is, for the moment, scarcely any sowing demand, whilst all speculation is quite dead. Home-grown Trifolium, with diminished offerings, is very firm. English Blue Peas, of this year's growth, are now showing. Holders of Trefoil exhibit extreme firmness. Canary seed has risen 2*s.* from the lowest point recently touched. White Mustard keeps steady. Buckwheat is dearer. Linseed slow.

FRUIT AND VEGETABLES.

BOROUGH: *July 21* —Quotations:—Cabbages, 1*s.* 6*d.* to 3*s.* per tally; Spinach, 1*s.* 9*d.* to 2*s.* 3*d.* per bushel; Cauliflowers, 1*s.* 6*d.* to 2*s.* per dozen; Peas, 1*s.* 9*d.* to 3*s.* per bushel, and 3*s.* 6*d.* to 4*s.* per bag. Onions, English 6*s.* to 7*s.* per tally; Egyptian do., 3*s.* to 3*s.* 6*d.* per cwt; Portuguese do., 5*s.* to 6*s.* per case; Carrots and Turnips, 2*s.* 9*d.* to 3*s.* per dozen bundles; Marrows, 1*s.* 6*d.* to 2*s.* per dozen; English Cucumbers, 2*s.* to 3*s.* do.; Dutch do., 1*s.* 6*d.* to 2*s.* do.; Lettuces, 2*d.* to 9*d.* per score; Jersey Grapes, 1*s.* to 1*s.* 6*d.* per lb.; Belgian do., 9*d.* to 1*s.* 3*d.* do.; Tomatos, English, 4*d.* to 6*d.* per lb.; Jersey do., 3½*d.* to 4*d.* do.; Strawberries, 1*s.* 9*d.* to 2*s.* 6*d.* per peck. Currants, Red, 4*s.* to 5*s.* 6*d.*; do., Black, 5*s.* 6*d.* to 6*s.*; Gooseberries, 1*s.* 6*d.* to 3*s.*; English Cherries, 4*s.* 9*d.* to 6*s.* 9*d.* per half sieve; foreign do., 1*s.* 6*d.* to 2*s.* 6*d.* per basket; Raspberries, 18*s.* to 20*s.* per cwt.; St. Michael's Pine-apples, 2*s.* to 3*s.* each; Mushrooms, 8*d.* to 9*d.* per lb.; Peaches and Apricots, 8*d.* per box.

SPITALFIELDS: *July 21.*—Quotations: Marrows, 3*s.* 6*d.* to 5*s.* per tally; Peas, 2*s.* 6*d.* to 3*s.* per bushel; Scarlet Beans, 3*s.* 6*d.* to 4*s.* per bushel; Broad do., 1*s.* 9*d.* to 2*s.* per bag; Carrots, 2*s.* to 2*s.* 6*d.* per dozen bunches; Turnips, 2*s.* 6*d.* to 3*s.* do.; Mint, 1*s.* 6*d.* to 2*s.* do.; Parsley, 1*s.* 6*d.* to 2*s.* do.; Cabbage, 4*s.* to 5*s.* per tally; Onions, 2*s.* to 3*s.* 6*d.* per dozen bunches; Egyptian do., 2*s.* to 3*s.* per bag; Cucumbers, 2*s.* 6*d.* to 3*s.* per dozen; Gooseberries, 2*s.* 6*d.* to 3*s.* per half-sieve; Currants, red, 5*s.* to 5*s.* 6*d.* do.; do., black, 7*s.* to 8*s.* do.; Raspberries, 1*s.* 3*d.* to 1*s.* 6*d.* per punnet.

STRATFORD: *July 22.* — Quotations:—Cabbages, 2*s.* to 3*s.* per tally; Turnips, 2*s.* to 2*s.* 6*d.* per dozen bunches; Mangolds, 22*s.* 6*d.* to 25*s.* per ton; Onions, Egyptian, 3*s.* 6*d.* to 4*s.* 6*d.* per bag; Apples, English, 3*s.* 6*d.* to 7*s.* per bushel; Beetroot, 6*d.* to 8*d.* per dozen; Parsley, 1*s.* 6*d.* to 2*s.* per doz. bun.; Spring Onions, 2*s.* to 2*s.* 6*d.* do.; Salad, 1*s.* 6*d.* to 2*s.* do; frame Cucumbers, 2*s.* to 2*s.* 6*d.* per dozen; Broad Beans, 1*s.* to 1*s.* 6*d* per bag; do., Scarlet, 4*s.* 6*d.* to 5*s.* per bushel; Green Peas, 4*s.* to 6*s.* per bag; Marrows, 3*s.* 6*d.* to 5*s.* per tally; Gooseberries, 2*s.* 6*d.* to 3*s.* per half-sieve; Raspberries, 16*s.* to 18*s.* per cwt; do., 2*s.* 6*d.* to 2*s.* 9*d.* per dozen punnets; Currants, black, 6*s.* to 6*s.* 6*d.* per half-sieve; do., red, 4*s.* to 6*s.* 6*d.* do.; Cherries, 4*s.* to 10*s.* do.; Tomatos, Guernsey, 2*s.* 6*d.* to 3*s.* per dozen bales; do., English, 2*s.* 6*d.* to 4*s.* per peck; Pears, English, 3*s.* 6*d.* to 5*s.* per sieve; do., 2*s.* to 2*s.* 6*d.* per half-sieve.

FARRINGDON: *July 23.*—Quotations:—Cabbage, 1*s.* per tally; Scarlet Runners, 1*s.* 6*d.* per bushel; Peas, 2*s.* 6*d.* per do.; Beetroots, 4*s* per dozen bunches; Carrots, 3*s.* do.; Turnips, 4*s.* do.; Lettuce, 2*s.* per score; Marrows, 1*s.* 6*d.* per dozen; Parsley and Mint, 3*s.* per dozen bunches; Plums, French, 50*s.* per score (boxes); English, do. 7*s.* per half-bushel; Gooseberries, 3*s.* to 3*s.* 6*d.* do.; Currants, Black, 8*s.* do.; Red, 6*s.* do.; Raspberries, 1*s.* 6*d.* per case; Tomatos, English, 3*s.* 6*d.* and 4*s.* per dozen pounds; Cucumber, 2*s.* 6*d.* per dozen.

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Accumulated. Above (+) or below (−) the Mean for the week ending July 18.	Above 42° for the Week.	Below 42° for the Week.	Above 42°, difference from Mean since December 29, 1895.	Below 42°, difference from Mean since December 29, 1895.	Rainfall. More (+) or less (−) than Mean for the Week.	No. of Rainy Days since Dec. 29, 1895.	Total Fall since Jan. 1, 1896.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Dec. 29, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	2 +	106	0	+ 259	− 318	2 −	134	28·9	16	24
1	2 +	118	0	+ 273	− 241	4 −	104	11·7	36	32
2	1 +	120	0	+ 286	− 222	5 −	83	8·1	30	32
3	0 aver	131	0	+ 237	− 229	2 −	87	9·7	43	37
4	1 +	132	0	+ 290	− 247	6 −	82	9·3	39	34
5	2 +	146	0	+ 296	− 240	3 −	77	8·4	52	38
6	1 +	112	0	+ 294	− 228	6	111	21·2	32	33
7	1 +	125	0	+ 363	− 258	7 −	97	14·8	47	35
8	2 +	130	0	+ 386	− 206	7 −	80	10·5	69	40
9	1 +	113	0	+ 317	− 233	2 −	114	18·5	22	30
10	1 +	125	0	+ 380	− 210	5 −	95	15·3	33	34
*	2 +	143	0	+ 461	− 109	5 −	88	7·8	68	47

The districts indicated by number in the first column are the following:—

Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending July 18, is furnished from the Meteorological Office :—

"The *weather* during this period was fine and dry over the Kingdom as a whole, but was somewhat unsettled, with occasional rain on our extreme north and north west coast, while over 'England, E. and S.E.,' a temporary change to cool rainy weather occurred suddenly on Wednesday or Thursday, accompanied in many places by thunder and lightning.

"The *temperature* just equalled the mean in 'England, E.,' but was one or two degrees above it elsewhere. The highest of the maxima were recorded during the earlier days of the week, where they ranged from 88° in 'England, E.,' 87° in 'England, S.,' and 85° in the 'Midland Counties,' to 74° in 'Scotland, N.,' and 72° in 'Scotland, W.' The maxima registered on Thursday over the south-eastern counties were very low for the season, the readings at Cambridge and in London being about 30 lower than those of Tuesday. The lowest of the minima occurred on rather irregular dates, but principally during the latter half of the period; they ranged from 40° in 'Scotland, E. and England, E.,' and 41° in 'Ireland, N.,' to 45° in 'Scotland, N. and England, S.,' and to 52° in the 'Channel Islands.'

"The *rainfall* was considerably less than the mean in all districts. Over the western parts of England rain was entirely absent, and in the 'Midland Counties, England, N.E. and the Channel Islands,' the fall was extremely slight.

"The *bright sunshine* exceeded the mean in most districts, but was deficient in 'Scotland N. and W.,' as well as in 'Ireland, N. and England, N.E.' The percentage of the possible duration ranged from 69 in 'England, S.W.,' and 68 in the 'Channel Islands' and from 52 in 'England, S.,' to 30 in 'England, N.E.,' 22 in 'Ireland N.,' and to 16 in Scotland, N."

Jerusalem Artichokes. The feeding qualities of the Jerusalem Artichoke have been discovered by a correspondent of the *Practical Farmer* (Cape of Good Hope). He commenced feeding his hogs with them, and noticed in a short time that they were gaining rapidly in growth and flesh, and he gave them no corn till in the finishing process, when he afforded a little. He found that he had put the swine on the market at less cost than ever before, and that there was money in them when fed on Artichokes. The tops of the plant are useful as fodder, cattle eating them readily. Some growers claim to have raised 1000 bushels of tubers per acre, but 600 bushels is considered a good crop; and an acre will keep from twenty to thirty head of swine through the winter months. The Artichoke is a plant which the de pressed farmer and landowner in this country might also find "money in."

ENQUIRY.

"He that questioneth much shall learn much."—Bacon.

The Litchee (p. 742, last volume).—Dr. Franceschi, Santa Barbara, California, writes to say that plants of Nephelium Litchee can be supplied in quantities by him.

Answers to Correspondents.

Books: *W. B. M.* The best work is Mr. F. W Burbidge's, *The Propagation and Improvement of Plants*, published by W. Blackwood & Sons, London and Edinburgh. It contains many details concerning hybridisation.

Carnations: *Young Grower, and E. F. C. T.*—We do not undertake to name florists' flowers. Send them to some grower.

Croton Sport: *L. H. F.* The leaves you send are very pretty, and if they be the result of a sport, the variety is well worth perpetuating.

Cucumbers grown in a Green-house: *E. Lanc.* The treatment afforded would be right, if only the plants had bottom heat slightly in advance of the average top heat. If you had a brick-pit partly built in the soil of 4 feet in depth, and you could fill this with tree-leaves two-thirds, and one-third stable-litter, you would have the means of growing Cucumbers or Melons from April to September. At other times, a stage might be put over the pit, and filled with green-house plants in pots. One Cucumber plant will carry one dozen fruits in various stages of development, and perfect most of them; and it will continue to do this for several weeks, afterwards fewer should be left, and the plant reinvigorated with rich surface dressing of stable-dung and loam laid on about 1 inch thick. Good varieties of Cucumber are Lockie's Perfection, Market Favourite, Cardiff Castle, and Sion House.

Diseased Tomato Fruits: *A Grower.* The fruits are affected with Peronospora Lycopersici, often mentioned in these columns in recent years. There is no known cure. Cut off and burn all fruits showing any signs of the disease. It may be kept at bay by the use of the Bordeaux Mixture, applied at intervals of two or three weeks; but with ripening fruits that is not possible. A dryish treatment of the plants is preferable to one that is the reverse, whether the disease shows itself or not.

Gardeners' Societies: *L. Drage.* The Secretary of the Gardeners' Royal Benevolent Institution is Mr. G. J. Ingram, 50, Parliament Street, London, S.W.; United Horticultural Benefit and Provident, Secretary, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

Insects Injuring Carrots: *C. N.* The insects sent are the caterpillars of one of the "cut-worm" moths (Agrotidæ), and as far as I can see, without having specimens at hand for comparison, those of the Turnip-moth, Agrotis segetum, which are well-known destroyers of root crops. I think it hardly necessary in the case of so well known an insect to go at length into measures which have been adopted against it; but, hand-picking (by turning over the earth round the roots by day, or at night with a lantern) has been successfully tried; and in America the laying between the rows of baits consisting of Lettuces or roots well sprinkled with Paris Green. *Walter F. H. Blandford.*

Lachenalias: *Thos. T.* We can find no trace of fungi, except the common saprophytic mould which only flourishes on dead matter. There is no clue to the cause of failure which we can detect in the bulbs. *M. C. C.*

Lawn-Tennis Court: *J. C.* The total length of the court should be 78 feet, divided into two courts of each 21 feet in length, and two of each 18 feet in length, on opposite sides of the central line where the net will be stretched across. The width of the court is 27 feet, and together with the outer belts of 4½ feet each, make a total breadth of 36 feet. The net at the sides should measure 3½ feet, and in the middle 3 feet in height. Service-line is 21 feet distant from net.

Maidenhair Fern to Preserve: *W. & Sons.* Dry in the ordinary manner between sheets of Herbarium paper under pressure, changing the sheets of paper twice a week till the sap in the frond is absorbed, then secure with narrow strips of thin paper laid across the stipes and branchlet of the frond. To give to Fern fronds that are to be used in vases, &c., the desirable softness and natural gracefulness, they should, after drying, be laid in a vessel of sufficient dimensions to accommodate them when laid straight and flat, containing a mixture of equal parts, spirit and glycerine. Here the fronds should remain immersed till they are saturated, and then hung in a shady place to become dry. The spirit evaporates whilst the glycerine remains in the substance of the frond. The glycerine does not prevent the colouring of the fronds if that is desired.

Names of Fruits: *J. H. J.* Peach: The fruit was pounded nearly to pulp, but judging from general appearances it is probably Early Rivers, one of the finest Peaches known.

Names of Plants: *Correspondents not answered in this issue are requested to be so good as to consult the following number.—C. L. S.* Lilium sulphureum Baker, *Botanical Magazine*, t. 7257. Only known in Upper Burma. *J. G. B.—John Elliot, Jun.* Inula salicifolia, habitat Russia.—*W. S.* Diospyros Lotus, Linn.—*R. J. H.* Bad specimens, all withered; we guess them to be—1, Nasturtium palustre; 2, Polygonum Convolvulus; 3, Scutellaria galericulata; 4, Nasturtium silvestre; 5, Sium angustifolium; 6, Barbarea vulgaris; 7, Pastinaca sativa; 8, withered beyond recognition; 9, Erigeron canadensis.—*E. S. J. T.* A pretty variety of Oncidium Lanceanum; rather small, but bright in colour.—*R. W. D.* It is impossible to give the names accurately without seeing flowers, but those specimens sent may be—1, Brassia species; 2, Oncidium sphacelatum; 3, Dendrobium Pierardi; 4, Epidendrum fragrans; 5, with flower is Trichopilia tortilis.—*W. T. T., Eastbourne.* All withered, and hardly recognisable. 1, Caucalis Anthriscus; 2, Sison amomum; 3, Silaus pratensis; 4, Chærophyllum temulum.—*W. D.* 1, Cryptomeria japonica var. spiralis; 2, Cupressus (Retinospora) obtusa var. lycopodioides; 3, Picea excelsa clanbrassiliana; 4, Libocedrus chilensis; 5, Pinus cembra nana; 6, Abies brachyphylla, probably.—*No name.* Carnations, fair; and Catalpa bignonioides.—*Old Kewite, Belgium.* Brassavola cordata.—*E. N.*—Polygonum cuspidatum.—*N. C.* Specimens very bad (except Echinops), and withered when received; we do our best. 1 and 2, Ferns; 3, Thalictrum sp.; 4, a Geranium; 5, Echinops sphærocephalus; 6, Erythrea Centaurium.—*G. B.* 1, Catalpa bignonioides; 2, Cornus mas variegata; 3, Abies nobilis; 4, specimen insufficient; 5, Prunus Pissardi; 6, Acer japonicum.—*F. W. S.* Please address such questions to the editor, not to the publisher. 1, Juglans nigra; 2, Ailanthus glandulosa; 3, Abies nobilis, good specimens, carefully packed, thank you.—*C. G.* 1, Nepeta cataria; 2, Lathyrus aphaca; 3, Medicago lupulina; 4, Bupleurum rotundifolium.

National Dahlia Society: *Enquirer.* The Secretary is Mr. T. W. Girdlestone, M.A., Sunningdale, Berks. The date of the Dahlia show will be given in our list of appointments for September.

Peach Split at the Stone: *J. W.* This arises probably from imperfect fertilisation.

Prunus Pissardi: *T. J.* The proper name for this is P. cerasifera var. atropurpurea. It is a purple-leaved form of the Myrobalan Plum. It might be used for culinary purposes or for dessert, but the flavour is only of moderate quality. It produces fruit commonly, and now that the plants are getting older, may be expected to do so freely.

Salsafy: *A. B. C.* In a collection of nine distinct kinds of vegetables, supposing that ten points represented the highest number, first-class Salsafy would take fewer than Intermediate Carrots, say as three are to five, if the latter were equally good.

Seedling Carnations: *Mrs. M. C.* Most of the flowers you send us are good ones, especially those numbered one, two, and three. Evidently the seed supplied by the National Carnation Society has been selected with care; it is only one in a very large number of seedlings, however, that can be expected to be better than all existing varieties.

Souvenir de la Malmaison Carnation: *F. B.B* If your plants are one, two, or three years old, you may rejuvenate them by layering the shoots around the mother plants, leaving them in *situ* when furnished with roots; or you may cut the shoots hard back, and thus get them to make new shoots close at home.

Strawberries: *F. C.* Myatt's Seedling is synonymous with Filbert Pine, an excellent variety and very prolific, taking the place of British Queen where that one does not succeed. It is late. Myatt's Prolific is the same as Wonderful, a tender, sweet, yet briskly-flavoured variety, which forces well. Aberdeen Favourite (seedling?) is the same as Rosebery, a large-fruited, conical-shaped berry, having a dark-red skin, almost black, when the fruit is ripe, and deeply-imbedded seeds. We do not know the name of the raiser.

Wasp-destroying Paper: *G. W. E.* Enquire of the large "horticultural sundriesmen."

Communications Received.—H. F. Dr. Zacharias, Hamburgh.—T. P. R.—U. P. Hedrick, Oregon. E. A., Geneva.—G. P.—W. E. G.—M. B., Middelburg.—H. J. W., Florida. D. T. F. C. N. H. E. B. L. L., Brussels. H. Y. T. E. C.—J. Lain; & Sons. J. Irvine.—M. Linden F. D. N.—E. L.—R. S.—F. W. B.—W. G.—C. B.—W. P.—H. W.—J. McI. G. W. J. D. R.—W. & Co. F. Fenton. Otto Forster.—D. S.—G. S. J.—H. C. F.—R. Dunlop.—W. Kelly (shortly).—E. Thomas.—H. Becker, Jersey.

Photographs, Specimens, &c., Received with Thanks.—Dr. Franceschi, Santa Barbara.—W. M.

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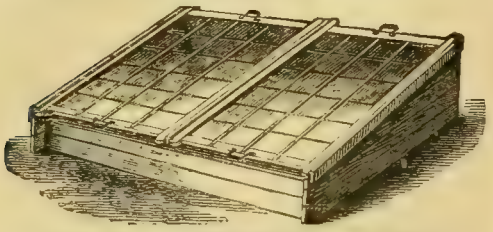
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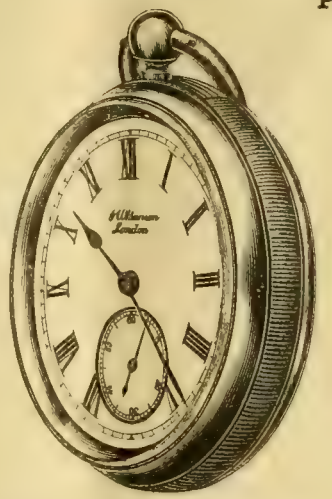
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INSURED AGAINST BY THE

RAILWAY PASSENGERS' ASSURANCE CO.,

No Extra Charge for Ladies.

No Medical Examination.

Established 1849. Claims paid, £3,650,000.

64, CORNHILL, LONDON.

A. VIAN, *Secretary.*

The Lists will open on WEDNESDAY, the 22nd of July, 1896, and close on or before MONDAY, the 27th, for Town and Country.

INDUSTRIAL ISSUE of £75,000 5½% Preference Shares.

The REALISABLE ASSETS in Guernsey alone (apart from Goodwill), as certified by Messrs. Furber, Price & Furber, and Messrs. Protheroe & Morris, are upwards of £68,000. No Debenture Issue. Ample Working Capital provided and £10,000 additional for extending the operations of the Company in Reserve. Annual Net Profits £11,120, see Report by A. A. Yeatman, Esq., Chartered Accountant.

CHANNEL ISLANDS PRODUCE COMPANY, LIMITED.

(Incorporated under the Companies Acts, 1862 to 1890.)

CAPITAL £150,000, divided into 15,000 Five-and-a-Half per Cent. Cumulative Preference Shares of £5 each.

The Preference Shares will be the First Capital Charge upon the Undertaking, and no Debentures or Debenture Stock can be created without the sanction of a majority of the PREFERENCE Shareholders present at a Meeting specially convened. And

75,000 Ordinary Shares of £1 each, of which the 15,000 Preference Shares are offered for Subscription. Payable 5s. on Application, 15s. on Allotment, and the Balance in calls, not exceeding **£1**, at intervals of not less than One Month. The whole amount may be paid on Allotment, the Shares ranking for Dividend from the date of payment.

TRADE APPLICATIONS WILL RECEIVE PRIORITY OF ALLOTMENT.

DIRECTORS.

ARTHUR KNOPWOOD, Esq. (*Chairman*), 443, Strand, London, W.C.
JOHN POAT, Esq., Guernsey.
W. UNWIN, Esq., Covent Garden, London, W.C.
THOMAS VERNON, Esq., Guernsey.
The Directors' qualification is £500 in Ordinary Shares.

BANKERS.

LONDON AND WESTMINSTER BANK, Lothbury, E.C., and Branches.
COMMERCIAL BANK OF GUERNSEY.

SOLICITORS.

LONDON—HENRY P. SPOTTISWOODE, Esq., 32, Craven Street, W.C.
GUERNSEY—CECIL CAREY, Esq.

STOCK-BROKERS.

LONDON—A. HARDIE JACKSON, Esq., 1, Copthall Court, E.C., and Stock Exchange.
MANCHESTER—MESSRS. PIXTON & COPPOCK, Stock Exchange.
LIVERPOOL—FRANK BIGLAND, Esq., 28, Exchange Street East.
BIRMINGHAM—DAVID WHITEHEAD, Esq., Unity Buildings, 14, Temple Street.

FRUIT-BROKERS.

GLASGOW—MESSRS. SIMONS, JACOBS & CO. (*Messrs. GARCIA, JACOBS & CO., Covent Garden*).
MANCHESTER—MESSRS. ELIAS FARRAND & CO., Smithfield Market.

AUDITOR.—A. A. YEATMAN, Esq., 2, Gresham Buildings, E.C., Chartered Accountant.

SECRETARY AND REGISTERED OFFICES (pro tem.).
MR. ARTHUR F. HOOPER, 25, Budge Row, E.C.

PROSPECTUS.

THIS Company has been formed to acquire, amalgamate, and develop the trade of certain well-known Fruit, Flower, and Vegetable producing properties in Guernsey. To acquire and carry on in connection therewith the business of Salesmen, and likewise to provide facilities for the collection of produce in the Channel Islands, act as Wholesale Coal and Manure Merchants, and generally to promote and organise the welfare of this vast yet growing industry. For the purpose of the Company a careful selection of some of the finest properties in Guernsey has been made, and the following well-known Vineries and Nurseries are to be acquired :—

The Duveaux Vineries	The Devonian Vineries	The Old Mill Vineries
,, Hativet ,,	,, Balmoral ,,	,, Belgrave ,,
,, Old ,,	,, Les Nicolles ,,	,, New ,,
	,, Fountain Lodge ,,	

These Properties together cover an area of about 36 acres, covered with glass to the extent of 700,192 superficial feet. Upon the basis of last year's crop it is estimated that they should yield about 600 tons of Tomatos and 40 tons of Grapes, in addition to many thousands of baskets and boxes of French Beans, Vegetables, Flowers, Fruit, &c.

The expense of working these properties when amalgamated, it is anticipated, will show a great saving.

The Company, by undertaking the systematic collection of produce, will supply a much needed want in the Island, and will also be able to divert the sale of a large quantity of produce into its own hands, and thus open up a very profitable source of income.

With this object in view, the Directors have arranged to acquire the old-established connexion carried on by Mr. Unwin in Covent Garden, and have arranged with him to join the Board and to conduct this part of the business.

There are other important economies to be effected, among which may be noted the cost of freight and material, such as coal and manures.

Hitherto every grower has shipped his own fruit in comparatively small quantities, and consequently is compelled not only to add cartage to the expense of growing, but additional shipping and railway charges which often, under these conditions, absorb a large proportion of the profit. The Company by undertaking the collection, avoid this to small growers, and at the same time influence the consignment into their own hands. This will not only give them a considerable profit, but will keep them in closer touch with the market and enable them to some extent to regulate the supply in accordance with the demand. The importance of this can be appreciated when it is considered that in the item of Tomatos alone, the variation in price is from 2*s.* 6*d.* to 2¾*d.* a lb.

The produce from the various properties about to be acquired by the Company is well-known on the London Market, and has always been disposed of at good and remunerative prices.

The Company will not only be a very large consumer of coals and manures, but it will also undertake the selection and sale of them to other growers, and owing to their advantages in buying this should also prove a valuable addition to the profits. Another saving will be effected in this direction, as owing to the thousands of tons which the Company will purchase, they will be able to obtain the supply on much better terms. As these items are among the heaviest of a grower's expenses a material increase to the annual profits is ensured upon the Company's own consumption quite apart from any profit on sales.

Mr. William Entwisle, one of the most experienced and successful growers of Guernsey, has agreed to act as General Manager of the Company's business there for a term of five years, upon advantageous conditions. In addition to this, Mr. John Poat, whose name stands eminent among Guernsey proprietors, in conjunction with Mr. Thomas Vernon, have consented to join the Board of Directors, and will reside in the Island. Their practical business experience will always be locally available.

The acquisition of the market business in London will enable the Directors to save by far the greater part of the Brokerage and Commission on the sale of produce, which is from 7½ per cent. to 10 per cent.; to that extent adding to the profit derived from the sales. It is further anticipated that a considerable profit will be realised upon sales made on account of other growers, to whom special facilities, owing to the size of this combination, can be offered.

The annual profit to the Company, according to the Accountant's report, based upon the present produce of the vineries and lands purchased, and upon the present profits of the Covent Garden business is £11,120.

Five and a-half per cent. upon the 15,000 Preference Shares will require . . £4,125
Leaving a margin of £6,995.

Attention is called to the exceptional value of the Preference Shares as an investment. It will be seen upon reference to the Report of Messrs. Furber, Price & Furber, and Messrs. Protheroe & Morris, that their valuation of £68,085 6*s.* 4*d.* is for actually realisable property, and is in no way calculated upon the basis of the vineries as going concerns. This fact, with the additional value of some of the land for building purposes referred to by the above firms, renders them a unique investment, especially when it is taken into consideration that no Debentures can be issued by the Company except with the consent of a majority of the Preference Shareholders in General Meeting.

With the exception of Mr. Unwin's, all the foregoing properties have been carefully valued by Messrs. Furber, Price & Furber, and Messrs. Protheroe and Morris, whose report will be found herewith, and from which the following paragraphs are extracted :—

We have been over a large number of these establishments to advise you as to the value of them, and enable selection to be made of those most worthy of your attention.

Consideration has been paid to the quality of the various soils, and most of the lands selected are particularly rich, even in comparison with the rich soils of Guernsey. All the selected properties are in excellent heart and condition.

Our valuation of these Properties amounts to £68,085 6*s.* 4*d.*, classified as follows :—

	£	*s.*	*d.*
The freehold of the land, with boundary walls and rights of water supply, houses, buildings, glass houses, heating and pumping apparatus, engines and fixed plant	53,655	3	7
Loose plant, utensils, live stock and crops...	14,430	2	9
Making a total of	£68,085	6	4

Some of these Properties have, in our opinion, additional value as building land, or prospective building land, but in no case have we made our valuation upon that basis, but have restricted ourselves to such a figure as, having regard to soil, position, and other advantages, the lands are worth for horticultural purposes. We are, Gentlemen, Your obedient servants,

FURBER, PRICE & FURBER,
PROTHEROE & MORRIS.

Mr. A. A. Yeatman (Fellow of the Institute of Chartered Accountants), has made a personal visit to and investigated the Guernsey properties, together with Mr. Unwin's business in London, and his report is as follows :—

"2, Gresham Buildings, Basinghall Street,
"Dear Sirs, "London, E.C., 22nd June, 1896.

"I have visited the properties in Guernsey proposed to be acquired by this Company, and have carefully investigated them, and also Mr. Unwin's business in Covent Garden.

"I have found a difficulty in treating all the accounts on the same basis, but am satisfied that the annual net profits, after allowing for economies, which will be certainly effected, and for the saving of commission on the sale of the produce, may be taken at the sum of £11,120 (Eleven Thousand One Hundred and Twenty Pounds) after payment of all outgoings, including expenses of management, repairs and depreciation.

"This profit makes no allowance for any increase in the out-put of the properties, nor for income from any other of the sources anticipated by you. "Yours faithfully,

"(Signed) A. A. YEATMAN, Chartered Accountant."

The Vendor has fixed the Purchase price at £140,000, of which the whole of the Ordinary Shares (less the 10,000 hereafter referred to), will be taken in part payment, and he further reserves the right to apply for and have allotted one-third of the Preference Shares, the limit allowed by the rules of the Stock Exchange.

Mr. William Entwisle, the Company's future manager in Guernsey, has carefully considered the amount of working capital which the Company will require, and he is satisfied that there is sufficient in the growing crops to provide for all working expenses relative to the lands acquired. In addition to this, £10,000 in Ordinary Shares have been set aside to provide any additional working capital which may be found desirable, and the Vendor has agreed to take up within one year, if called upon, such Shares at par.

The Directors have reserved to themselves the right to decline to complete the purchase of any of the properties before mentioned, and to substitute others (if they should deem it to be to the advantage of the company to do so), subject, however, to the Valuers and Accountant certifying that the property or properties substituted is or are of equal value to any relinquished.

The only agreement entered into is one between Mr. Thomas Vernon, junior (the vendor), of the one part, and Mr. George James Rowley of 11, Candahar Road, Battersea (as trustee for the Company) of the other part, dated the 20th day of July, 1896.

Copy of the Memorandum and Articles of Association of the Company, and the agreement above referred to, can be seen at the office of the London Solicitor of the Company, Mr. Henry P. Spottiswoode, at 32, Craven Street, Strand, W.C.

The Vendor will pay all expenses of promotion up to allotment.

Applications for a quotation and special settlement on the Stock Exchange will be made in due course.

Applications for shares should be made on the accompanying form, and same forwarded with the deposit to the Company's Bankers, and if the number of shares allotted be less than those applied for the surplus paid will be appropriated towards the amount due on allotment; if no allotment be made the deposit will be returned in full.

Prospectuses and application forms can be obtained from the Company's Brokers and Solicitors, and at the Registered Offices, 25, Budge Row, E.C.

17*th July*, 1896.

This Application Form may be used, and should be filled in and sent with the amount payable on application to the London & Westminster Bank, Lothbury, E.C.

FORM OF APPLICATION FOR CUMULATIVE PREFERENCE SHARES. *No.....*

CHANNEL ISLANDS PRODUCE COMPANY, Limited, CAPITAL £150,000.

Divided into 15,000 Five per cent. Cumulative Preference Shares of £5 each (Preferential as to Capital as well as Dividend), and 75,000 Ordinary Shares of £1 each.

To the Directors of THE CHANNEL ISLANDS PRODUCE COMPANY, LIMITED.

GENTLEMEN,—Having paid to your Bankers, the sum of £ , being a deposit of 5*s.* per Share on Application for Preference Shares of £5 each in the above Company, I hereby request that you will allot to me that number of Shares, upon the terms of the Prospectus of 17th July, 1896, and subject to the Memorandum and Articles of Association of the said Company, and I agree to accept such Shares, or any less number you may allot me, and to pay 15*s.* per Share on Allotment, and the subsequent instalments when due, and I authorise you to place my name on the Register of Members for the Shares so allotted to me, and I agree with the Company as Trustee for you and other persons who may be liable, t waive any fuller compliance with Sec. 38 of the Companies Act, 1867, than as contained in the said Prospectus.

Name in full..... *Address*..... *Profession or Business*.....

Date..... *Usual Signature*.....

GREENHOUSES, CUCUMBER-FRAMES,

SASHES, GARDEN-LIGHTS,

And all kinds of
HORTICULTURAL WOOD-WORK and SUNDRIES.
Also
WREATH, CROSS, and FLOWER-BOXES
of every description.
Special Line in GARDEN-HOSE. Portable and other POULTRY-HOUSES.
Write for Prices to—

EDWARD TAILBY,

ALEXANDRA SAWING, PLANING, AND MOULDING MILLS,
SUMMER ROW, BIRMINGHAM.

TENTS! TENTS!! TENTS!!!—I have purchased 5000 ARMY TENTS (40 ft. circumference), scarcely used. Complete with poles, pegs, and lines. Cost £6 each. Will send any number, carriage paid, for 28*s.* each; inferior qualities, 22*s.* and 24*s.* each. Cash with order; can be sent on approval. Specially adaptable for sporting and pleasure purposes. TWO JUST SUPPLIED TO BUCKINGHAM PALACE. The following unsolicited testimonial is one out of many hundreds weekly:—

"April 29, 1896. Dear Sir,—Accept my thanks for the tents, safely received to-day. I am very pleased with them.

"F. H. HILL, Duddingston Park, Portobello, Midlothian."

MARQUEES for Flower Shows, Sports, &c.—Made of best Tent Canvas, 30 feet by 16 feet, with Poles, Pegs, Runners Lines, Mallets, and Bags, all complete, ready for use, cash £14, cost £36.

ANDREW POTTER, Melbourne Works, Wolverhampton.

SAVE HALF THE COST.

GARSIDE'S BEDFORDSHIRE COARSE AND FINE

Is admitted by the leading Nurserymen to be **the Best Quality** obtainable in the Trade. **SILVER SAND**

Consumers should **Buy Direct** from the Owner of these Celebrated and Extensive Pits, which contain a practically inexhaustible supply of Splendid Sand, and thus *save half the ordinary cost.*

Apply direct to the Proprietor for Samples and Price free on Rail or Canal. *All Orders executed with the utmost promptness and under personal supervision.* Special Railway Rates in force to all parts. All kinds of **PEAT** supplied at lowest possible prices. Sample Bag sent on application to

GEO. GARSIDE, Jun., F.R.H.S., Leighton Buzzard, Beds.

KILL-M-RIGHT

Certain cure for Blight, and all Insect Pests, without injury to plants. Once tried, always used.

Sample Tin, 2 lb., free by Post, on receipt of P.O. for 2*s.*10*d.* Price LIST and testimonials on application.

The STOTT FERTILISER & INSECTICIDE CO.,
BARTON HOUSE, MANCHESTER.

GISHURST COMPOUND, used since 1859 for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water; 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in lather from cake, for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1*s.*, 3*s.*, and 10*s.* 6*d.*

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6*d.* and 1*s.*, from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

ORCHID PEAT.—Dry and prepared, 5*s.* 3*d.* per bag, on rail; 15*s.* per cubic yard, in 12-yard trucks. BROWN FIBROUS PEAT, 3*s.* 3*d.* per bag; 10*s.* per cubic yard.
WALKER AND CO., Poole, Dorset.

The Best Present for a Gardener.

VINES AND VINE CULTURE.
The most complete and exhaustive Treatise on Grapes and their Culture ever published.
Third Edition just out.
Price 5*s.*; post free, 5*s.* 6*d.*
A. F. BARRON, 13, Sutton Court Road, Chiswick.

ESTABLISHED 1851.

BIRKBECK BANK,

SOUTHAMPTON BUILDINGS, CHANCERY LANE, W.C.

TWO-AND-A-HALF per Cent. INTEREST allowed on DEPOSITS, repayable on demand.

TWO per Cent. on CURRENT ACCOUNTS, on the minimum monthly balances, when not drawn below **£100.**

STOCKS and SHARES purchased and sold.

SAVINGS DEPARTMENT.

For the encouragement of Thrift the Bank receives small sums on deposit, and allows interest at the rate of TWO-AND-A-HALF PER CENT. per annum on each completed **£1.**

BIRKBECK BUILDING SOCIETY.

HOW TO PURCHASE A HOUSE FOR TWO GUINEAS PER MONTH.

BIRKBECK FREEHOLD LAND SOCIETY.

HOW TO PURCHASE A PLOT OF GROUND FOR FIVE SHILLINGS PER MONTH.

The BIRKBECK ALMANACK, with full particulars, post-free. FRANCIS RAVENSCROFT, Manager.

ROYAL HORTICULTURAL SOCIETY'S

EXAMINATIONS IN GARDENING.

"Coaching" by Correspondence arranged for intending Candidates unaccustomed to write papers. Fees moderate, to suit Practical Gardeners.

COLVILE BROWNE, F.R.H.S., Hextable, Kent.

GARDENING APPOINTMENTS.

MR. GEO. WITTY, recently Foreman in East Dene Gardens, Bonchurch, I.W., as Head Gardener to J. S. H. HENRY, Esq., at same address.

MR. WILLIAM WRIGHT, for the past four years general Foreman in the Forestry Department at Castleboro, Enniscorthy, has been appointed Manager to the Earl of ROSSE, Birr Castle, Parsonstown, King's County.

THE CURATOR of the Sheffield Botanical and Horticultural Society THANKS those APPLICANTS who replied to his advertisement, and desires to inform them that the POST IS NOW FILLED.

A. W. METCALFE begs to THANK the numerous APPLICANTS for JOURNEYMAN'S SITUATION, and to say the VACANCY is NOW FILLED.

T. WEAVER, The Gardens, Oakley Hall, Basingstoke, begs to THANK the 78 APPLICANTS for FOREMAN'S SITUATION, which is NOW FILLED, and regrets that he cannot find time to reply to each one separately.

WANTED in a Market Nursery for Growing Fruit, &c., under Glass, WORKING PARTNERSHIP, or MANAGEMENT, with view to same, by one with thorough practical and theoretical training.—K. K., 41, Wellington Street, Strand, W.C.

WANTED, HEAD GARDENER, 22*s.* a week and lodge. Lodge-gate to be attended to. Three other men. Melons, Vines, Tomatos, Kitchen and Flower Gardens.—Rev. ARTHUR TOOTH, Woodside, Croydon.

WANTED, HEAD-WORKING GARDENER, who thoroughly understands Flower Garden, Kitchen Garden, and Fruit Trees.—Apply to G. McCORQUODALE, Rossway, Berkhamsted.

WANTED, a strong, active young MAN, as UNDER GARDENER, where only two are kept. Age about 21 to 25. Must have had some previous experience. Wages, 20*s.* to begin with.—Apply, LEIGH HOLME, Leigham Avenue, Streatham, S.W.

WANTED, GARDENER (THIRD), with knowledge of Orchids, Ferns, and Stove Plants. State experience and wages.—E. ASHWORTH, Harefield Hall, Wilmslow, Cheshire.

WANTED, FOREMAN for General Glass Department. Must be a first-class Propagator of Hard and Soft-wooded Plants. State age, experience, and wage required.—PENNELL AND SONS, Lincoln.

WANTED, FOREMAN, not under 25 years, for Inside. Well up in Fruit and Plants, Early and Late Forcing, also House and Table Decoration.—State experience where gained, to J. WITTY, East Dene Gardens, Bonchurch, I.W.

WANTED, for the Trade, an ORCHID FOREMAN. Good wages given.—Apply T. C. M., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, a good MAN, as PROPAGATOR and GROWER of Plants, Cut Flowers, Fruit for Market; also with good knowledge of helping to Build up New Place. Good references.—J. M., 5, Market Place, Leicester.

WANTED, strong, active, young MAN for Flower and Kitchen Garden. Bothy and vegetables found.—State age and experience, with copies of testimonials only, to LEWIS JORDAN, Holdenby House, Northampton.

WANTED, smart energetic MAN, about 22, principally to attend to plants, &c., in various London Clubs and Hotels.—Apply, by letter only, to I. J. HOBDEN AND CO., 52, Great Queen Street, W.C.

WANTED, a MAN accustomed to Propagation of Heaths in large quantities. State where previously employed, and wages required.—Apply to E. ROCHFORD, Mill Lane Nurseries, Cheshunt, Herts.

WANTED, steady, industrious MAN, single, to grow Maidenhair Fern, Chrysanthemums, and Tomatos. One who has been accustomed to Grow for Market.—State wage, &c. to RIDSDALE BROS., East Keswick, Leeds.

WANTED, TWO young MEN, with knowledge of General Market Nursery Work.—State age, wages, experience, with references, to C. E. AND F. W. LILLEY, St. Peter's-in-the-Wood, Guernsey.

WANTED, a JOURNEYMAN, not under 22, to take the lead Inside and Out; capable of attending to houses, watering, and mowing. Duty every other week. Wages, 17*s.* per week.—Full particulars to ALFRED CHILD, Catesby House Gardens, Daventry.

WANTED, AT ONCE, a reliable MAN not under 25, to superintend Flower Garden, and must have a good knowledge of Potting and Growing. Only those who have filled similar places need apply, stating references and wages, to Mrs. HARVEY, The Cliff, Shanklin, I.W.

WANTED, a good, steady GARDEN LABOURER.—Married, without family. Wife to attend to Park Gates. Wages 14*s.* per week, and House.—Apply to Messrs. NEWMAN and NEWMAN, Land Agents, 33 and 34, Savile Row, London, W.

WANTED, a young MAN, handy at Painting and Glazing, and accustomed to Nursery-work under Glass. Constant employment to suitable hand.—Apply, stating particulars of previous employment, wages required, &c., to THOS. BUTCHER, The Nurseries, South Norwood.

WANTED, as CLERK, a MAN of strict integrity, who has had several years' experience in Nursery Work, and can produce first-class testimonials. Married man preferred.—State particulars, &c., to G. BIDE, Alma Nursery, Farnham, Surrey.

WANTED, a SHOPMAN, with knowledge of Garden and Farm-seeds. State age, experience, and salary required.—H. DEVERILL, Banbury.

Bulb, Seed, and Plant Trade.

WANTED, INVOICE CLERK.—Must be good writer. Salary 25*s.* per week.—Apply by letter, stating experience, &c., BARR AND SONS (private), 12, King Street, Covent Garden, London, W.C.

WANTED, NURSERY CLERK.—A good place offered to an experienced, reliable man. Reply, giving particulars of experience, &c., and wages required.—W. C. SLOCOCK, Goldsworth Nursery, Woking, Surrey.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

Advertisers are cautioned against having Letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

B. S. WILLIAMS AND SON beg to intimate that they have at present in their Nursery and upon their Register some excellent Men, competent either to fill the situation of HEAD GARDENER, BAILIFF, FOREMAN, or JOURNEYMAN. Ladies and Gentlemen requiring any of the above will please send full particulars, when the best selections for the different capacities will be made.—Victoria and Paradise Nurseries, Upper Holloway, N.

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. All particulars on application.
Telegraphic and Postal Address—"DICKSONS, CHESTER."

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—
F. SANDER AND CO., St. Albans.

THOMAS BUTCHER can recommend several HEAD and UNDER GARDENERS of first-rate character and proved ability. Gentlemen seeking such may have particulars free.—Apply to THOMAS BUTCHER, Seed Merchant and Nurseryman, Croydon.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

C. KINNS, late HEAD GARDENER to Lord Mount-Stephen, Brocket Hall, is now open for an engagement. Highest reference.—C. KINNS, The Bridge House, Temsford, Hatfield.

GEO. ABBEY, Avery Hill Gardens, Eltham, Kent, can with every confidence highly recommend his General Foreman as HEAD GARDENER, who has had six years' thorough practical experience in every branch of the profession here, and nine years in two other first-class situations.

GARDENER (HEAD).—Thoroughly experienced in all branches, having left through death of employer. Superintend Land and Stock if required. Last situation ten years.—H. B., 81, Beach Road, Eastbourne.

GARDENER (HEAD).—W. ADAMS, age 36, married, no family; practical in all branches of Gardening. Leaving through a death. Four years Head present place.—Rydinghurst, Crawleigh, Surrey.

GARDENER (HEAD).—Age 45, married, with family; thoroughly practical knowledge in all branches. Highly recommended. Leaving through a death. Seventeen years in present situation as Head.—J. DAVIDSON, The Gardens, Belmont, Salisbury.

GARDENER (HEAD WORKING), age 28.—WM. CRUMP, Steward to the Misses Goldsmid, Tongswood, Hawkhurst, Kent, desires to recommend his General Foreman to any lady or gentleman requiring the services of a steady, persevering, reliable man.

GARDENER (HEAD WORKING); Scotch; married.—Advertiser will be disengaged on August 4, and begs to offer his services to any Lady or Gentleman requiring a thorough practical all-round man in Fruit, Flowers, Vegetables, and Mushroom Growing. Good references.—R. F., White Birch, Hampton, Middlesex.

GARDENER (HEAD WORKING).—Age 27; thoroughly practical in all branches. Three years Foreman in present situation.—J. SARGENT, The Fishery, Maidenhead, Berks.

GARDENER (HEAD WORKING); age 28.—Mrs. GOLD can confidently recommend PERCY AWCOCK to any Lady or Gentleman requiring the services of a thorough Gardener; good experience in all branches.—3, Nightingale Cottages, Cookham.

GARDENER (HEAD WORKING); age 35, married, no family.—A GENTLEMAN wishes to highly recommend his late Gardener. Thoroughly experienced in all branches.—W. PAYNE, Chestnut Road, Horley.

GARDENER (HEAD WORKING).—Age 28; thoroughly experienced in all departments, including Orchids. Excellent references from large gardens.—W., The Lindens Cottages, Beddington Lane, Croydon.

GARDENER (HEAD WORKING).—Age 35, married, no family. Thoroughly understands Orchids, Stove, Vines, Cucumbers, Flowers, and Kitchen Garden, Land and Stock.—DOWNHAM, Kennell Cottage, Horton, Slough.

GARDENER (HEAD WORKING); age 29.—Mr. MOODY, South Lodge, Horsham, will be pleased to recommend WILLIAM HOLDEN to any Lady or Gentleman requiring a practical man. Well up in Growing Fruit, Plants, Vegetables, Carnations, Chrysanthemums, &c. References unexceptionable.

GARDENER (HEAD WORKING).—Middle-aged, no family; thoroughly understands Forcing all kinds of Fruits (Inside and out), also Kitchen and Flower, and Meadow Land. Six years' good character. No Circulars. D. B., 54, Burlington Road, Enfield.

GARDENER (HEAD WORKING), in good establishment.—Age 33, married. Eighteen years practical experience in all branches. KEMP, J. Russell, The Old Nurseries, Brentwood.

GARDENER (HEAD WORKING, where three or more are kept).—Age 35, married, no family; thoroughly experienced in all branches. Good character.—B. H., Waldeck Street, Reading

GARDENER (HEAD, or good SINGLE-HANDED).—Age 40, two children (youngest 9); thoroughly experienced in the Management of a good Garden, Vines, Melons, Cucumbers, &c. First-class references.—GARDENER, Hanslope, Stoney Stratford, Bucks.

GARDENER (SINGLE-HANDED, or with help given).—Age 28, married, no family; experienced in Vines, Cucumbers, Tomatos, and General Garden Work. Good references. Please state wages.—W., The Cottage, Long Lodge, Church End, Finchley, N.

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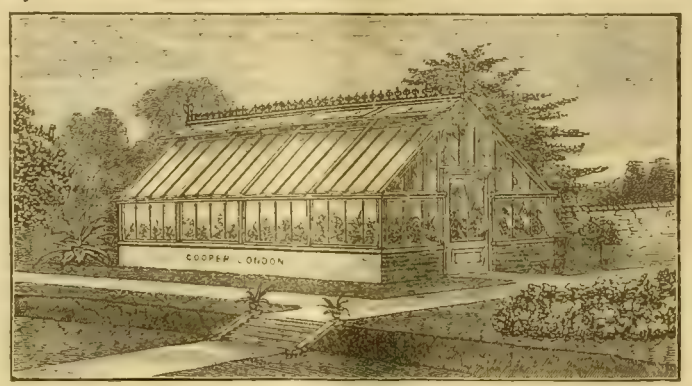
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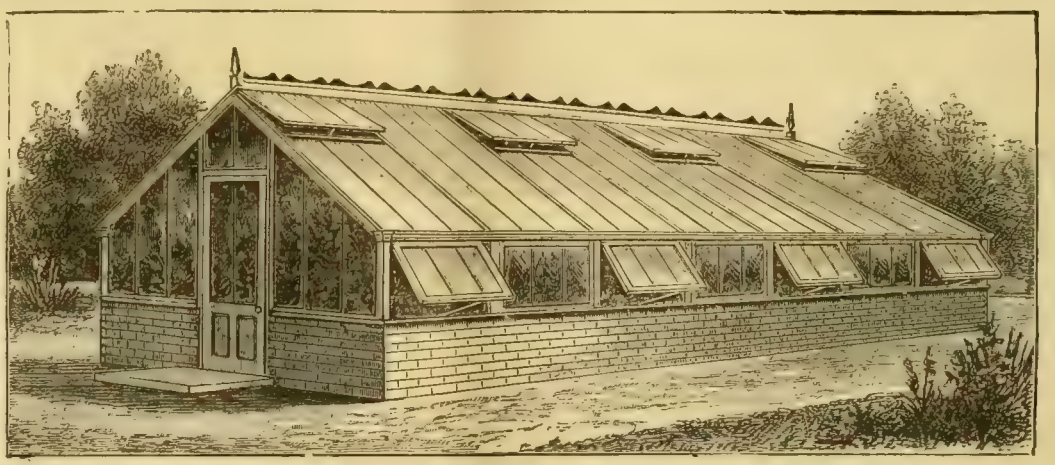
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The Gardeners' Chronicle

ESTABLISHED 1841. No. 2901.

No. 501.—Vol. XX. { Third Series. } SATURDAY, AUGUST 1, 1896. [Regt. as a Newspaper. { PRICE 3d. Post-free, 3½d

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On view morning of Sale, and Catalogues had.

N.B.—The cases which have already come to our Rooms have been opened, and we have examined the bulbs and find them in really magnificent order.

Friday Next.

IMPORTATIONS of ORCHIDS received direct, comprising:—

64 Cattleya nobilior	500 Oncidium Rogersii
54 ,, Harrisoniæ	4 Cyrtopodium species
800 Dendrobium primulinum	115 Dendrobium Amœni
80 ,, aureum	30 ,, suavissimum

300 bulbs Crinum elegans (Kirkii).

Also IMPORTED ORCHIDS from Messrs. W. L. Lewis & Co., comprising Miltonia vexillaria, with gigantic flowers; Odontoglossum luteo purpureum, in splendid masses; O. Rossi majus, Cattleya Aclandiæ, C. Dowiana, and Lælia Dayana, together with 100 lots of Established Orchids from other sources.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, August 7, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

MONDAYS, August 17, 24, & 31.
THURSDAYS ,, 20 & 27.

DUTCH BULBS.

SPECIAL TRADE SALES.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on

MONDAYS, August 17, 24, and 31. And
THURSDAYS, August 20 and 27,

at Twelve o'Clock each day, large consignments of NAMED HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other DUTCH BULBS, together with white ROMAN HYACINTHS, and paper-white NARCISSUS, received direct for Unreserved Sale.

These early auctions have been specially arranged in lots to suit the Trade and other large buyers.

The Auctioneers will be pleased to enter the names of intending purchasers on their permanent lists who may desire a regular supply of Catalogues for these Sales.—Auction Rooms and Offices, 67 and 68, Cheapside, London, E.C.

Berkeley Castle, Gloucestershire.

2 miles from Berkeley Road Station, and ½ mile from Berkeley Station, M.R.

ESTATE of LORD FITZHARDINGE, Deceased.

MESSRS. BRUTON, KNOWLES, & PRIDAY, in conjunction with Messrs. D. LEGGE, SON, AND PEARCE, are honoured with instructions from the Executors of the late Right Honourable Lord Fitzhardinge, to SELL by AUCTION, on the Premises, at Berkeley Castle Gardens, on TUESDAY, August 4, 1896,

4000 STOVE and GREENHOUSE PLANTS,

consisting of 300 Orchids, 1500 Crotons, Palms, and other Stove Plants, 250 Tree Carnations, 200 Primulas, 100 Bouvardias, 100 Begonias, 100 Arums, 100 Zonals, 100 Gloxinias, 100 Achimenes, 100 Amaryllis, 50 Aspidistras, 50 Lilium Kreutzeri and Melpomene, 60 Cyclamens, 50 Fuchsias, 50 Indian Azaleas, 50 Azalia mollis, 30 Hydrangeas, 40 Cytisus, 9 Agapanthus, 30 Pancratiums, 400 Chrysanthemums, 100 Tuberoses, and 50 Rhododendrons.

The above plants are all in good healthy condition, and have been grown and cultivated expressly for cut flower and winter decoration.

Catalogues may be had of Mr. SHORE, The Castle Gardens, Berkeley; of BRUTON, KNOWLES, & PRIDAY, Auctioneers, Gloucester; or of D. LEGGE, SON, & PEARCE, Auctioneers, Berkeley.

Sale to commence at 11 o'Clock punctually.

WANTED, small NURSERY and good JOBBING GARDENING BUSINESS, if possible, or Market Garden with Shop. Strictest investigation.—FLORIST, 41, Wellington Street, Strand, London, W.C.

FOR SALE, FREEHOLD MARKET GARDEN, consisting of 8 acres of Land and 1000 feet run of Glass, in full growth of Cucumbers and Tomatos. Good loamy soil.—For all particulars, apply to W. WREN, Bridge House, West Malling, Kent.

Chichester, North Gate Nurseries. (8854.)

TO BE SOLD, as a Going Concern, with possession, the old-established NURSERY, FLORIST, and JOBBING BUSINESS, in the heart of the town, and including about 6 acres of productive Land, stocked with thriving General Nursery Stock and Fruit Trees. The Outbuildings comprise several Greenhouses, three Cottages, and convenient Office. The Business has an excellent connection, capable of extension. The only reason for relinquishing the Business is ill health.—Apply to PROTHEROE AND MORRIS, Estate Agents, &c., 67 and 68, Cheapside, E.C.

LONDON, S.W.—Good locally for Jobbing. TO BE SOLD, a small NURSERY, with two Show-houses, two Greenhouses, well heated; Sheds, and Stabling. Lease, 16 years unexpired. Rent £17. Price for Lease, Glass, and Stock, including Pony and Van, £150 or offer, owner must realize.—Full particulars of—

PROTHEROE AND MORRIS, 67 and 68, Cheapside, E.C.

TO BE DISPOSED OF, a MARKET GROWERS' NURSERY, containing 1¾ acres of rich Pasture and Garden, 6 Glasshouses, well-heated, and everything in good working order, nearly new. Good Cottage. Twelve miles from Covent Garden. Giving up through old age.—C. W., 41, Wellington Street, Strand, W.C.

To Nurserymen and Florists commencing Business.

HAMPTON-ON-THAMES, on the Marling Park Estate, free from London fogs, a deep rich loam, the favourite neighbourhood for Growers, FREEHOLD LAND for SALE on easy system of Purchase, or to be LET on Lease.

For full particulars, apply to Mr. FREDK. G. HUGHES (Surveyor), the Estate Office, Hampton-on-Thames.

TO FLORISTS and OTHERS.—TO BE SOLD, owing to a death, FREEHOLD GROUND, 80 feet frontage, by 150 feet, with small Cottage, 4 Greenhouses, Pits and Frames, &c., with an old-established business of 20 years, doing a good trade, and will be sold for £500, the value of the land only. This is a rare opportunity to obtain a good business free of charge.—Apply to WALFORD AND WILSHIN, Auctioneers, Anerley, S.E.

HADLEIGH, SUFFOLK.—TO BE DISPOSED OF, the Lease, Goodwill, Stock in Trade, and Glass Erections, &c., of above NURSERY, comprising about 1¾ acres of Land, convenient DWELLING HOUSE, Packing and Potting Sheds, SEED SHOP, and Fittings. Lease about nineteen years unexpired. Rent £27. No other Nursery within several miles. Price £150. Apply to—

WILLIAM BADMAN, Cemetery Nursery, Gravesend.

GRAVESEND.—FOR SALE, GOODWILL, FIXTURES, and STOCK, &c., of COMPACT NURSERY.—8 well-built Greenhouses, with the Lease of the Dwelling-house, containing 12 rooms and spacious cellarage, and 2 Greenhouses, and 1½ Acre of good Land; the glass is about 600 feet run; the whole heated by two new tubular boilers. Lease about 10 years, with renewals. Rent, £50 per annum.—Apply—DIXON, Spencer Park Nursery, Wandsworth Common, S.W.

By Private Treaty.

OFFERS are INVITED for the Old-established Business of W. B. ROWE AND COMPANY, LTD., of Worcester, consisting of NURSERY and SEED BUSINESS. The Nursery is well stocked with Fruit Trees, Shrubs, Roses, and General Nursery Stock, all in excellent condition, and covers an area of about 23 acres. There are eight large Greenhouses, Pits, Sheds, &c.; a good House and Foreman's Cottage.

There is a compact Seed Business in connection with the Nursery, capable of further extension by attentive and judicious management. Favourable Lease.

For conditions and particulars apply to W. BIRCH, 49, Foregate Street, Worcester.

Offers will be received up to 10 o'Clock, Friday morning, August 7 prox. The highest or any Tender will not necessarily be accepted.

Fifty Nurseries, Market Gardens, Florist and Seed BUSINESSES to be DISPOSED OF.

MESSRS. PROTHEROE AND MORRIS' HORTICULTURAL REGISTER contains full particulars of the above, and can be obtained, gratis, at 67 and 68, Cheapside, London, E.C.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

FOR SALE.—NARCISSUS (Sir Watkin), true, first size Bulbs, 3s. 6d. per dozen, 24s. 100.—Apply to GARDENER, Plas Gardens, Dinas Mawddwy, Merionethshire.

STRAWBERRIES, all the leading sorts, in pots now ready for planting, 12s. 6d. per 100.
H. LANE AND SON, The Nurseries, Berkhamsted, Herts.

GRAPE VINES for Fruiting and Planting.
Splendid good ripened Canes.
Invite Inspection from Intending Buyers.
SAMUEL JENKS, Bramley Nursery, East Grinstead.

PALM SEEDS.—PLANT NOW.—Just arrived, Kentias, Coryphas, Phœnix, Cocos, Seaforthias, and others. 100 in variety, to name, free, 2s. 6d.; 500 for 10s. Price to the Trade on application.
MORLE AND CO., Conservatories, Finchley Road, N.W.

Hyacinths, Tulips, Crocus, Lilies, &c.

C. G. VAN TUBERGEN, Jun., Haarlem, Holland. Wholesale CATALOGUE now ready, and may be had free on application to—

Messrs. R. SILBERRAD AND SON, 25, Savage Gardens Crutched Friars, E.C.

N.B.—Many new, rare, and interesting plants and bulbs will be found in this Catalogue.

FERNS AND DECORATIVE PLANTS!—(TRADE):—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 12s. 100; ditto, large, in 48's, 10 best selling sorts, 6s. doz.; strong seedlings, 6s. 100, 50s. 1000; Adiantum cuneatum, in 48's, for cutting, 6s. and 8s. doz.; ditto, for making large plants quickly, 16s. and 20s. 100; Cyperus, Aralias, Grevilleas, Rhodanthe, Geraniums, Fuchsias, and Heliotropes, in 48's, 6s. per doz.; Marguerites, Mignonette, and Cockscombs, in 48's, 8s. per doz.; Ficus, Palms, Dracænas, Crotons, Pelargoniums, and Hydrangeas, in bloom, in 48's, 12s. doz.; Lists free. Packed free. Cash with order.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

EXHIBITIONS.

WESTON-SUPER-MARE FLOWER SHOW.—TUESDAY, August 11, 1896.

PRIZES—£200—PRIZES.

Schedules on application to—

The HON. SECS,
24, West Street, Weston-Super-Mare.

CARDIFF HORTICULTURAL SOCIETY.—The EIGHTH ANNUAL SHOW will be held in the Cardiff Exhibition Grounds on AUGUST 12 and 13.

PRIZES and SPECIALS, £300. Entries close August 4.

Space for Non-competitive Exhibits being limited, application must be made at once.

H. GILLETT, Sec.
66, Woodville Road, Cardiff.

MAIDENHEAD HORTICULTURAL SOCIETY.

ANNUAL SHOW on THURSDAY, August 13, 1896, at St. Ives Place. Entries close August 6.

CHAS. A. VARDY, Hon. Sec.

BRIGHTON SUMMER SHOW, AUGUST 25 and 26.

£300 in CASH and SEVERAL HANDSOME PRIZES.

Entries close August 19.

Schedules and particulars of—
THE SECRETARY, 87, Western Road, Brighton.

SHREWSBURY GREAT FLORAL FÊTE, August 19 and 20, 1896.

Schedules are now ready. The cash prizes offered in the Schedule amount to over £800.

H. W. ADNITT
The Square, Shrewsbury. W. W. NAUNTON } *Hon. Secs.*

CHESTER HORTICULTURAL SHOW and FÊTE

WILL BE HELD ON

WEDNESDAY and THURSDAY,

AUGUST 5 and 6, 1896.

A HORTICULTURAL CONFERENCE in connection with the above will be held in the Town Hall, Chester, on TUESDAY, August 4, 1896, to commence at 7.30 P.M.

His Grace the DUKE OF WESTMINSTER, K.G., has kindly consented to preside.

J. WYNNE FFOULKES, Hon. Sec.,
Crypt Chambers, Eastgate Row, Chester.

ASCOT, SUNNINGHILL, SUNNINGDALE and DISTRICT HORTICULTURAL SOCIETY.

ANNUAL CHRYSANTHEMUM SHOW, Nov. 4 and 5, 1896.

OPEN PRIZES.

Judges: Messrs. Molyneux, Drover, and Turner.

	1st.	2nd.	3rd.
Class 1. For the best 24 Japanese blooms, distinct varieties	£6	£4	£2
Class 2. For the best 24 Incurved blooms, distinct varieties	£4 10s.	£3	£1 10s.
Class 3. For the best 4 Trained Specimens (Standards excluded), any varieties, each plant on a single stem	£3	£2	£1

For Entry Forms and further particulars, apply to the Hon. Secretary,

The Glen, Ascot. Lieut.-Col. Hon. H. NEEDHAM.

HUDDERSFIELD and DISTRICT CHRYSANTHEMUM SOCIETY.

The SIXTH EXHIBITION of the above Society will be held in the Town Hall, Huddersfield, on TUESDAY and WEDNESDAY, November 10 and 11, 1896. Schedules are now ready, and may be had on application.

Marsh, Huddersfield. JOHN BELL, Hon. Sec.

EDINBURGH SCHOOL OF RURAL ECONOMY.

SESSION, 1896-97.

BOARD OF MANAGEMENT appointed by the University Court, the Highland & Agricultural Society, the Town Council of Edinburgh, and Contributing County Councils. Chairman—The Right Hon. J. P. B. Robertson, Lord Justice-General.

COURSES of INSTRUCTION are provided both in DAY and EVENING CLASSES for FARMERS, GARDENERS, FORESTERS, and others interested in Rural Economy.

The SESSION begins in OCTOBER and ends in MARCH. Fees Specially Moderate. The Syllabus may be had from the SECRETARY of the University Court, Edinburgh; or, from the SECRETARY, 3, George IV. Bridge, Edinburgh.

RETARDED

LILY OF THE VALLEY CROWNS!!

Write for Prices to—

T. JANNOCH, Lily Nursery, DERSINGHAM, NORFOLK.

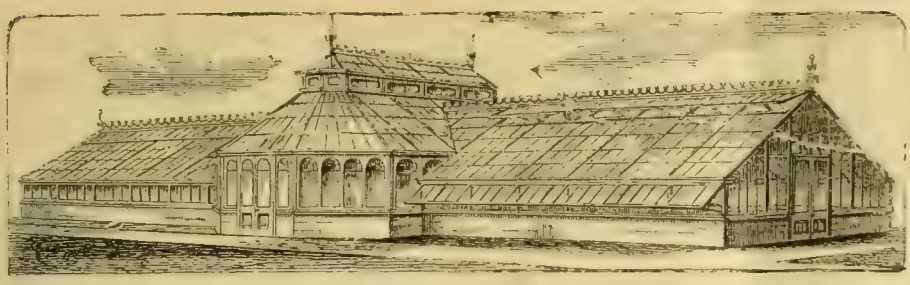
SOW NOW—BLUE PRIMROSES.

THIS SEASON'S SEED, saved from all the brightest and richest shades, is now ready, and can be supplied at 1s. 6d. and 2s. 6d. per packet.

Special Award of Merit, Birmingham Hort. Soc., April 24, 1895.

JAMES VEITCH & SONS,
ROYAL EXOTIC NURSERY, CHELSEA, S.W.

Five 1st Prize Medals recently awarded in open competition.



Five 1st Prize Medals recently awarded in open competition.

R. HALLIDAY & CO.,

HOTHOUSE BUILDERS and HOT-WATER ENGINEERS,

ROYAL HORTICULTURAL WORKS, MIDDLETON, MANCHESTER.

Vineries, Stoves, Greenhouses, Peach Houses, Forcing Houses, &c., constructed on our improved plan, are the perfection of growing houses, and for practical utility, economy, and durability cannot be equalled. We only do one class of work, and that THE VERY BEST.

Conservatories and Winter Gardens designed architecturally correct without the assistance of anyone out of our firm, from the smallest to the largest. **Hot-water Heating Apparatus,** with really reliable Boilers, erected, and success guaranteed in all cases. **Melon Frames, Sashes, Hot Bed Boxes, &c.,** always in Stock.

Plans, Estimates, and Catalogues Free. Customers waited on in any part of the Kingdom.

Our Maxim is and always has been—

MODERATE CHARGES. FIRST-CLASS WORK. THE BEST MATERIALS.

CLAY'S LONDON FERTILIZER. TRADE MARK.

CLAY'S

S.C. CLAY'S INVIGORATOR. TRADE MARK.

MANURES

Are sold by the Trade in **6d.** and **1s.** Packets, and **SEALED BAGS**—7 lb., **2s. 6d.**; 14 lb., **4s. 6d.**; 28 lb., **7s. 6d.**; 56 lb., **12s. 6d.**; 112 lb., **20s.**

Or from the Manufacturers, carriage paid in the United Kingdom for cash with order (except 6*d.* packets).

NOTE { EVERY PACKET, BAG, and SEAL BEARS THE RESPECTIVE TRADE MARK, WHICH IS THE ONLY GUARANTEE OF GENUINENESS.

Crushed Bones, Peruvian Guano, Sulphate of Ammonia, Nitrate of Soda, Nitrate of Potash, Sulphate of Potash, Kainit, Superphosphate of Lime, &c. Tobacco Cloth and Paper. Best Qualities only. Prices on application.

CLAY & SON, Manure Manufacturers, Bone Crushers, &c. TEMPLE MILL LANE, STRATFORD, LONDON, E.

THE COTTAGER'S CALENDAR OF GARDEN OPERATIONS.

Price 3d., Post-free 3½d.;

Twenty-five Copies, 5s.; fifty, 10s.; and one hundred, 20s.

Parcels of not less than twenty-five delivered, Carriage Free, in *London* only.

Not less than one hundred Carriage Paid to any part of Great Britain.

GARDENERS' CHRONICLE OFFICE, 41, WELLINGTON STREET, STRAND, W.C.

Cuthbert's Bulbs for Early Forcing.

R. AND G. CUTHBERT'S CATALOGUE of the above is now ready, and may be had free on application. Bulb Importers, Southgate, Middlesex.

Choice Vegetable Seeds,

FOR AUTUMN SOWING.

H. AND F. SHARPE will be pleased to give Special Quotations for their fine Selected Stocks of CABBAGE, TURNIP, LETTUCE, ONION, RADISH, and other SEEDS suitable for AUTUMN SOWING, which will be found very advantageous to Purchasers. Also fine samples of WHITE MUSTARD, and Sowing RAPESEED, at moderate prices.

SEED GROWING ESTABLISHMENT, WISBECH.

TULIPS—Bright Colours.

EARLY and LATE FLOWERING SORTS.

"ORIGINAL LITTLE BOOK"

Of Thirty-two Octavo Pages,

Giving complete history of the Tulip and its introduction into England, &c., by the late JOHN SLATER, of Lower Broughton, near Manchester, a Tulip name so famous sixty or seventy years since. Nearly 150 sorts to select from, some varieties scarcely ever offered before. The book, which is entered at Stationers' Hall, is full of interest to lovers of "old-fashioned flowers."

Price 6*d.*, post-free.

WM. BAYLOR HARTLAND, Daffodil and Tulip Grower, Cork, Ireland.

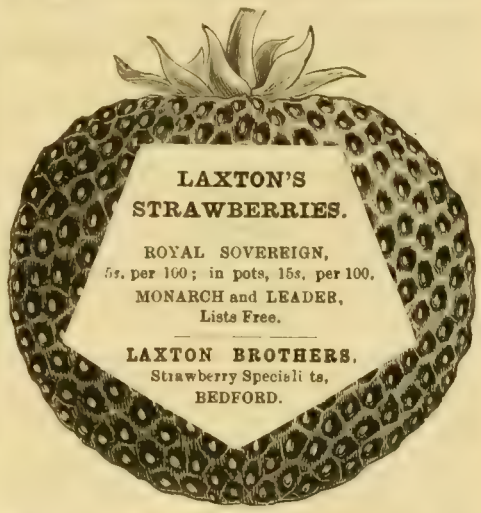
ORCHIDS — ORCHIDS.

Clean, healthy, well-grown plants at reasonable prices; many large specimens and rare varieties.

CHOICE DENDROBES A SPECIALTY.

PLEASE WRITE FOR LIST.

JAMES CYPHER, EXOTIC NURSERIES, CHELTENHAM.



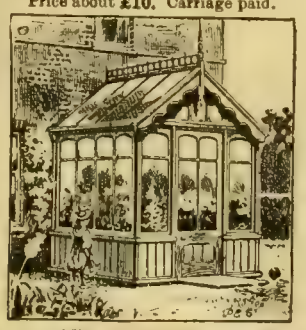
ORCHID PEAT.—Dry and prepared, 5*s.* 3*d.* per bag, on rail; 15*s.* per cubic yard, in 12-yard trucks. BROWN FIBROUS PEAT, 3*s.* 3*d.* per bag; 10*s.* per cubic yard. WALKER AND CO., Poole, Dorset.

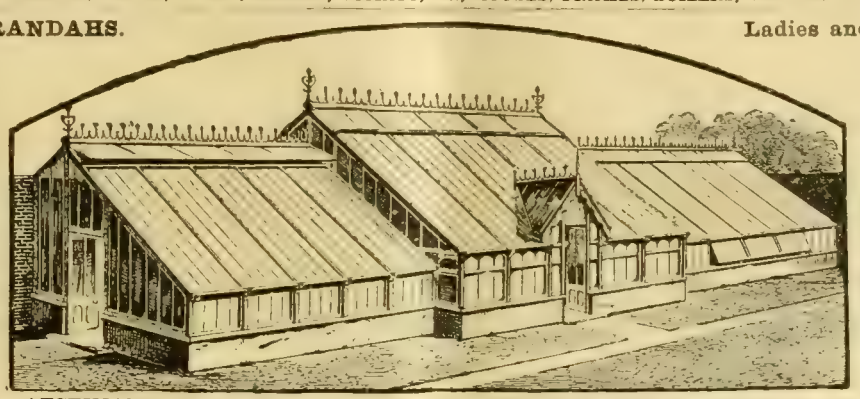
BOULTON & PAUL, HORTICULTURAL BUILDERS, NORWICH.

CONSERVATORIES, VINERIES, PEACH, PLANT, ORCHID, TOMATO, &c., HOUSES, FRAMES, BOILERS, VALVES, PIPES, and FITTINGS.

GLAZED PORCHES & VERANDAHS.

No. 2, GLAZED PORCH, 6 ft. by 4 ft. Price about **£10.** Carriage paid.





Ladies and Gentlemen waited upon.

No. 3, GLAZED PORCH, 6 ft. by 4 ft. Price about **£13.** Carriage paid.



CHEAP GREENHOUSES.

No. 47a.—LEAN-TO, 10 ft. by 7 ft. **£8 10s.**
No. 49a.—SPAN, 10 ft. by 8 ft. ... **£10 10s.**
Glazed, Painted, Packed, & Carriage Paid.

ESTIMATES on Application. New ILLUSTRATED CATALOGUE FREE. BOILERS of all makes and sizes, Valves, Pipes, and Fittings of every description. Lists free. Carriage paid on Orders of 40s. to most Goods Stations.

No. 77.—LEAN-TO FRAME, 6 ft. by 4 ft With Two Lights, **30s.**

Pit Lights, Propagating Glasses.

FRAMES IN EVERY VARIETY.

WILLIAM CARMICHAEL'S ROYAL SEEDLING STRAWBERRIES,

PRINCE OF WALES,
PRINCESS OF WALES.

July 5, 1896.

Dear Mr Carmichael,—The Princess desires me to thank you very much for the delicious Strawberries you were so kind as to send her, and the Princess is very proud that they shou'd be called by her name.—Yours very truly,
CHARLOTTE KNOLLYS.

July 23, 1896.

Dear Mr. Carmichael.—The Strawberries (Prince of Wales) arrived in capital order, and were much liked; and I am desired by the Princess to thank you for so kindly sending them.—Yours truly, CHARLOTTE KNOLLYS.

12, Fettes Row, Edinburgh, July 25, 1896.

Having recently resided in Edinburgh, I have had many opportunities of seeing these Strawberries grown, and of testing them in Mr. Carmichael's private garden, Warriston Park, and have much pleasure in bearing the following testimony to their merit:—

Prince of Wales.—Waterloo crossed with British Queen. Larger size, rich flavour, Queen foliage, dwarf habit, very prolific, not so dark as Waterloo, vigorous constitution; one of the very best late Strawberries.

Princess of Wales.—Latest of All crossed with Frogmore Late Pine. Full size, dwarf habit, fine Queen flavour, excellent constitution.—D. T. FISH, F.R.H.S.,
Editor of Cassell's "Popular Gardening," &c.

THESE RUNNERS (very early), were all hand laid, and are now bedded out. They will be sent out in strict rotation as the orders arrive in August. As the Stock is limited, early orders are solicited.

Price, 12s. per dozen; 50s. for fifty; £8 per 100.
To the Trade, £4 10s. per 100. Cash with order to
Mr. WILLIAM CARMICHAEL, 14, Pitt St., Edinburgh.

BULBS FOR FORCING.

EARLY WHITE ROMAN HYACINTHS,
SNOWFLAKE, POLYANTHUS NARCISSUS,
FREESIAS, &c., &c.

First Consignment to hand in excellent condition.

For particulars of these and all other Bulbs, see our CATALOGUE, No. 464, post free on application.

DICKSONS Seed & Bulb Growers, CHESTER.

MUNGO CHAPMAN, late of Easter Duddingston Lodge, Mid Lothian, begs to intimate to his friends and acquaintances that he retires from his present situation on the 20th of the present month. He has arranged to reside at St. Ninians, near Stirling, where he intends to commence the Cultivation and Sale of Hardy Plants on his own account.

With the experience gained during twenty-four years in the management of one of the most choice private collections of plants to be found in the British Isles—that of the late Charles Jenner, Esq.—Mr. Chapman can confidently undertake to supply what is select and true to name of the most suitable plants for Borders and Rock-work.

He hopes to be able soon to issue a Plant Catalogue, from which customers may make their own selection. In the interval, he will be fully employed in getting up Stock.

May 19, 1896.

CARNATIONS.—My List of Surplus Carnations and Picotees is now ready, containing all proved new varieties up to date, post-free.
CHARLES E. WHEELER, Bramley, Guildford.

FERNS A SPECIALITY.

We have an immense stock of all kinds of Ferns, Stove, Greenhouse, Filmy, Hardy Exotic, and British, including many very beautiful varieties rarely seen, but which ought to be more generally grown. Catalogue free on application.

W. & J. BIRKENHEAD, F.R.H.S.,
FERN NURSERIES, SALE, near MANCHESTER.

CHRYSANTHEMUM GUIDE AND CHRYSANTHEMUM ALBUMS.

I have a few of these valuable works left, and will send a copy of each, post-free, 2s., or separately. The Guide, 8 stamps, the Album, 18 stamps.

Both are invaluable to Chrysanthemum Growers.

H. J. JONES, Ryecroft Nursery, Lewisham.

Early White Roman Hyacinths,

Early Snowflake and Paper-white Narcissus.

JAMES VEITCH & SONS

Beg to announce, *in exceptionally fine condition*, the arrival of

THE ABOVE VALUABLE BULBS FOR EARLY FORCING,

And will be pleased to receive Orders for immediate delivery.

ROYAL EXOTIC NURSERY, KING'S ROAD, CHELSEA, S.W.

ROSES ON THEIR OWN ROOTS,

FOR PRESENT PLANTING.

WM. PAUL AND SON respectfully invite attention to their magnificent Stock of the above, established in 5-inch (48-sized) pots. The Collection comprises the leading varieties of the Hybrid Perpetual, Tea Scented, Noisette, Bourbon, China, and Polyantha classes, including Crimson Rambler.

Price 10s. 6d. to 18s. per dozen; 75s. to 120s. per 100.

*** The present is a most favourable time for planting, as it allows of the plants establishing themselves in the ground before winter.

Also a large General Stock of Roses in pots for Greenhouse Culture, Conservatory Climbing, &c.

PAULS' NURSERIES, WALTHAM CROSS, HERTS

Crompton and Fawkes, Chelmsford.



HORTICULTURAL BUILDERS AND HOT-WATER ENGINEERS.

Designers and Manufacturers of Ranges, Conservatories, Vineries, Forcing-houses, Greenhouses, and every description of Glasshouse. Best work. Lowest Prices. Every modern appliance. Surveys made in any part of the Kingdom. Estimates free. Large New Illustrated Catalogue post-free on application.

CROMPTON & FAWKES, CHELMSFORD.

WEBBS'



EMPEROR CABBAGE.

THE EARLIEST AND BEST.

6d. and 1s. per packet,

1s. 6d. per ounce.

From Mr. G. H. BALL, *Comer Gardens.*

"I herewith forward you a photograph of your valuable Cabbage—the Emperor. I find it is the earliest, largest, and most compact variety I ever grew."

	Per ounce.
EARLY NONPAREIL CABBAGE	8d.
ENFIELD MARKET do.	6d.
EARLY RAINHAM do.	8d.
RED DUTCH ... do.	9d.

ONION.

	Per pkt.	Per ounce.
WEBBS' RED GLOBE TRIPOLI ...	6d.	1s. 6d.
LARGE FLAT RED TRIPOLI ...	6d.	... 10d.
GIANT ROCCA	6d.	... 10d.
WHITE LISBON	...	6d.

All Garden Seeds Free by Post or Rail.

Seedsmen by Royal Warrants to H.M. the Queen and H.R.H. the Prince of Wales.

WORDSLEY, STOURBRIDGE.

THE YOKOHAMA NURSERY CO.

LIMITED,



Nos. 21—35,

NAKAMURA,

YOKOHAMA, JAPAN.

The Largest Exporters and Growers of

LILY BULBS,

CYCAS STEMS, DRIED CYCAS LEAVES,

DRIED EULALIA PANICLES,

MOSS, SEEDS, TREES, SHRUBS, &c.,

Produced in Japan.

DESCRIPTIVE CATALOGUES sent on application.

NEW FUCHSIAS FOR 1896.

MR. WILLIAM BULL has the pleasure to announce that he is sending out the following—

TWELVE NEW FUCHSIAS.

They are all magnificent varieties, and are offered at a low price for such Sterling Novelties.

BELLONA, short tube, and completely reflexed sepals of a rosy-carmine colour; large white double corolla, suffused and veined rose-pink.

CALLIOPE, large double flower; corolla rich violet-purple, short tube and broad crimson sepals.

CERES, very short crimson tube and sepals, well reflexed, very full-spreading double corolla, pale blush, thickly marmorated and veined with deep pink. Very distinct.

DORIS, short tube and large broad coral-red sepals horizontally extended; immense double corolla, petals reddish-purple, margins shaded with metallic blue.

FORTUNA, short tube and broad reflexed crimson red sepals; large white corolla, heavily shaded rose, and marked crimson at the base.

IRENE, short red tube and sepals, well reflexed; single reddish-violet corolla marked with crimson at base and well extended.

IRIS, short tube and broad carmine-crimson sepals; large double white corolla, shaded with rose, and flaked rose-pink.

LEDA, short tube and very broad reddish-crimson sepals, irregularly reflexed; corolla bluish-violet veined with crimson, and much expanded.

METIS, short dark-rose tube and sepals, the latter well reflexed; double white corolla, marked deep-rose at base.

ROSALIE, short bright crimson tube and sepals, horizontally extended; large double white corolla, veined at the base with cerise-pink.

SERENA, very short rosy-pink tube, sepals completely reflexed; immense double spreading corolla, blush-rose, veined with deep pink.

THALIA, short tube and broad coral-crimson sepals, well reflexed; semi-double white corolla, the petals well expanded, suffused with rose, and veined crimson at the base.

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ROMAN NARCISSUS,

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PRELIMINARY OFFER.

BEST BULBS FOR EARLY FLOWERING.

GARAWAY & CO.

OFFER:—

ROMAN HYACINTHS, 4½-inch and upwards,	13s. 6d. per 100.
,, smaller	10s. 6d. ,,
PAPER-WHITE NARCISSUS	5s. ,,
DOUBLE ROMAN NARCISSUS	5s. ,,
DOUBLE VAN SION DAFFODILS, first size, imported bulbs	8s. 6d. ,,

For delivery in August.

DUC VAN THOL TULIP, Scarlet	
ARTUS ,,	
LA REINE ,,	
L'IMMACULÉE ,,	2s. 6d. per 100; 6d. doz.
DUCHESS of PARMA ,,	
WOUVERMAN ,,	
CHRYSOLORA ,,	8s. per 100; 1s. 3d. per dozen.
Second-size HYACINTHS in distinct colours, unnamed	14s. 0d. per 100.
Named ditto, our selection	18s. 6d. ,,
First-size HYACINTHS, the best quality, and first class varieties	4s. to 9s. per doz.
NARCISSUS, CYNOSURE	3s. 6d. per 100.
,, PRINCEPS	5s. ,,

For September delivery. All orders over 5s. carriage paid.

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PTERIS CRISTATA and SERRULATA CRISTATA, fine plants, at 1s. 6d. per dozen.

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THE

Gardeners' Chronicle.

SATURDAY, AUGUST 1, 1896.

RÖNTGEN RAYS IN BOTANY.

THE X-rays have attracted such universal attention that it is not surprising to learn that some experiments have been made to determine the effects of these rays on germinating plants, and it may be interesting to readers of the *Gardeners' Chronicle* if a brief summary of these experiments be here given. Mr. Alfred Schober, who recently read a paper before the German Botanical Society on this subject, says that he was led to the investigation by the similarity between X-rays and the ultra violet light of the spectrum. Sachs had shown that heliotropic curvature (turning to the sun) is incited in plants by blue, violet, and the invisible ultra violet rays, in about an equal degree with full white light; while the red, yellow, and green parts of the spectrum are apparently inactive: and Rothert, in his work on heliotropism, found that the cotyledons of germinating Oat plants were particularly sensitive to the action of light, and these were thus selected for the experiments, some of which were described in a recent number of the *Electrical Review*.

Vigorous plants germinated in full light, with cotyledons from 1 to 2 centimètres long, were selected and set in damp sand in a dark box, the walls of which were about 1 centimètre thick, and blackened on both sides. A Hittorf's tube was placed at one end of this box, at the height of the seedlings, and about 1 centimètre distant from the box. The seedlings were arranged at one end of the box, so that they were about 2 centimètres distant from the tube. The inductor had a spark length of about 12 centimètres, and was kept at its highest capacity during the experiment. The plants were exposed to the action of the rays for thirty minutes, after which an examination showed that no apparent effect had been produced. The box was then closed, and the exposure continued for another half-hour. A careful examination at the end of this time led to the conclusion that no visible effect had been produced.

It was found impracticable to continue the experiment longer, as the tube in this time had become excessively heated. After the experiment was concluded the plants used were proved to be normally sensitive, as an exposure of one hour to diffused daylight, passed through a small horizontal slit, resulted in a noticeable curvature, which in four hours had reached 60° from the vertical. As the inductor was excited to its greatest capacity during the experiment, the plants being placed in as close proximity to the light as possible; and as after the experiment the plants were found to be normally sensitive, showing noticeable curvature on an equal exposure to white light—the author concludes that the new rays appear to differ from light in that they do not stimulate heliotropic curvature.

It would, however, be as well to submit plants to the action of the X-rays for a longer interval than was here done, in order to arrive at a final conclusion as to whether they have no power to induce heliotropic curvature.

Mr. George J. Burch has been making some experiments on plant-structure as revealed by Röntgen rays at the University Extension College, Reading, as already mentioned in these columns. In investigating the influence of colour upon the relative opacity of certain substances, it occurred to one of Mr. Burch's colleagues to compare a purple Hyacinth with a piece of purple glass which had proved remarkably opaque. Mr. Burch found, upon development, that details of the structure of the flower were distinctly visible. Following up this clue, a number of flowers were "photographed" with the Röntgen rays. By suitably arranging the exposure and the development, Mr. Burch was able to show the ovules inside the ovary in an unopened bud, the seeds within a seed-vessel, and even the veins upon the white petal of a flower.

Mr. Burch puts these results down to refraction and reflection of the rays when the incidence is sufficiently oblique. Similar indications are visible in a photograph of a fish's eye, in which there is a narrow dark shadow that can only be due to internal total reflection.

In connection with this subject it is interesting to note that M. Bonnier, in a recent communication on the action of electricity on vegetation, states that a continuous electric light promotes the formation of chlorophyll, and brings about at the same time a simpler anatomical structure of the leaves. The distribution of the chlorophyll in the tissues is more extended than in ordinary daylight; chlorophyll grains make their appearance in the cortex as far as the endoderm, and even in the medullary rays and the pith. The palisade tissue of the leaf is reduced or entirely disappears, and the epidermal cell-walls are thinner, while the bark is less developed, and the various tissues of the stem are less differentiated. A discontinuous electric light is, he says, intermediate in effect between sunlight, and a continuous electric light. Alpine plants cultivated under a continuous electric light exhibit points of structure identical with those of Arctic plants, which are exposed to almost continuous sunlight in the summer.

A paper has also recently been published in the *Bulletino* of the Italian Botanical Society by Professor Aloi, who brings forward evidence that both terrestrial and atmospheric electricity exercise an influence on the germination of seeds and the growth of plants. *Herbert C. Fyfe.*

LYCHNIS VISCARIA.

The beauty of this plant for the purpose of bedding is well exhibited in the accompanying photograph of a bed in the Royal Botanic Garden, Edinburgh. For a situation of a dryish nature nothing could be more suitable, yet in this respect it is by no means fastidious. A glimpse at the illustration (fig. 23) will give at once an idea of the floriferousness of the double-flowered form of Lychnis Viscaria, and although the flowers do not last so long as might be desired, yet their brilliancy is very attractive, during the few weeks the plant remains in bloom. L. Viscaria is a British species, though rare, and is found in other countries of Europe and in Siberia. Other beds shown in the photograph are several varieties of Violas, the white one being V. Countess of Hopetoun. A good bed of Lilium umbellatum croceum punctatum is also partly included, which was bearing a profuse number of large flowers; while immediately in front of this is a bed of Heuchera sanguinea, the deep-coloured variety which in some seasons is a mass of its deep-coloured inflorescences. *R. L. H.*



Fig. 23.—Lychnis viscaria in the royal botanical gardens, edinburgh.

Orchid Notes and Gleanings.

L.ELIA MONOPHYLLA.

Nothing but the reputation of being difficult to grow, in consequence of growing it in excessive heat, to which the few specimens of the earlier introductions were subjected, prevents this pretty, orange-scarlet dwarf, Jamaican Lælia, from being so general a favourite as Sophronitis grandiflora, to which it seems to form a suitable companion plant. Recent importations which have been grown suspended in the warm end of a cool Orchid-house, have given the most satisfactory results. Some time ago, Sir Trevor Lawrence, Bart., had a specimen with twenty-eight flowers, and at present in the nurseries of Messrs. Jas. Veitch & Son, King's Road, Chelsea, is one with nineteen spikes, and several with a fewer number. The plant, however, is never likely to be plentiful, being very difficult to import.

Colonial Notes.

ORCHARD WORK AT THE CAPE.

The Cape of Good Hope Department of Agriculture issues a *Bulletin* on orchard work, drawn up by Messrs. P. MacOwen and Eustace Pillans. The information is divided into sections dealing with such details as the artificial character of modern fruit trees, construction and function of the root, soil, constituents of plant-food, respiration of roots, manuring, laying-out, and planting. After this, such fruits as the Apricot, Peach, Apple, Pear, Plum, Orange, Lemon, Citron, Fig, Walnut, Chestnut, and Quince, are severally dealt with, the best sorts of each being mentioned.

SUCCESSION OF STRAWBERRIES.

Mr. Wilson, of the Greenside Nursery, St. Andrews, N.B., is quite right about the earliness of the Royal Sovereign. Its general place in the garden and for forcing is as a second or third early. I have just heard from a Kentish grower to-day who offers 500,000 of Royal Sovereign; the numbers are its highest possible testimonial. This grower adds that Garibaldi and Vicomtesse Héricart du Thury are one and the same, which often means that the writer has only handled one variety under either or both names.

This grower's selection of the best this year in Kent is specially valuable for its brevity, as well as for the high excellency of the selected sorts. They are Royal Sovereign, Vicomtesse Héricart du Thury, President, Dr. Hogg, and British Queen. Short and select as this list is, the two last varieties will strike some growers as one too many. Where the British Queen does its best, Dr. Hogg is not needed. Where the Queen is not perfect, it is a pity to run it as a rival of Dr. Hogg, which often thrives better. Closely related as these two Strawberries are, it is seldom they are alike good in any field or garden. Hence the wisdom and profit of growing only one of the two that thrives better in any given locality. The British Queen when perfect, as it is met with at times so far north as Inverness and Aberdeenshire, within sight of the snow, and in many other places north and south, merits its name, as queen of flavour, flesh, and beauty. *D. T. Fish.*

DIDYMOCARPUS MALAYANUS.

Our illustration (fig. 24) shows a new species of this genus, which will be described and figured in a forthcoming number of the *Botanical Magazine*. It was exhibited by Messrs. Veitch at the meeting of the Royal Horticultural Society on July 14, when it received a First-class Certificate. The woodcut shows the habit of the plant. The leaves are of a rich green colour, overlaid with a covering of white silky hairs, which impart a silvery sheen to the leaves The flowers are of a pale primrose-yellow. There are two fertile stamens and two inconspicuous rudimentary filaments. It was discovered by Mr. Curtis of Penang, and will be an attractive addition to our collection of stove plants.



Fig. 24.—DIDYMOCARPUS MALAYANUS: FLOWERS PALE YELLOW, BOT. MAG. INED.

REPORT ON THE CONDITION OF THE FRUIT CROPS.

[FROM OUR OWN CORRESPONDENTS, AUGUST, 1896.]

The words "average," "over," or "under," as the case may be, indicate the amount of the crop; and "good," "very good," or "bad," indicate the quality.

The counties are arranged in numbered groups, to correspond with those adopted in the Weather Reports of the Meteorological Department, and followed in our weekly Weather Tables.

*** Fuller comments will be given in the following numbers. See also Leading Article on page 132.

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAWBERRIES.	NUTS.	NAME AND ADDRESS.
SCOTLAND—										
0, Scotland, N.										
CAITHNESS	Under	Under	Average	Average; good	None grown	None grown	Over; good	Under; bad	None grown	W. McKenzie, Thurso Castle Gardens, Thurso, N.B.
	Over; good	Average; good	Average; good	Over; very good	.....	.....	Over; very good	Average; good	.....	W. McKie, Dunbeath Castle Gardens, Dunbeath
ELGIN	Average; good	Under; good	Average; good	Over; very good	Average; good	Over; good	Over; very good	Over; very good	.....	Wm. Ogg, Duffus House Gardens
INVERNESS	Under; good	Under	Average; good	Under	.....	.....	Average; good	Over; very good	.....	James Cooper, Inverlochy Castle Gardens, Fort William
	Good	Very good	Over	Very good	.....	.....	Average	Very good	.....	Alex. Grant, Doune Gardens, Aviemore
MORAYSHIRE	Over; good	Under; good	Over; very good	Under	Average; very good	Over; good	Average	Under; bad	.....	Chas. Webster, Gordon Castle Gardens, Fochabers
	Over	Over; good	Average; good	Under	Over; good	Over; good	Over; good	Under	.....	D. Cunningham, Darnaway Castle Gardens, Forres
NAIRNSHIRE	Average	Under	Average	Under	Under	Under	Over	Average	.....	James Maitland, Cawdor Castle Gardens, Nairn
	Over; very good	Average; very good	Over; very good	Average; very good	Under; small	Over; very good	Over; very good	Over; very good	Average	Alexander Ross, Kilravock Castle Gardens, Fort George Station
ORKNEY	Over; very good	Average; good	.....	Under; good	Average; good	.....	Over; very good	Under average	.....	Thos. Macdonald, Balfour Castle Gardens, Kirkwall
ROSS-SHIRE	Average	Average	Average	Under	Over	.....	Over	Average	.....	Robert Massie, Ardross Castle, Alness
SUTHERLANDSHIRE	Average	Under	Over	Average	.....	.....	Average	Average	Average	D. Melville, Dunrobin Castle Gardens, Sutherland
1, Scotland, E.										
ABERDEENSHIRE	Average	Under	Over	Average	.....	.....	Over	Average	.....	John Forrest, Haddo House Gardens, Aberdeen
	Good	Average	Over; good	Over; very good	.....	Average	Over good	Very good	.....	S. Campbell, Fyvie Castle Gardens, Aberdeen
	Average; good	Average; good	Over; good	Over; very good	.....	.....	Over; very good	Over; very good	.....	James Grant, Rothie Norman, Rothie
	Average; good	Average; good	.....	Over; very good	.....	.....	Over; very good	Over; very good	.....	John M. Troup, Balmoral Castle Gardens, Crathie
BANFFSHIRE	Average; good	Average	Average	Average; good	Average	.....	Average; very good	Average; good	.....	William Jamieson, The Gardens, Ballindalloch Castle, Ballindalloch
	Over; good	Average; good	Over; very good	Average; good	Under; bad	Under; bad	Over; very good	Average; very good	Under; bad	X., The Gardens, Mountblairy, Turriff
BERWICKSHIRE	Over; good	Average	Over; good	Average; good	Average; good	Over; very good	Over; very good	Average; very good	Under	James Gemmell, Ladykirk Gardens, Berwick-on-Tweed
	Average; very good	Average; under	Over; very good	Average	.....	.....	Over; very good	Average; very good	.....	John Cairns, The Hirsel Gardens, Coldstream
	Over; very good	Under; good	Average; good	Average; good	Over; good	Over; good	Over; very good	Average; good	.....	James Ironside, Blackadder House Gardens, Edrom
	Average; good	Average; good	Over; good	Over; very good	Average; very good	Average; good	Over; very good	Over; very good	Average; good	John Mackinnon, Ayton Castle Gardens
CLACKMANNANSHIRE	Under	Under	Average	Average; good	Under	Average	Under	Very good	Under	Thomas Ormiston, Hill Street, Alloa
	Over; very good	Under	Over; very good	Under; good	.....	.....	Over; very good	Over; very good	.....	William Nicholson, Cowden Castle, Dollar
EAST LOTHIAN	Average; good	Under; good	Over; very good	Average	Over; good	Over; good	Under; bad	Average; good	.....	R. P. Brotherston, Tyninghame Gardens, Prestonkirk
	Average; very good	Under; good	Average; good	Average; good	Over; very good	Over; very good	Average; good	Average; good	Average	L. Dow, Newbyth Gardens, Prestonkirk
FIFESHIRE	Average; good	Under	Under	Average	None grown outside	.....	Over; very good	Over; very good	.....	W. Henderson, Balbirnie Gardens, Markinch
	Average; very good	Over; good	Average; good	Average; good	Over; very good	Over; very good	Average; good	Average; good	.....	William Williamson, Tarvit Gardens, Cupar
	Average	Under	Average; good	Over	.....	Over; good	Average; very good	Over; very good	.....	Jno. Clark, Wemyss Castle Gardens
FORFARSHIRE	Over	Average	Over	Average; good	.....	Average	Over; good	Average; very good	.....	Wm. McDowall, Brechin Castle Gardens
	Over; good	Average; good	Over; very good	Average; good	Average; good	Average; good	Over; very good	Average; good	.....	Thomas Wilson, Glamis Castle Gardens
	Over; very good	Average; very good	Over; very good	Average; very good	Average; good	Average; good	Over; very good	Over; very good	.....	William Alison, Seaview Gardens, Monifieth
KINCARDINESHIRE	Over	Under	Average	Average	.....	.....	Over	Over; very good	Under	J. M. Gairns, Arbuthnot Gardens, Fordoun
	Over; good	Average	Over	Average; very good	.....	Over	Over; very good	Over; very good	.....	William Knight, Fasque Gardens, Lawrencekirk
KINROSS-SHIRE	Under; good	Under; bad	Under; bad	Average; very good	.....	.....	Average; good	Under; good	.....	John Fortune, Blairadam Gardens, Blairadam
MIDLOTHIAN	Average	Average	Over	Average	Over	Over	Over	Over	Average	Malcolm Dunn, The Palace Gardens, Dalkeith
	Over; very good	Under; good	Under; good	Average; good	.....	Over; very good	Under; very good	Over; very good	Average; good	Robert Reid, Easter Duddingston Lodge Gdns., Portobello
PEEBLESSHIRE	Under; good	Under; good	Over; good	Over; good	None outside	.....	Over; good	Over; good	.....	Wm. McDonald, Cardrona Gardens, Peebles
PERTHSHIRE	Average	Under	Very good	Average	Very good	Very good	Average	Average	Bad	— Farquharson, Kinfauns Castle Gardens, Perth
	Average; very good	Average; good	Over; good	Average; very good	.....	.....	Average; very good	Average; good	.....	John Robb, Drummond Castle Gardens, Crieff
	Average	Average	Average	Over; good	.....	.....	Over; good	Over; good	.....	George Croucher, Ochtertyre Gardens, Crieff
	Average; good	Average; good	Over; good	Average; very good	.....	Over; very good	Over; very good	Average; very good	.....	James Ewing, Castle Menzies Gardens, Aberfeldy
	Over; good	Under; good	Over; very good	Over; good	Average; good	Over; very good	Average; good	Average; good	.....	Thomas Lunt, Keir Gardens, Dunblane

CONDITION OF THE FRUIT CROPS—(*Continued*).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAWBERRIES	NUTS.	NAME AND ADDRESS.
1, Scotland, E.										
PERTHSHIRE	Average; good	Average; good	Over; very good	Over; good	Average; good	Over; very good	Average; very good	Average; good	Average; good	A. McKinnon, Scone Palace Gardens
	Average; good	Under; good	Over; good	Average; good	None outside	.....	Over; very good	Under; good	Over	Wm. Wright, Taymouth Castle Gardens, Aberfeldy
SELKIRKSHIRE	Average; good	Under	Over; very good	Over; very good	.	.	Over; very good	Average; good	.	John C. Lunt, Bowhill Gardens
	Over; good	Under	Average	Over; good	Average; good		Over	Average; good		James Hunter, Kings Knowes Gardens, Galashiels
WEST LOTHIAN	Under	Under	Under	Good	Average	Very good	Very good	Good	Under	James Smith, Hopetoun House Gardens, South Queensferry
	Under; good	Under; good	Under; good	Under; bad	Over; very good	Over; very good	Under; very good	Average; good		John Moyes, Dalmeny Park Gardens, Edinburgh
6, Scotland, W.										
ARGYLLSHIRE	Average	Under	Under	Average; good		Under	Average; good	Average; small		G. Taylor, Castle Gardens, Inveraray
	Over; very good	Under; good	Average; very good	Average; good			Over; very good	Over; very good		P. S. McIville, Poltalloch Gardens, Lochgilphead
	Average; good	Average; good	Average; good	Under			Under average	Under average		Henry Scott, Torloisk Gardens, Tobermory
AYRSHIRE	Under	Under	Under	Under	Average; good	Under	Over; very good	Over; very good		W. Priest, Eglinton Gardens, Irvine
	Under; good	Average; good	Average; very good	Average; good	.	Average; good	Average; very good	Average; good	Under	D. Buchanan, Bargany Gardens, Girvan
	Under; good	Under; good	Average; good	Average; good	Under; good	Under; good	Over; very good	Average; good		A. Wilson, Auchmenruive Gardens, Ayr
	Under	Average	Over; very good	Over; very good			Over; very good	Average; very good		Richard Kitchin, Coodham Gardens, Kilmarnock
	Under	Under	Under	Average		Bad	Very good	Average		Thomas Simpson, Hunterston Gardens, West Kilbride
BUTESHIRE	Average; good	Average; good	Average; good	Average; good	Average; good		Over; good	Under; good		M. Heron, Mount Stewart House Gardens, Rothesay
DUMBARTONSHIRE	Average; good	Under; bad	Average; good	Under; good	.. ..	Average; good	Over; very good	Average; very good	Average; good	George McKeay, Balloch Castle Gardens
	Average		Under; good	Average; good	None in open		Over; very good	Over; very good		D. Stewart, Knockderry Castle Gardens, Cove
DUMFRIESSHIRE	Under	Under	Over; good	Over; good			Over; good	Over; good		D. Thomson, Drumlanrig Gardens
	Average; very good	Under; good	Average; good	Average; very good	None outside	Average, good	Over; very good	Over; very good		I. Urquhart, Hoddom Castle Gardens, Ecclefechan
LANARKSHIRE	Under; bad	Under; bad	Average	Over; very good	Average; good		Over; good	Average, good		Robert Grieve, Carstairs Gardens
	Average	Average	Good	Under			Under	Good		W. Sutherland, Bothwell Bank, Bothwell
	Average; good	Under; good	Average; good	Under, good			Average, good	Average; good		James Miller, Castlemilk Gardens, Rutherglen
	Average	Average	Excellent	.			Average, good	Average		William Castle, Blantyre Lodge Gardens
RENFREWSHIRE	Under	Average	Average	Average	Average; good		Average; good	Average, good		John Methven, Blythswood Gardens, Renfrew
	Under	Average; good	Under; good	Under			Over; very good	Under; good		Thomas Lunt, Ardgowan Gardens, Greenock
STIRLINGSHIRE	Over; very good	Under; good	Under	Over; very good	.	Average; good	Over; very good; black Currants under	Average, good	Average	Alex. Crosbie, Buchanan Castle Gardens, Drymen
	Over; good	Under; good	Average; good	Under; good	None outside		Over; very good	Average; good		James Masterton, Craigend Castle Gardens, Milngavie
	Over	Under	Under	Average	Average	Under	Over	Over		M. Temple, Carron House Gardens, Falkirk
WIGTONSHIRE	Over; very good	Over; good	Over; very good	Average; good	Over, very good		Over; very good	Over; very good		John Bryden, Dunragit Gardens
	Average; good	Under; good	Under; good	Average; good	Average		Average; good	Under; good		John Duthie, Penninghame House Gardens, Newton-Stewart
	Average; good	Average; good	Average; over	Good	Average; good	Over; good	Average, good	Average, good	Under	James Day, Galloway House Gardens, Garlieston
ENGLAND—										
2, England, N.E.										
DURHAM	Under	Average	Average	Average	Over	....	Very good	Average	.	Robt. Draper, Seaham Hall Gardens, Seaham Harbour
	Over; very good inquality	Average; good	Over; very good	Average; good	Over; very good	Over; very good	Average; good	Over; very good	.	James Noble, Woodburn Gardens, Darlington
	Under	Under	Over	Average	Over	Over	Average	Over		John McIntyre, Woodside Gardens, Darlington
NORTHUMBERLAND	Under	Under	Over on walls	Average	Average	Over	Over	Average		George Harris, Castle Gardens, Alnwick
	Under	Very poor	Average	Very good	Average	Under	Over	Over	Poor	William Fell & Co., Royal Nursery and Seedsmen, Hexham
	Over; very good	Average; good	Average; good	Average	Average	Average; very good	Over; very good	Average; good	Average	David Inglis, Howick Hall, Lesbury
	Average; very good	Average; very good	Over; very good	Over; very good	Over; very good	.....	Over; very good	Average; very good	.	Edward Keith, Wallington Gardens, Cambo
	Over; good	Under; good	Over; good	Over; good	Average; good	Average; good	Over; good	Average; good	..	Gardener, Eslington Park, Whittingham, R.S.O.
YORKSHIRE	Under	Average	Over	Average; good	Over; very good	Over; very good	Over; very good	Average; very good	Under	J. Riddell, The Castle Howard Gardens, York
	Under; good	Under; good	Under; good	Average; good	Average; good	Average; good	Average; good	Average; good	..	Thomas Jones, Ribston Gardens, Wetherby
	Average; good	Average; good	Average; good	Average; very good	Average; very good	Average; good	Over; very good	Under		Bailey Wadds, Bird-all Gardens, York
	Good	Average	Moderate	Good	Good	Moderate	Good	Abundant	Moderate	William Cudverwell, Thorpe Perrow Gardens, Bedale
	Average; good	Average; good	Over; good	Average; good		Over; good	Over; very good	Average; very good	Under	J. P. Leadbetter, Tranby Croft Gardens
	Average	Under	Under	Average		Over; very good	Over; good	Over, good		Geo. Batley, Wentworth Castle Gardens, Barnsley
	Under	Under	Under	Average	Average; indoors		Average	Over		J. Simpson, Wortley Hall Gardens, Sheffield
	Average; good	Under; good	Under	Average; good		Average; very good	Average, good	Average, good		John Easter, Nostell Priory Gardens, Wakefield
	Over; very good	Under; bad	Average; good	Average; very good	Average; very good	Over; good	Over; very good, except black Currants	Average; very good	Over; very good	Frederick Kneller, Studley Royal Gardens, Ripon
	Average; good	Under; good	Under; good	Average; good	..	..	Over; very good	Over; very good		Thos. Bonsall, Elmet Hall, Leeds
	Average	Average	Under	Over	Under	Over	Over	Over		Robert Dawes, Temple Newsam Gardens, Leeds

CONDITION OF THE FRUIT CROPS—(*Continued*).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAWBERRIES.	NUTS.	NAME AND ADDRESS.
2, England, N.E.										
YORKSHIRE..	Over	Over	Over	Average	None grown outside	Average	Over	Over; very good	None grown	J. Hughes, Wentworth Woodhouse Gardens, Rotherham
	Average	Under	Over	Over; good	Over; very good	Under; good	Over; good	Over; very good	Average	John Allsop, Dalton Hall Gardens, Hull
	Over; very good	Over; very good	Average; good	Average; only Morellos grown	Average; good	Over; very good	Average; good	Over; very good	Average	W. Chuck, Brodsworth Hall Gardens, Doncaster
	Average; good	Under	Over; good	Average; good	Over; good	Over; very good	Over; good	Average; bad	Over; good	S. Keepence, Thirkleby Park Gardens, Thirsk
3, England, E.										
CAMBRIDGE.....	Under; very good	Over; very good	Average; very good	Under; very good	.....	.....	Average; good	Average; good	.....	A. B. C., Wisbech and District
	Under; good	Under; bad	Under; bad	Over; good	Over; good	Average; good	Average	Average; good	Average	James Hill, Babraham Gardens
	Good	Good	Average	.....	.....	Average	Average	Very good	Good	Wilson C. Smythe, Upwell House Gardens, Wisbech
ESSEX	Average; good	Average; good	Average; good	Average; good	Over; good	Over; good	Average; good	Over; good	Average	Henry Lister, Easton Lodge Gardens, Dunmow, Essex
	Average; very good	Under; bad	Average; very good	Average; bad	Average; very good	Under; very good	Average; good	Average; very good	Over; good	W. Plester, Elsenham Hall Gardens, Stanstead
	Over; good	Under; good	Average; good	Over; very good	Average; bad	Over; good	Over; good	Over; very good	.....	James Douglas, Great Gearies Gardens, Ilford
	Average	Very good	Good	Very good	Good	Very good	Very good	Good	Very good	E. Hill, Belmont Castle Gardens, Grays
	Under; good	Under; good	Under; bad	Average; good. Morellos over	Average; good	Over; good	Average; good	Under; good	Over; very good	James Vert, Audley End Gardens, Saffron Walden
	Average	Bad	Good	Average	Very good	Good	Over	Average	Over	William J. Piper, Hylands Park Gardens, Chelmsford
LINCOLNSHIRE	Average; good	Under; good	Average; very good	Average; very good	Average; small	Over; very good	Over; good	Under; fair	Over; very good	William Lumsden, Bloxholm Hall Gardens, Lincoln
	Average	Under	Average	Average	Over	Over	Under	Under	Over for Walnuts	Thomas Vinden, Harlaxton Manor Gardens, Grantham
	Average	Average	Under	Over	.....	Average	Average; good	Average; good	Over	J. Rowlands, Manor Gardens, Bardney
	Average	Average	Under	Average	Over	Under	Under	Average	Over	J. Spilsbury Blankney Hall Gardens, Sleaford
	Average; good	Average	Under	Average	Average; good	Over; very good	Average	Average	Average; good	Hy. Naylor, Grimsthorpe Castle Gardens, Bourne
	Under; good	Average; good	Under; good	Under; good	.....	Over; good	Average crop; very good	Average; good	Average	Wm. M. Cooper, Gardener, Uffington House Gardens, Stamford
	Average	Good	Average	Average	Good	Good	Very good	Average	Very good	E. F. Hazelton, Brocklesby Park Gardens
	Average; good	Average; good	Under; bad	Under; bad	Under; good	Over average; very good	Average; good	Under average; good	Average	W. Emerton, Belton House Gardens, Grantham
NORFOLK	Over	Over; good	Under	Under	Average	Over; small	Over; very good	Over; good	Over; very good	H. Batchelor, Catton Park Gardens, Norwich
	Under; bad	Under; bad	Average	Average	.....	Under; very bad	Over; good	Over; good	Over; good	F. Lee, Lynford Hall Gardens, Mundford
	Average; good	Under	Under	Average; good	Under	Average	Average; good	Under; good	Over; good	Henry Tedder, Marham Gardens, Downham
	Over; good	Over; good	Over; very good	Over; good, excepting Morellos	Over; good	Average; good	Except red Currants, good average; Raspberries over	Average; very good	Average	Wm. Allan, Gunton Park Gardens, Norwich
SUFFOLK	Average; poor	Over; good	Average	Under	Average	Over; good	Over; very good	Average; good	Average	H. Fisher, Flixton Hall Gardens, Bungay
	Over; good	Average; good	Average; good	Over; very good	Average	Over; good	Over; good	Under	Average	W. Messenger, Woolverstone Park Gardens, Ipswich
	Under; good	Average; good	Over; very good	Average; very good	Average; good	Under; good	Average; good	Average; good	Average	G. W. Eden, Henham Hall Gardens, Wangford
	Average; good	Average; good	Over; good	Average; good	Average; good	Bad	Over; good	Average; good	Over	John Perkins, Thornham Hall Gardens, Eye
	Average; very good	Average; good	Over; very good	Average; very good	Over; very good	Average; very good	Over; good	Average; good	Over; very good	H. Rogers, Rendlesham Gardens, Woodbridge
	Under	Under	Average	Under	Average	Average	Average	Under	Average	John Wallis, Orwell Park, near Ipswich
	Over; good	Average; good	Over; very good	Average; good	Average; good	Average; good	Over; very good	Average; very good	Average	Thomas Williams, Falmouth House Gardens, Newmarket
	Average; good	Average; good	Average; good	Average; very good	Average; good	Average; good	Average; very good	Average; good	Over	B. Marks, Bury St. Edmunds
4, Midland Counties.										
BEDFORDSHIRE	Over; good	Over; good	Under; good on walls	Over; good	Over; good	Much over; good	Over; good	Over; good	Over; Walnuts much over	Geo. Ford, Wrest Park Gardens, Ampthill
	Over; good	Average; good	Average	Average; small	.....	.....	Average; good	Over; very good	Average	Thos. Hedley, Putteridge Bury Gardens, Luton
	Good; average	Under; average	Under; average	Good; average	Good; average	Good; average	Good average	Good average	Over; average	H. W. Nutt, Flitwick Gardens, Ampthill
	Average; very good	Under; very good	Under; average	Under; very good	.....	Under; very good	Average; very good	Average; very good	Under	Thomas Brazier, Oakley Gardens, Oakley
	Average	Average	Under	Average	Over	Under	Average	Under	Average	G. R. Allis, Old Warden Park Gardens, Biggleswade
	Average	Good	Under	Good	.....	Average	Very good	Very good	Good	Richard Calvert, Fraxfield Gardens, Woburn
BUCKINGHAMSHIRE	Under	Under	Bad	Bad	Not grown	Bad	Average	Good	Average	G. Bloxham, Brickhill Manor Gardens, Bletchley
	Average; good	Under	Under	Under; bad	Average	Under	Over; good	Average; good	Average; good	C. Turner, Cranfield Court Gardens, Newport Pagnell
	Under	Under	Average	Average	Under	Under	Red Currants good; Black under	Good	Under	W. Waters, Bulstrode Gardens, Gerrard's Cross
	Under; good	Under; good	Under	Average; good	.....		Average; good	Over; good	.. ..	J. Jaques, Waddesdon Gardens, Aylesbury
	Over	Under	Average	Over, and of excellent quality	.....	.	Average	Average	Over	Hedley Warren, Aston Clinton Gardens, Tring
	Average	Under	Under	Under	Average	Average	Average	Average	Average	G. T. Miles, Wycombe Abbey Gardens, High Wycombe
	Over; good	Average	Under	Under	Average	Under	Under	Over; good	Average	J. Smith, Mentmore Gardens, Leighton Buzzard
	Average; good	Under	Average; good	Under; good	Over; good	Under; good	Under	Average; good	Over; good	Chas. Herrin, Dropmore Gardens, Maidenhead
	Under; good	Under; bad	Average; good	Under; good	Average; very good	.....	Over; very good	Over; very good	Average; good	Arthur B Wadds, Cliveden Gardens, Maidenhead
CHESHIRE..	Under	Under	Under	Under	.....	.....	Average; good	Average; good	.....	Robert McKellar, Abney Hall Gardens, Cheadle
	Under	Under	Average	Average	Over	Average	Over; Black Currants bad	Average	Average	W. Whitaker, Crewe Hall Gardens, Crewe

CONDITION OF THE FRUIT CROPS—(*Continued*).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAWBERRIES.	NUTS.	NAME AND ADDRESS.
4, Midland Counties.										
CHESHIRE	Average; good	Over; very good	Under; good	Under; bad Morellos good	Over; very good	Over; very good	Over; very good	Over; very good	Under	Charles Flack, Cholmondeley Castle Gardens, Malpas
	Average; good	Average	Average	Morellos over	.. ..	Over; good	Over	Over; good	..	Rev. C. W. Dod, Malpas.
	Under	Average	Under	Over; good	Over; good	.. ..	Over	Over; very good	.. ..	William G. Sorley, The Rookery Gardens, Nantwich
	Over; good	Under	Under	Average; good	.. ..	Average; good	Average; good	Average; good	.....	W. C. Breese, Moreton Hall Gardens, Congleton
	Average	Average	Average; good	Average; small	Not grown outside	Good	Over; very good	Average; good	....	N. F. Barnes, Eaton Gardens, Chester
DERBYSHIRE	Under	Average	Average	Under	Not grown outside	Average	Average; very good	Average; good	Average	T. Keetley, Darley Abbey Gardens, Derby
	Average	Under	Average	Under	None grown outdoors	None grown outdoors	Average; very good	Average; bad	Under	Wm. Elphinstone, Shipley Hall Gardens, Derby
	Average; good	Under; good	Under; good	Average; good	.. ..	Under; good	Average; good	Average; good	.....	Wm. Chester, Chatsworth Gardens
	Under	Average; good	Over; good	.....	.. ..	.....	Average; good	Average; good	Under	E. Wilson, Hardwick Hall Gardens, Chesterfield
HERTFORDSHIRE	Over; very good	Under	Over; good	Average	Over; very good	Average; good	Under	Good	Over; very good	C. E. Martin, The Hoo Gardens, Welwyn
	Average	Under; good	Under	Under; good	.. ..	Under	Average; good	Under; good	Over; good	E. Hill, Tring Park Gardens, Tring
	Over	Over	Average	Average	Average	Under	Over; very good	Average	Over	J. Turk, Ponfield House Gardens, Little Berkhamsted
	Average; good	Under	Average	Average	Over; good	Over; good	Average	Over	Average	Thomas Nutting, The Gardens, Childwickbury, St. Albans
	Over; good	Under; good	Under; bad	Average; good	Average; good	Over; very good	Over; very good	Average; good	Over	Edwin Beckett, Aldenham House Gardens, Elstree
	Average; good	Average; good	Average; good	Average; good	Over; very good	Average; good	Over; good	Average; very good	Average	W. H. Lees, Trent Park Gardens, New Barnet
	Under; bad	Under	Average	Average	Average	Under	Average	Average; good	Over	W. Haines, Moor Park Gardens, Rickmansworth
	Average; good	Average; good	Average; under	Average; under	Average; good	Average; very good	Average; good	Average; good	Average over; good	Wm. Garman, Frythesden Gardens, Great Berkhamsted
	Average; good	Under; good	Over; good	Under; except Morellos; very good	Over; good	Under; good	Gooseberries over; good. Black Currants average, good. Red under. Raspberries under	Average; very good	Filberts average good; Walnuts under	Geo. Rugham, Wrotham Park Gardens, Barnet
	Average	Under	Under	Average; good	Average; good	Under	Average; good	Average; good	Under	Chas. Deane, Cassiobury Gardens, Watford, Herts
HUNTINGDONSHIRE	Average; good	Under; good	Under; bad	Average; good	Average; good	Average; fair	Under; good	Average; fair	Over; good	James Hewitt, Castle Gardens, Kimbolton
LEICESTERSHIRE	Under; good	Under; good	Under	Over; good	Average; good	Under; bad	Over; good	Average; good	.. ..	Alfred Hanshere, Beaumanor Park Gardens, Loughborough
	Under; very good	Under; good	Over; good	Over; good	Average; good	Over; good	Average; good	Over; very good	Under	W. H. Divers, Belvoir Castle Gardens
	Under; bad	Under; bad	Under; good	Average; good	Over; very good	Under; good	Under; good	Average; good	Walnuts over good	Daniel Roberts, Prestwold Gardens, Loughborough
	Average; good	Under; good	Average; good	Average; good	Over; good	Average; good	Over; very good	Average; good	. . .	T. A. Metcalfe, Rolleston Gardens, Leicester
NORTHANTS	Over; good	Average	Under	Average; good	Average	Average	Average; good	Over; very good	Average	W. S. Miller, Whittlebury Gardens, Towcester
	Under	Under	Under	Average	.. ..	.. ..	Average	Average	Over	R. P. McGreadie, Wakefield Lodge, Stoney Stratford
	Average; good	Under; good	Under; good	Under; bad	Over; good	Over; good	Average; good	Average; good	Over; good	H. Turner, Fineshade Abbey Gardens, Stamford
	Average	Under	Under	Few grown	Over	Over	Under	Average	Average	James Trigger, Milton Park Gardens, Peterborough
	Over; very good	Average; good	Under	Under	Average; good	Average; good	Average; good	Over; very good	Average; good	William Coomber, Lilford Hall Gardens, Oundle
	Over; good	Average; good	Over; very good	Under; bad	Over; good	Under; good	Over; very good	Average; bad	Average; good	H. Kempshall, Lamport Hall Gardens, Northampton
NOTTINGHAMSHIRE	Good average	Average	Average	Good	Good	Good	Very good	Very good	Average	A. Henderson, Thoresby Gardens, Ollerton
	Average; good	Under; good	Average; good	Under	.. ..	.. ..	Over; good	Under; good	Over; good	John Horton, Welbeck Gardens, Worksop
	Under; good	Under; good	Under; good	Under; good	Average; good	Average; good	Over; good	Average; good	Over; good	Amos Parr, Holme Pierrepont Gardens, Nottingham
	Average; bad	Under; good	Average; good	Over; good	Average; good	Over; good	Over; very good	Over; very good	.....	John Edmonds, Bestwood Lodge Gardens, Arnold
	Over; very good	Average; good	Over; very good	Average; good	Over; very good	Average; very good	Over; very good	Average; very good	Under; good	John Lyon, Ossington, Newark
	Average; good	Average	Under	Over; very good	Average; very good	Average; very good	Average; good	Average; good	Average	T. H. Crasp, Osberton, Worksop
OXFORDSHIRE	Average; good	Average; good	Average	Average	Average; good	Average	Over; good	Under; good	Over; good	George Stanton, Park Place Gardens, Henley-on-Thames
	Under average	Average	Under	Average	Under	.. ..	Average	Over; very good	Average	W. M. Geddes, Shirburn Castle Gardens, Tetsworth
	Over; good	Average; good	Over; good	Under; bad	Average; good	Under; good	Average; very good	Under; bad	Over; good	Thomas Aggiss, Tusmore Park Gardens, Bicester
	Over; good	Average; good	Over; good	Under; bad	.....	Average; very good	Average; good	Under; good	Average	Arthur G. Nichols, Nuneham Park Gardens, Abingdon
RUTLANDSHIRE	Average; good	Under; bad	Average; good	Over; good	Average; very good	Average; good	Over; good	Average; very good	Under; good	Geo. Drabble, Ketton Hall Gardens, Stamford
	Good	Bad	Good	.....	.. ..	.....	Very good	Good	Good	W. T. Kaines, Cold Overton Hall Gardens, Oakham
SHROPSHIRE	Over; good	Over; good	Under; good	Under; good	Average; good	Over; good	Average; good	Average; good	Over; good	James Louden, The Quinta Gardens, Chirk
	Under; good	Under; bad	Average; bad	Under; good	Average; good	Average; bad	Average; very good	Under; bad	Average; good	A. S. Kemp, Broadway Shifnal
	Very good	Under	Average	Under	Good	.. ..	Very good	Average; good	Very good	William Weeks, Cheswardine Hall Gardens, Market Drayton
	Average	Average; good	Over	Average	Under; good	Over; good	Average; small	Under	Over; very good	Wm. Sutton, Hawkstone Park, Shrewsbury
	Under; good	Under	Average	Average	Average	Average; good	Under	Average	Over; good	G. Pearson, Attingham Gardens, Shrewsbury
STAFFORDSHIRE	Average; good	Average; good	Average; good	Over; good	Not grown outside	Over; good	Over; very good	Over; good	Under; good	E. Gilman, Alton Towers Gardens, Cheadle
	Under; good	Average; very good	Under; bad	Over; good	Average; very good	Average; good	Over; very good	Average; good	Over; good	X., Ingestre Gardens
	Average	Average	Average	Under	Average; good	Under	Average; good	Average very small	Over; very good	Wm. Halliday, Patshull Gardens, Wolverhampton
	Under; good	Under; good	Under; good	Average; good	Average; good	Average; good	Average; good	Average; good		Arthur Coombes, Himley Hall Gardens, Dudley
	Under	Under	Average; good	Average; good	.. ..	.....	Average; good	Average; good	Under	W. Bennett, Rangemore Gardens, Burton-on-Trent
	Average; bad	Under; good	Average; good	Average; good	.....	Under; good	Over; good	Under; good	.. ..	John Wallis, Keele Gardens, Newcastle

CONDITION OF THE FRUIT CROPS—(*Continued*).

COUNTY.	APPLES	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAWBERRIES.	NUTS.	NAME AND ADDRESS.
4, Midland Counties.										
STAFFORDSHIRE	Average	Average	Over	Average	None grown	Over	Average	Average	Over	T. Bannerman, Blithfield Gardens, Rugeley
	Under; good	Under; bad	Under; good	Average; good	Over; good	Average; good	Average; good	Average; good	Over; good	Geo. Woodgate, Rolleston Hall Gardens, Burton-on-Trent
	Under; good	Over; very good	Under; good	Average; good	Average; good	Under; very good	Average; good	Under; good	Over; very good	John William Brown, Middleton Hall Gardens, Tamworth
	Average; good	Average, and small	Under; bad	Under; good	Under; bad	Average; good	Average; good	Under; bad	Average	H. G. Wilks, Sandon Hall Gardens, Stone
WARWICKSHIRE .	Under; bad	Under; bad	Under; bad	Under; bad	Average; very good	Average; very good	Under; bad	Under; bad	Average	James Rodger, Charlecote Park Gardens
	Over; good	Over; good	Average; good	Over; good	Average; good	Average; good	Over; good	Over; good	Over	W. Miller, Combe Abbey, Coventry
	Under	Average	Under; bad	Under	.....	Under; bad	Average; good	Average; very good	Over; good	William Ward, Aston Hall Gardens, Sutton Coldfield
	Under	Under	Under	Average; good	Average; good	Average; good	Good	Average	... .	Thomas Beddard, Stoneleigh Abbey Gardens, Kenilworth
	Under; good	Under; good	Under; good	Average; small	Average; very good	Under; small	Over; very good	Over; very good	Average; good	H. Dunkin, Castle Gardens, Warwick
5, Southern Counties.										
BERKSHIRE.....	Under	Average	Average	Over	Very good	Average	Average	Over	Average; very good	Robert Fenn, Sulhamstead, near Reading
	Average	Average	Under	Average; good	Average	...	Over; very good	Over; very good	Average	James Strachan, Rosehill Gardens, Henley-on-Thames
	Average	Under	Average; good	Average	Average; good	Average; good	Under	Over; good	Under	J. Howard, Benham Gardens, Newbury
	Under	Average	Under	Average; good	Average; very good	Under	Average	Average; good	Average	T. Turton, The Gardens, Maiden Erlegh, Reading
	Average; very good	Under	Under	Average; very good	Average; very good	Average	Average	Under	Average; good	W. Fyfe, Lockinge Gardens, Wantage
	Over; very good	Average; good	Under; bad	Average; good	Average; good	Average; good	Average; good	Over; very good	Average	W. Pope, Highclere Castle Gardens, Newbury
	Under	Under	Under	Over	Over; very good	Over; good	Over; very good	Over; good	Average	F. J. Thorne, Sunningdale Park Gardens, Ascot
	Under; good	Under; good	Average; good	Average; very good	Average; very good	Under	Average; very good	Over; very good	Average; good	Frank Lowe, Easthampstead Park Gardens, Wokingham
	Over; good	Average; good	Average; good	Average; good	Over	.	Average; good	Over; very good	Good	A. J. Long, Wyfold Court Gardens, Reading
	Under; good	Average; good	Under; good	Over; very good	Over; very good	Over; small	Average; very good	Over; very good	Over; good	O. Thomas, Royal Gardens, Windsor
DORSETSHIRE .	Under; good	Average; good	Average; good	Over; good	.....	Under; good	Under; good	Average; good	Average; very good	Thos. Denny, Down House Gardens, Blandford
HAMPSHIRE ..	Over; good	Average; good	Average; good	Over; very good	Average; good	.	Average	Over	Average	E. Molyneux, Swanmore Park Gardens, Bishop's Waltham
	Under	Under	Over; good	Over; very good	Under	Under	Over; very good	Average	Over; very good	Jas Beck, 436, Holdenhurst Road, Bournemouth
	Under; bad	Under; bad	Average	Average	Over; very good	Average	Over; good	Over; good	Average	A. Maxim, Heckfield Place Gardens, Winchfield
	Average small	Under; bad	Over; very good	Under	Average; good	Average; very good	Over	Average; good	Average	John Bowerman, Hackwood Park, Basingstoke
	Over; good	Over; good	Over; good	Over; good	Over	Over	Average; good	Average; good	Average	William Smythe, Basing Park Gardens, Alton
	Average	Under	Under	Under	Under	Under	Over; good	Average; very good	Under	H. Ireland, Wentworth Lodge Gardens, Boscombe, Bournemouth
	Under	Under	Average	Average	Over	Under	Average	Average	Under	John W. McHattie, Strathsheldsaye Gardens, Mortimer
	Under; bad	Under; good	Under	Average			Average	Average; very good	Average	N. Molyneux, Rookesbury Park Gardens, Fareham
	Under; good	Under; good	Average; good	Average; very good	Average; good	Average; very good	Average; very good	Average; very good	Average; very good	Arthur Lee, Palace House Gardens, Beaulieu
	Under	Under	Good		Bad	Average	Good	Average	Good	Geo. Nobbs, Royal Gardens, Osborne, I.W.
	Under	Average; bad		Under	Average; very good	Average; small	Under; small	Average; good	Average; very good	J. Wasley, Sherfield Manor, Basingstoke
	Under; good	Under; good	Under; bad	Average; good	Over; very good	Average	Over; very good	Over; very good	Over	G. W. Joblin, The Deepdene Gardens, Bitterne
KENT	Under	Under	Under	Under; good	. .	.	Average; good	Average; good	Over	V. Court, Lynsted Gardens, Sittingbourne
	Under	Under; good	Under	Average; very good	Over; very good	Good	Under	Average; very good	Over; very good	H. Markham, Mereworth Castle Gardens, Maidstone
	Under	Average	Under	Average	Over	.. .	Average	Over	Over	Geo. Woodward, Barham Court Gardens, Teston, Maidstone
	Under; good	Average; good	Average; very good	Over; very good	Average; good	Average; good	Over; very good	Over; very good	Average; very good	Henry Elliott, Wildernesse Gardens, Sevenoaks
	Under; bad	Average; good	Under; good	Under; good	Under; good	. .	Under; good	Over; good	Over; good	Frederic Smith, Loddington Gardens, Maidstone
	Under; good	Average	Under; good	Under; fair	.....	.. ...	Under; very good	Average; good	Over; good	Champion Brothers, Mereworth, Maidstone
	Under; bad	Under; bad	Under; bad	Under; very good	Over; very good	.....	Average; Rasps, extra good, others very good	Average; good	Average	G. Abbey, Avery Hill, Eltham
	Under; good	Over; good	Over; good	Average; good	Under	Under; bad	Over; good	Average; good	Average	J. Stubbs, Knole Park Gardens, Sevenoaks
	Average; good	Under	Under	Average; bad	Average	Average	Under; very good	Over; very good	Over; very good	Geo. Hutt, Ludlingstone Castle Gardens, Dartford
	Under; very good	Under; good	Under; bad	Over; good	Average; very good	Over; very good	Over; good	Average; very good	.....	F. Moore, Blendon Gardens, Bexley
	Under	Over	Average	Under	Over	.....	Average	Over	Very heavy crops; much over	Wm. Lewis, East Sutton Park Gardens, Staplehurst
	Under; bad	Average; good	Over	Average; good	Average	.	Over; good, except Black Currants	Average; good	Over; very good	Geo. Fennell, Fairlawn Gardens, Tonbridge
	Under	Average	Under	. ..	Average	. .	Average	Under	Over	John McKenzie, Linton Gardens, Maidstone
	Under; bad	Average	Average; good	Average	Average	Under; bad	Over; good	Under; good	Average	A. Wilson, Eridge Castle Gardens, Tunbridge Wells
MIDDLESEX	Average; good	Average; good	Average; good	.	Average; good	..	Average; very good	Over; very good	. .	A. J. Ballhatchet, Fulham Palace Gardens, Fulham, S.W.
	Average; good	Average; very good	Under	Over; very good	Over; very good	Over; very good	Average; good	Over; very good	Under	Geo. Wythes, Syon House Gardens, Brentford, W.
	Under	Under; bad	Under	Average	Average; good	Average	Under	Under	Average	William Bates, Cross Deep Gardens, Twickenham
	Under; bad	Under; good	Average; good	Under; bad	Over; very good	Under; good	Under; good	Over; very good	Under; bad	S. T. Wright, R. H. S. Gardens, Chiswick, W.
	Under	Under	Under	Average; very good	Average; very good	Under	Under	Average; very good	Average	George Reynolds, Gunnersbury Park Gardens, Acton, W.
	Under	Under	Under	Good	Good	Under	Good	Good	Under	William Farr, Spring Grove House Gardens, Isleworth

CONDITION OF THE FRUIT CROPS—(*Continued*).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAWBERRIES.	NUTS	NAME AND ADDRESS.
5, Southern Counties.										
MIDDLESEX	Under	Under	Average	Average	Very good	Very good	Gooseberries very good; Currants under	Average; very good	Average; Walnuts good crop	Robert H. Cronk, Cranford House Gardens, Hounslow
	Under; bad	Under	Under on walls	Average	Average; good	Average	Average; very good	Average	....	W. Rapley, Harrow Weald House Gardens
	Under	Average; good	Average	Average	Average; very good	Average; good	Over; average	Average; good	Under	John W. Odell, The Grove Gardens, Stanmore
	Under; bad	Under; bad	Average; good	Average; very good	Over; very good	Under; bad	Gooseberries over; very good. Currants under; bad. Raspberries under; bad	Over; very good	.	A. R. Allan, Hillingdon Court Gardens, Uxbridge
	Under, and blighty	Under, good	Average; bad	Good	Good	Fair	Good	Fair		W. Watson, Harefield Place Gardens, Uxbridge
SURREY	Under; fair	Under; good	Under; fair	Average; good	Average; good	Under	Average; fair	Average; good	Walnuts good	Alex. Dean, Kingston-on-Thames
	Average	Under	Very few	Under	Good	Good	Average	Average	Exceptionally good	J. W. Parrott, Normandy Gardens, Guildford
	Under; good	Under; small	Over; good	Average; good	Over; good	Over; good	Under; small	Under; small		Edward Turnell, Claremont, Esher
	Under	Much under	Under	Much under	Over; good	Under	Over; good	Over; good	Average	A. Evans, Lythe Hill, Haslemere
	Under; good	Average; good	Over; good	Average; good	Average; good	Average; good	Under; good	Average; good	Over; very good	G. W. Cummins, The Grange Gardens, Wallington
	Average	Under	Average	.	Over	Average	Over	Over	Average	G. B. Baskett, Ealing Park, Godalming
	Average; good	Average; good	Under	Under	. . .	. .	Average	Average	. . .	J. F. McLeod, Dover House Gardens, Roehampton
	Under	Average	Under	Average	Average	Over	Average; very good	Average; good	Average	Thos. Osman, Ottershaw Park Gardens, Chertsey
	Average; good	Over	Under	Over; very good	Fair	Over; good	Over; good	Over; very good	Very good	G. Halsey, Reddings Court, Caterham
	Under	Under	Under	Morellos average		.	Average; Gooseberries under	Under	Average	C. J. Salter, Woodhatch Lodge Gardens, Reigate
	Average; under	Good	Under; bad				Average	Good	Over	W. Bain, Burford Lodge Gardens, Dorking
	Average, good	Average, good	Average; good	Over; good	Over, good	Over; good	Over, very good	Over; very good	Over; good	John Miller, Ruxley Lodge Gardens, Esher
	Under	Under	Good	Good	Very good	Good	Very good	Very good	Average	W. C. Leach, Albury Park Gardens, Guildford
SUSSEX	Under	Under	Under	Under	Average, good	Under	Average	Average; good	Over	F. Gresson, Cowdray Park Gardens, Midhurst
	Under	Under	Under	Under	Average	. . .	Under	Average; good	Average	Alex. Reid, jun., Possingworth Gardens, Cross-in-Hand, Hawkhurst
	Under; fair	Average; good	Under; fair	Over; very good	Average, fair	Under; good	Gooseberries and Raspberries over Black Currants average; red under	Average; very good	Walnuts over; Filberts average	H. C. Prinsep, Buxted Park, Uckfield
	Under; bad	Under; good	Over; good	Under; bad	Over; very good	.....	Over; good	Average; good	Over; good	A. J. O., Handcross Park Gardens, Crawley
	Under	Under; good	Under	Average; good	Average; good	Average; good	Average, except Red Currants	Over; good	Under	E. Burberry, Castle Gardens, Arundel
	Under	Under	Average	Under	Average; good	Under	Over; very good	Over; very good	Under	Robert Aitken, The East Lodge Gardens, Beaulieu, St. Leonards-on-Sea
	Average; good	Average; good	Average; very good	Average; good	Average; good	Under; bad	Over; good	Over; good	Over; good	W. H. Smith, West Dean Park Gardens, Chichester
	Under; good	Average; very good	Average; good	Under; good	Average; good	..	Average; good	Over; very good	Over; good	C. H. Jones, Ote Hall Gardens, Burgess Hill
	Under	Under	Under	Average; good	Average; good	.	Average	Under	Under	G. F. Glen, Brambletye Gardens, East Grinstead
	Under; good	Average; good	Over; good	Average, good	Average; good	Over; good	Average; good	Under; good	Over; good	Richard Parker, Goodwood, Chichester
	Under	Under	Average	Very good	Average	.	Very good	Good	Very good	G. Duncan, Warnham Court Gardens, Horsham
WILTSHIRE	Average	Under	Average	Average	Under	Under	Under	Under	Average	T. King, The Castle Gardens, Devizes
	Average	Under	Under	Average	Average	. .	Average; good	Average; good	Average	J. Trollope, Longleat Gardens, Warminster
	Average; good	Under; good	Average; good	Over; very good	Over; very good	Over; very good	Average; good	Under; good	Under; good	Thomas Challis, Wilton House Gardens, near Salisbury
	Over	Under	Over	Good	Good	Under	Over	Over	Very good	Alfred Rushent, Savernake Gardens, near Marlborough
	Over; good	Under; good	Average; very good	Average; good	Over; good	Average; good	Very good	Over; bad		T. Nelson, Bowood Gardens, Calne
	Under	Average	Over; good	Average	Under	Average; very good	Average	Average; good	Over	G. Fulford, West Park Gardens, Damerham, Salisbury
	Average	Under	Under	Average	Average	Average; good	Over	Average; good	Average	William Nash, Badminton Gardens, Chippenham
7, England, N.W.										
CUMBERLAND	Under	Under	Few grown	.....	None outside	. .	Over; very good	Over; very good	. .	B. Gowan, Castle Gardens, Whitehaven
LANCASHIRE	Average; good	Average; good	Average; good	Average; good	Average; good	...	Average; very good	Average; very good		W. P. Roberts, Cuerdon Hall Gardens, Preston
	Under	Under	Under	Under		.	Over; very good	Under; good	..	W. B. Upjohn, Worsley Hall Gardens, Manchester
	Average; good	Average; good	Average; good	Over; good	Over; very good	. . .	Over; very good	Average; good	Average; good	B. Ashton, Latham House Gardens, Ormskirk
	Under; good	Under; good	Under; bad	Under; good	..	.	Over; very good	Average; good		A. E. Peach, Trafford Park Gardens, Patricroft, Manchester
	Very good	Very good	Good	Fair	Good		Very good	Very good		T. Hargreaves, The Gardens, Ashton Hall, Lancaster
	Average; good	Under	Under	Average; good	Under	Over; good	Over; good	Average; good		R. Doe, Knowsley Hall Gardens, Prescot
WESTMORELAND	Under	Under	Under	Under		.	Average	Under		W. A. Miller, Underley Gardens, Kirkby Lonsdale
	Under	Under	Very good	Very good	None grown outside	Average	Very good	Average		Frederick Clarke, Lowther Castle Gardens, Penrith
	Over; bad	Average	Average	Over; good	Under	. . .	Over; good	Over; good	Average	R. R. C., Westmoreland

CONDITION OF THE FRUIT CROPS—(*Continued*).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAWBERRIES.	NUTS.	NAME AND ADDRESS.
8. England, S.W.										
CORNWALL	Average	Under	Over	Average	Under	None grown	Red Currants average; Black ditto, under; others over	Under	Under	W. H. Bennett, Menabilly, Par
	Average	Under	Under	Morellos under	Under	.....	Average	Under	.....	A. Mitchell, Tehidy Park, Camborne
	Under; bad	Under; good	Under; bad	Under; bad	Average; good	.....	Under	Under; bad	Average; good	Alfred Read, Port Eliot Gardens, R.S.O.
	Under; good	Average; good	Average; good	Over; good	Average; good	.....	Over; good	Over; good	Average	Chas. Page, Boconnoc Gardens, Lostwithiel
	Under; bad	Average; good	Over; good	Average; good	Over; very good	.....	Average; good	.....	.....	W. Sangwin, Trelissick, Truro
DEVONSHIRE	Under	Under	Average; early sorts good	Average; good	Under	Average; good	Under	Over; very good	Average	James Enstone, 38, Temple Road, Exeter
	Under; bad	Average; bad	Under; good	Average; good	Under; good	.....	Average; bad	Under; bad	Over; good	A. Eames, Heanton Satchville, Beaford
	Good	Average	Good	Average	Good	.....	Very good	Very good	Average	T. Vinney, Arlington Court Gardens, Barnstaple
	Under; bad	Under; good	Average; good	Average; good	Under; poor	Under	Average; good	Average; small	Under	W. Swan, Bystock Gardens, Exmouth
	Average	Average	Under	Average; good	Under	.....	Over	Under	Average	Geo. Baker, Membland, near Plymouth
GLOUCESTERSHIRE	Under	Under	Average; good	Average	Average; good	Average; good	Average	Under	Over	John Sowray, Highnam Court, Gloucester
	Under	Under	Under	Average	Average	Under	Average	Average	Over	Wm. Keen, Bowden Hall Gardens, Gloucester
	Good	Fair; good	Average; good	Average	Over; very good	Over; good	Over; good	Over; very good	Under	T. E. Arnold, The Cirencester House Gardens, Cirencester
	Under; bad	Under; good	Under; good	Under; good	Over; good	Under; good	Gooseberries and red Currants average, black Currants under, Raspberries over	Average; good	Under	J. Cleare, Toddington Gardens, Winchcombe, R.S.O.
	Under; bad	Average; good	Under; bad	Average	Average; good	Under	Over; good	Average; good	Over	Thomas Shingles, Tortworth Gardens, Falfield
	Average; very good	Average; very good	Average; good	Average; very good	Under	Under; good	Average; good	Over	Over	William Greenaway, Dodington Park Gardens, Chipping Sodbury
	Over; good	Under; good	Average; very good	Average; good	Average; very good	Over; good	Over; very good	Average; good	Over	A. Scott, Sherborne House Gardens, Northleach
HEREFORDSHIRE	Under; good	Average; good	Under; bad	Under; good	Over; good	Over; good	Under; good	Under; good	Over; good	John Watkins, Pomona Farm, Withington, Hereford
	Average	Under; good	Over; good	Average; good	Average; good	Average; good	Average; good	Under; good	Under	Thos. Spencer, Goodrich Court Gardens, Ross
	Under; bad	Average; good	Over; good	Average; bad	Over; very good	Average; good	Average; good	Average; good	Over; very good	F. Harris, Eastnor Castle Gardens, Ledbury
	Average; good	Average; good	Over; good	Over; very good	Average; very good	Average; very good	Over; very good	Over; very good	Over; very good	Geo. Milne, Titley Court Gardens, Titley, R.S.O.
	Average; good	Average; good	Average; good	Over; good	Over; good	Over; good	Over; good	Over; good	Over; good	A. Ward, Stoke Edith Gardens, Hereford
	Under; good	Average; good	Average	Average; good	Under	Average; good	Average; very small	Average	Average; good	C. A. Bayford, Glewstone Court, Ross
	Under; good	Average; good	Over; good	Average; very good	Average; good	Over; very good	Over; good	Average; very good	Over; very good	Joseph Russell, Berrington Hall, Leominster
MONMOUTHSHIRE	Under; good	Under; good	Over; good	Under; good	.....	Over; very good	Over; very good	Average; very good	Over	Thomas Coomber, The Hendre Gardens, Monmouth
	Average	Under	Under	Under	Average	Average	Average	Average	Over	Jno. Lockyer, Park Gardens, Pontypool
	Under; bad	Average; very good	Average; good	Under; good	Over; good	Over; very good	Over; very good	Over; very good	Under	W. F. Woods, Llanfrechfa Grange Gardens, Caerleon
SOMERSETSHIRE	Under	Under	Average	Under	Average	Average	Under	Average	Under	W. Hallett, Cossington House Farm, Bridgewater
	Average; good	Average; good	Average; good	Over	Under	Average	Over; good	Average; good	Average	Thos. Wilkins, The Gardens, Inwood House, Henstridge
	Average; good	Average; good	Over; good	Over; good	Average; small	Over; very good	Average; good	Average; good	Over; good	A. Young, Marston House Gardens, Frome
	Under; good	Under; good	Average; very good	Over; good	.....	Over; good	Over; very good	Under; bad	Under; bad	John Crook, Forde Abbey Gardens, Chard
	Under; bad	Under; bad	Over; good	Average; good	Under; good	Under; bad	Average; good	Under; good	Over; very good	H. Noble, Ashton Court Gardens, Bristol
	Under; good	Average	Average	Under; good	Over; good	Average	Over; good	Average	Over; good	William Thomas, Norton Manor Gardens, Taunton
	Under; good	Average; good	Over; bad	Average; good	Average; good	Average; good	Average; good	Average; good	Average	T. Carter, Butleigh Court Gardens, Glastonbury
	Under	Under	Under	Average; good	Over; good	Over; good	Over; good	Average; good	Over; good	D. Owles, Apley Castle Gardens, Wellington
WORCESTERSHIRE	Under; good	Under; good	Over; good	Over; good	Over; good	Under	Over; good	Average; good	Over	A. Young, Witley Court Gardens, Stourport
	Bad	Very good	Good	Good	Very good	Very good	Good	Good	Very good	John Owen, Whitbourne Court, Worcester
	Under; good	Average; very good	Average; good	Average; good	Average; good	Average; very good	Over; very good	Over; very good	Over; very good	Fred. Hughes, Overbury Court Gardens, Tewkesbury
	Under; bad	Average; good	Average; good	Average; good	Over; very good	Over; very good	Average; good	Under; good	Over; good	W. Crump, Madresfield Court Gardens, Great Malvern
	Under; good	Under; bad	Average; good	Average; good	Over; good	Average; good	Average; good	Average; good	Average	J. Justice, Nash Gardens, Kempsey
	Under; good	Under; good	Under; good	Average; good	Under; bad	Under; bad	Average; very good	Average; very good	Under; bad	W. Pettigrew, Hewell Grange Gardens, Redditch
	Bad	Under	Average	Average	Very good	Very good	Average	Good	Good	Geo. H. Green, Enville Hall Gardens, Stourbridge
	Under	Under	Average	Average	Over	Average	Average	Average	.....	Jno. Masterson, Weston House Gardens, Shipston-on-Stour
WALES—										
ANGLESEY	Average; very good	Under; good	Average; good	Average; very good	.....	.....	Over; very good	Average; good	.....	K. W. Wright, Gardens, Plasnewydd, Llanfair
	Average; very good	Under; good	Average; good	Average; good	Average; very good	.....	Over; very good	Average; very good	.....	F. W. Everett, Penrhos Gardens, Holyhead
BRECKNOCKSHIRE	Under	Average	Under	.....	Good	Average	Good	Average	.....	D. Clark, Clyso Park Gardens, Hay
	Under; good	Under; good	Under; very good	Average; good	Over; good	Over; very good	Under; very good	Average; good	Over; good	A. Ballard, Glanusk Park Gardens, Crickhowell
CARDIGANSHIRE	Average	Under	Average	Average; good	Average; good	Under	Over; very good	Average	Average	R. C. Williams, Crosswood Park Gardens, Aberystwith
	Over; very good	Over; good	Average	Over; very good	Average	Under; bad	Over; good	Over; very good	.....	Wm. Crawford, Derry Ormond Park Gardens, Lampeter
CARMARTHENSHIRE	Average	Under	Average	Average	Average	.....	Average; good	Under; bad	Average	Lewis Bowen, Edwinsford Gardens, Llandilo
	Under; good	Over; very good	Average	Average	Average; good	Under; poor	Over; good	Over; very good	None	John McDonald, Dynevor Castle Gardens, Llandilo

CONDITION OF THE FRUIT CROPS—(*Continued*).

COUNTY.	APPLES.	PEARS.	PLUMS.	CHERRIES.	PEACHES AND NECTARINES.	APRICOTS.	SMALL FRUITS.	STRAWBERRIES.	NUTS.	NAME AND ADDRESS.
WALES—										
CARNARVONSHIRE ...	Under	Under	Under	Under	Under	None grown	Under	Under	None grown	Allan Calder, Vaynol Park Gardens, Bangor
	Under	Average; good	Average; good	Over; good	.....	.....	Average; good	Under	Average	T. Evans, Gwyder Gardens, Llanrwst
DENBIGHSHIRE.....	Average; good	Under; good	Under; good	Average; good	Under	Under; good	Over; good	Over; good	Average	P. Middleton, Wynnstay Gardens, Ruabon
	Average; good	Average; good	Under	Average; very good	Over; very good	Over; very good	Over; very good	Average; good	Over; good	Walter Weir, Acton Park Gardens, Wrexham
	Under	Under	Under	Good	.....	Good	Average; very good	Very good	Average; very good	Henry Forder, Ruthin Castle Gardens, Ruthin
FLINTSHIRE	Average	Good	Average	Good	Under	Very good	Good	Very good	.....	J. Forsyth, Hawarden Castle Gardens, Chester
GLAMORGANSHIRE ..	Under	Under	Under	... ..	... .	.....	.....	Over; very good	.....	A. Pettigrew, Castle Gardens, Cardiff
	Under; good	Average; good	Over; good	Over; very good	Average; good	Under	Over; very good	Over; good	Average	Richard Milner, Penrice Castle Gardens, Swansea
	Under; good	Under; good	Average; good	Over; very good	Average; good	.....	Over; very good	Over; very good	Over; very good	C. Hibbert, Craig-y-nos Castle, Swansea Valley, R.S.O.
	Average; small	Under	Average	Average	Over; very good	.....	Average	Average	.....	J. Muir, Margam Park
	Under	Under	Under	Average	Under	.....	Average	Over; very good	Average	Wm. Bennett, The Gardens, Talygarn, Llantrissant
	Under	Average	Under	Average; good	Average; good	Average; good	Average; very good	Average; very good	Average	A. Blanchett, Dunraven Castle Gardens, Bridgend
MERIONETHSHIRE ...	Over; good	Average	Under; good	Average	... ..	Average	Over; good	Over; good	Average	J. Bennett, Rhûg Gardens, Corwen
MONTGOMERYSHIRE	Under; good	Under	Average	Over; good	Over	Average	Over; good	Average; good	Average	Jno. Lambert, Powis Gastle Gardens, Welshpool
	Over; good	Under; good	Over; good	.....	.....	.....	Over; very good	Average; good	.....	Thomas Humphreys, Garden House, Gregynog, Newtown
PEMBROKESHIRE ..	Average	Average	Under	Average	Average	.....	Under; good	Average	Under; good	Geo. Griffin, Slebeck Park Gardens, Haverfordwest
	Under; good	Under; good	Under; bad	Under	Average; good	.....	Under; good	Average; good	Average	W. B. Fisher, Stackpole Gardens
RADNORSHIRE	Under	Under	Under	Average; very good	Average; very good	Average; very good	.....	Average; very good	Average	Samuel Dickson, Boullibrook Gardens, Presteign
IRELAND—										
9, Ireland, N.										
ANTRIM	Average; good	Average; very good	Average; very good	Average; good	... .	.....	Average; very good	Over; good	.....	Geo. Porteous, Garron Tower
CARLOW...	Average; good	Over	Average; good	Average; good	Average; good	.....	Average; good	Average; good	.....	Thomas Bloomer, The Lisnavagh Gardens, Rathvilly, co. Carlow
DOWN	Over; good	Under	Average	Under	... .	.....	Over; good	Average; good	.....	J. Taylor, Mountstewart, Newtownards
DUBLIN	Over; good	Average; good	Average; good	Average; good	Average; good	Average; good	Average; good	Average; good	Under; good	James Patterson, Malahide Castle Gardens, Malahide
	Average; good	Under; bad	Average	Average	Under; bad	Average; good	Under	Average	.....	G. Smith, Vice-Regal Gardens, Dublin
FERMANAGH	Good	Good	Average	Good	... .	.....	Very good	Very good	Good	R. Elworthy, Crom Castle Gardens, Newtown Butler
GALWAY...	Average; very good	Under; good	Average; good	Average; good	.....	.....	Over; very good	Average; good	.....	John Cobban, Garbally, Ballinasloe
KERRY	Average	Average	Under	Under	Average	... ..	Average	Under	.....	J. H. Kemp, Dromore Gardens, Kenmore
	Under	Average	Average	Average	. .	.....	Average	Average; very good	Average	G. M. Breese, Kenmore Gardens, Killarney
LONGFORD	Very good	Good	Very good	Bad	... .	None grown	Very good	Under; bad	Good	J. Rafferty, Castle Forbes
MAYO	Very good	Under	Good	Bad	Average	.....	Very good	Under	Good	Patrick Connolly, Cranmore Gardens, Ballinrobe
MEATH	Average; very good	Under	Average; good	Average; very good	Under; bad	Under	Average; very good	Average; good	.....	James Hounslow, Headfort Gardens, Kells
SLIGO	Under; bad	Average	Under	Under; bad	Average	Under	Average	Under	Average	J. E. Dawson, The Gardens, Lissadell, Sligo
WESTMEATH	Over; good	Under	Average; very good	Good	Under	Under	Very good	Average	Average; very good	John Igoe, Garden Vale, Athlone
10, Ireland, S.										
CLARE.....	Over	Under	Average	Under	Under	.....	Over; very good	Over; very good	Over	John H. Carter, Dromoland Castle Gardens, Newmarket-on-Fergus
CORK	Over; very good	Average	Average; bad	Under	Average; good	Average	Over	Over; very good	Average	R. Wilson, Michelstown Castle Gardens
KILDARE	Over	Over	Average	Under; good	Under	Average	Over; good	Over; good	.....	J. Wyke, Bishop's Court Gardens, Straffan
	Over; very good	Under; good	Average; good	Average; good	Under	.....	Over; very good	Average; good	Over	Frederick Bedford, Straffan House Gardens, Straffan Station
KILKENNY	Average; very good	Under; bad	Average; good	Under; good	.. ...	Average; good	Over; very good	Over; very good	Average; good	H. Carlton, Kilkenny Castle Gardens, Kilkenny
KING'S COUNTY.....	Over; good	Average; good	Over; good	Under; bad	Under	.....	Average; good	Over; very good	Average	T. J. Hart, Birr Castle Gardens, Parsonstown
LIMERICK.....	Average; good	Under	Average	.....	Under	Under	Over; good	Over; very good	.....	J. Ellicott, Summerville Gardens, Limerick
ROSCOMMON	Over; good	Over; good	Over; very good	Over; good	Over; good	Average	Over; very good	Average; good	Average; good	T. Rogers, French Park House Gardens, French Park
TIPPERARY	Very good	Very good	Very good	Very good	.....	.....	Very good	Average	Very good	Michael Dixon, Grove, Fethard
WATERFORD	Very good	Good	Very good	Good	Good	.....	Very good	Very good	.....	Thos. Dunne, Strancally Castle Gardens, Villierstown
	Over	Over	Over	Over; very good	Average; good	Average	Average; very good	Average; good	.....	Thos. Singleton, Curraghmore Gardens, Porteau
CHANNEL ISLANDS.										
GUERNSEY	Under	Under	Under	Under; good	Average	.....	Average; good	Under; very good	.....	H. Parsons
	Average; good	Under	Average; bad	Average	Average	Under	Under; good	Under; good	.....	C. Smith & Son, Caledonia Nursery, Guernsey
JERSEY	Average	Average	Good	Bad	Good	Bad	Average	Very good	Good	John Nicolle, La Carrière Gardens, St. Martin's
	Under; good	Under; very good	Under; good	Under; good	Average; good	Average; good	Average; good	Under; good	.....	H. Becker, Nurseryman and Fruit Grower
	Under; good	Average; very good	Average; good	Over; very good	Average; good	Average; good	Over; very good	Under; good	Not grown	Ashelford & Son, Queen's Road Nurseries, St. Heliers
ISLE OF MAN.....	Over; good	Average	Average	Over; very good	... ..	.....	Over; good	Average; very good	.....	James Murphy, Cronkbourne Gardens, Douglas
	Over; good	Under	Average	Average	Average	..... .	Average; good	Over; good	.....	James Inglis, The Nunnery House Gardens, Douglas

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the PUBLISHER.

Letters for Publication, *as well as specimens and plants for naming, should be addressed to the* **EDITOR, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

APPOINTMENTS FOR THE ENSUING WEEK.

SATURDAY,	Aug. 1	Société Franc. d'Hort. meet. Royal Horticultural Society of Southampton Show; and on Aug. 3.
SUNDAY,	Aug. 2	Royal Horticultural and Agricultural Society of Ghent.
MONDAY,	Aug. 3	Bampton Show (Oxon) Beddington, Carshalton, and Wallington Show, in Carshalton Park. Mansfield Show, Notts. Northampton Floral Fête (two days).
TUESDAY,	Aug. 4	Leicester Show in Abbey Park. Horticultural Conference at Chester (Town Hall).
WEDNESDAY,	Aug. 5	Chester Horticultural Show (Royal Horticultural Deputation) (two days). Chesterfield Rose Show. Forest Hill, S.E., Show (two days). Ancient Society of York Florists
THURSDAY,	Aug. 6	—Grimsby Show (two days)
FRIDAY,	Aug. 7	Driffield Horticultural Show

SALE.

FRIDAY,	Aug. 7	Great Sale of Lilium Harrisi, also Imported and Established Orchids at Protheroe & Morris' Rooms

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK —63·1°.

The Fruit Crops.

THANKS to the courtesy of our correspondents in all parts of the Kingdom, we are enabled to give a general summary showing the condition of the fruit crops for the year. The returns have been made mostly by the same recorders who have obliged us in former years, and although a certain amount of vagueness is inevitable, yet it is impossible to doubt that, substantially, the report we publish to-day does accurately represent the condition of the crops. We cannot say the report is entirely satisfactory; take for instance Apples. About 50 per cent. of the reports from England show that the crop is under average as to quantity, although the quality is reported as good. Pears are even more behindhand. Plums show a better record; only thirteen out of seventy-one returns from Scotland are below the average. In England and Wales 120 out of 286 reports were under average. Cherries yielded generally a good average crop. Peaches and Nectarines, singularly enough, were much above average; thus out of 234 returns from England and Wales only thirty-one were under average, whilst 127 were up to the average, and seventy-six above it. The abundance of these fruits is a feature of the year so far as fruit is concerned. A similar remark applies to Apricots, for out of 256 returns from England, only 66 were below average.

Small fruits were generally above the average; whilst Strawberries have been average, and Nuts rather above it.

We append a table, which shows in a succinct form the principal numerical results gleaned from the reports of our correspondents, and in subsequent issues we shall give extracts from the detailed notes with which they have favoured us.

		Apples. (73)	Pears. (72)	Plums. (71)	Cherries. (73)	Peaches and Nectarines. (37)	Apricots. (37)	Small Fruits. (74)	Strawberries. (73)	Nuts. (18)
SCOTLAND.	Number of Records	56	30	28	40	24	10	20	36	9
	Average	21	3	30	18	8	20	48	27	1
	Over	15	9	13	15	5	7	6	10	8
	Under									
ENGLAND AND WALES.	Number of Records	(287)	(189)	(286)	(277)	(234)	(218)	(282)	(282)	(233)
	Average	105	111	118	160	127	94	128	153	98
	Over	38	23	48	54	76	65	122	83	97
	Under	144	146	120	63	31	59	32	46	38
IRELAND AND CHANNEL ISLES.	Number of Records	(39)	(32)	(32)	(31)	(22)	(15)	(23)	(32)	(15)
	Average	11	13	22	13	13	9	13	12	10
	Over	16	5	6	5	1		18	11	4
	Under	5	14	4	13	8	6	2	5	1

A ROSE GARDEN AT FOREST GATE.—Our illustration on p. 133, shows what a pretty effect may be obtained with Roses in the small area of a suburban back garden, the plants employed as dwarfs, standards, and climbers, in this case being fairly floriferous, although small and apparently young. In such confined spaces the arrangements are of necessity stiff and formal, owing to the walks having to run parallel with or at right angles to the surrounding walls and fences, but much of this might have been hidden by allowing creeping plants to grow over the edgings of the beds, and employing here and there plants of a more graceful habit than Roses of the hybrid perpetual class to grow without much restraint. The bane of the Rose in London gardens is, the too great amount of shade and shelter from neighbouring buildings with the resulting lack of sunshine, and the want of a suitable kind of soil. The best soil for them is sound pasture loam, a substance not readily obtainable in town. The garden figured belongs to Mr. W. A. STURROCH, 27, St. James' Road, Forest Gate.

GENERAL HORTICULTURAL EXHIBITION AT BERLIN.—We have received the programme of the Exhibition which is to be held in the Trpetower Park, Perlin, from April 28 to May 9, 1897, on the occasion of the seventy-fifth anniversary of the Society for the Promotion of Horticulture in Prussia. The schedule is divided into thirteen primary divisions, and very numerous minor subdivisions, embracing, as it seems, the whole range of horticulture. Dr. L. WITTMACK is the general Secretary, at Invaliden Strasse 42, Berlin.

DISEASES OF PLANTS.—Messrs. KIRCHNER & BOLTSHAUSER have just issued through Mr. EUGEN ULMER, of Stuttgart, a series of coloured representations of the principal fungi attacking cereal crops. The plates are of moderate size, so that they are less costly than is commonly the case, but they are accurate and well executed. The work will be of great use for reference purposes. In addition to the fungi, some of the insects are also represented. It is intended to bring out similar series devoted to the diseases of pasture plants, root-crops, vegetables, fruit, &c.

PENNSYLVANIA HORTICULTURAL SOCIETY.—The *Transactions* of this Society recently published, include papers read from December, 1894, to the end of 1895. Some of the more important of these are, "Something about Vegetables" (by BURNET LANDRETH), very comprehensive and practical; "An Historical Paper" (by the same writer), mentioning the rise of horticulture and of agricultural and horticultural societies, and the work done during their progress; "Address on Street Trees" (also by Mr. LANDRETH), mentioning many suitable species not commonly utilised for the purpose; "Notes about the Progress in Floriculture" (EDWIN LONSDALE); "Plants for Home Adornment" (ROBERT CRAIG); "The Orchard and its Care" (Prof. E. B. VOORHEES); "Nut Trees" (F. M. BARTRAM); "Trees for a Country Place" (G. T. CURWEN); "When to Use Plant Food" (R. M. SIMMERS); and a "Report of the Annual Exhibition of the Society" (by DAVID RUST), as held last year.

M. CHARLES JOLY.—We note with much gratification that the Société Nationale d'Horticulture de France has awarded a large Gold Medal to M. JOLY in acknowledgment of his active and continued collaboration in the *Journal* of that society. Certainly, the compliment has been well earned.

"TRANSACTIONS OF THE MASSACHUSETTS HORTICULTURAL SOCIETY."—The First Part of this publication for the year 1895 is now ready, and contains the report for the season, and synopses on lectures treating of Days with Our Birds (Mrs. KATE TRYON, Cambridge); Flower-pots and their Manufacture (A. H. HEWS), Fungous Diseases of Ornamental Plants (Professor BYRON D. HALSTED); Hardy Plants and Shrubs (J. W. ELLIOTT), Construction and Heating of Glasshouses, Economic Entomology, Experimental Evolution amongst Plants, A Talk on Gardens, Budding and Grafting, Notes on Tomatos, Edible Native Fungi, and Commercial Fertilisers in Horticulture.

"PLANTS OF MANITOBA."—Messrs. MARCUS WARD & Co. have issued under this name a handsome series of forty coloured plates in a neat wrapper. The plants chosen as typical of the Manitoba flora are nicely drawn and coloured; in most cases a spray of flowers is represented, and enlarged diagrams of special parts, such as the fruit, stem, or root are also given. On each plate the botanical and popular name of the species is written, and the family to which it belongs. If of no special scientific value, this series of pictures is, at any rate, pretty and accurate, so far as it goes, and we will hope may prove attractive enough to encourage admirers to pursue the study more seriously.

VIOLA CONFERENCE, 1896.—A conference meeting will be held in the Royal Botanic Society's Gardens, Regent's Park, on Saturday, August 8. At 12 o'clock (noon) an introductory address will be given by the Chairman, Mr. A. J. ROWBERRY; then a report of special committee *re* trial of Violas, Mr. R. DEAN; followed by a paper by Dr. VEIT B. WITTROCK, Director of the Botanic Gardens, Bergisland, near Stockholm; one on Violas for bedding

purposes, with special reference to their adaptability for association with other plants. Papers will also be read by Mr. C. Jordan, Superintendent, Regent's Park, N.W.; and Mr. J. W. Moorman, Superintendent, Victoria Park, N.E.; by Mr. H. A. Needs and Mr. W. Baxter, on Violas for exhibition, with special reference to newer varieties; by Mr. J. D. Stuart, Belfast, on Viola sports. A report of judges of seedlings will be submitted to the Conference. It is particularly requested that new varieties be sent for consideration; a spray or bunch of not less than six blooms of any new variety to be staged. All new varieties must be staged for inspection by 11 o'clock, so that they may be judged when quite fresh. Any blooms sent by post must reach the Royal Botanic Gardens on the morning of August 8, addressed to Mr. J. B. Sowerby, Secretary, Royal Botanic Gardens, Regent's Park, London, N.W. A. J. Rollberry Chairman; Richard Dean, Secretary.

Flowers in Season.—We have received from Messrs. Laing & Mather, Kelso-on-Tweed, blooms from some useful varieties of Border Carnations, grown out-of-doors. Uriah Pike and Ketton Rose are well known to be among the best. Duchess of Fife, rose-coloured, and Mrs. Barnewell Elliot, a charming pink flower, are very fine; also The Pasha, salmon-pink, and Mrs. Frank Watts, white or pale straw-coloured; Paul Engleheart has very long crimson petals; Oxonian, a deep crimson variety, appears a little thin in flower, albeit its calyx is burst; Crombie's Pink is hardly equal to some of the others in size; but Favourite is a very pretty Picotee, with white ground and rose-edged.

Cheshunt, Wormley, and District Horticultural Mutual Improvement Society.—A meeting of this Society was held at Turnford, on Thursday, July 23, when Mr. W. Harrison raised a discussion on "Horticulture, as a source of profit to the employer, and a means of livelihood for the employé." The next meeting will be on August 13, when Mr. R. Wunderlich will contribute a paper on "Cut Flowers and Florists' Work." The first outing of the Society took place on Saturday, July 25, Messrs. F. Sander & Co.'s nursery being one of the places visited; later the party travelled to Harpenden, where luncheon was served in a tent on the cricket-ground. Among those present were Mr. Dean, secretary of the Herts County Council; Mr. H. J. Bushby, Mr Niel Mackenzie, Mr. W. H. Miles, vice-presidents of the society; Mr. J. J. Willis, Harpenden, Mr. F. S. Hutchason; chairman, Mr. Wm. Harrison, vice-chairman; and Mr. W. L. Yates, hon. secretary. The party then paid a visit to Sir J. B. Lawes' experimental farms at Rothamsted. Sir J. H. Gilbert delivered a short lecture in the Laboratory, describing the nature of the experiments which are being carried out at Rothamsted. Mr. J. J. Willis then conducted the party round the farm, explaining the character, and results compared, of all the different chemical manures applied to various crops. At the close, a hearty vote of thanks was accorded Sir J. B. Lawes for his kindness; and to Mr. Willis, who briefly replied.

Reading and District Gardeners' Mutual Improvement Association.—The monthly meeting of the above association was held on Monday in the club-room at the British Workman, and was well attended. The subjects for the evening were "Carnations" and "Fruits in Season." The former subject was introduced by Mr. E. Dearlove, gardener at Brookfields, Burghfield, and the latter by Mr. T. Neve, the chairman of the Association. The meeting, although taking more of a conversational turn than usual, was exceedingly interesting, some of the members joining in the discussion. The exhibits were numerous, Carnations predominating, collections coming from Messrs. Dearlove, Turton, Neve, and Goddard; whilst other flowers were staged by Messrs. Chamberlain, Dore, and Bailey; and two finely-coloured fruits, "Sutton's Hero of Lockinge Melon," from Mr. Pigg. After the meeting the flowers were sent to the Royal Berkshire Hospital for the use of the patients.

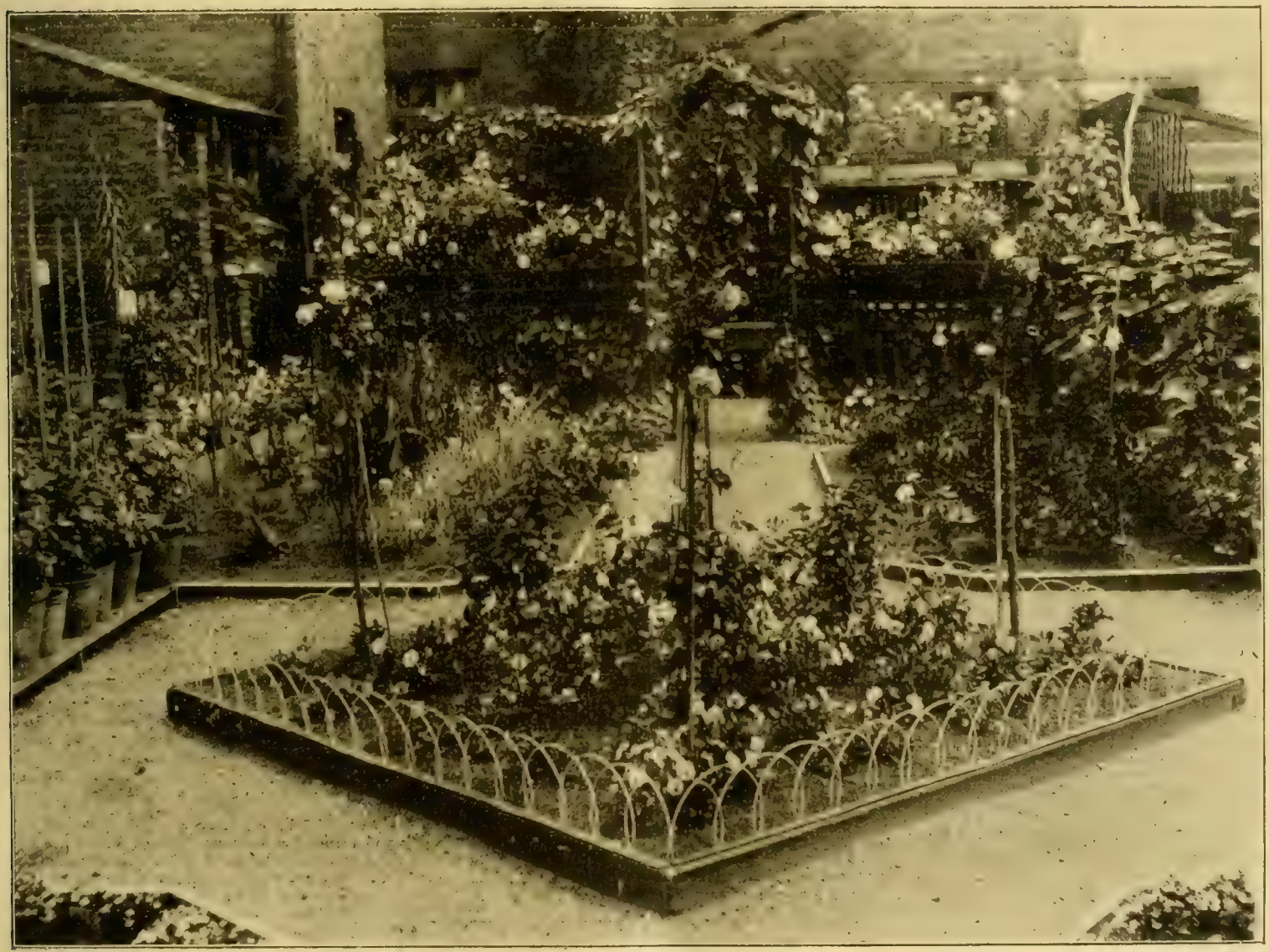


Fig. 25.—Roses in a suburban back garden. (see p. 132.)

The Chelmsford County School of Horticulture.—We have often had occasion to note the excellent training given at the Chelmsford Laboratory by Mr. Houston and his colleagues. A reference to the examination list lately published will serve to confirm the good reports already given. In some quarters it is the fashion to decry such tuition on the ground that it is not practical. With some experience of the work done there and of its results, we should rather be inclined to say it is nothing if it is not practical. The following programme of the work done in the July course of Horticulture will demonstrate this. It should be borne in mind that this course is intended for selected students who have already gone through a more extended course of training :—

TIME TABLE—First Week, July 6th to 11th, 1896.

Days.	Morning. 9—12 Laboratory Work.	Afternoon. 1—5 Garden Work.	Evening.
Monday	Physiology of Plant Nutrition. Movement of Water in Plants.	Fruit Culture. Summer training of fruit-trees.	Visit to a private garden.
Tuesday	Water Culture Experiments.	Summer pruning of fruit-trees.	Chemical lecture at 7.—Air in relation to plant life.
Wednesday	Physiology of a green leaf.	Summer pruning of bush fruits.	Botanical Ramble.
Thursday	Transportation and storage of reserve food.	Flower culture. Bedding out.	Garden demonstration.—Spraying fruit trees.
Friday	Special processes of nutrition in particular groups of plants.	Potting of winter-flowering plants.	Chemical lecture at 7.—Water in relation to plant life.
Saturday	Revision.	Visit to Nursery Grounds.	

Second Week, July 13th to 18th.

Days.	Morning. 9—12 Laboratory Work.	Afternoon. 1—5 Garden Work.	Evening.
Monday	Physiology of Growth. Formation of shoots and roots—Induced effects of training and pruning.	"Vegetable" Culture. Preparation of Celery trenches	Visit to a private garden.
Tuesday	Sensitiveness of growing organs—Importance of suitable soil conditions.	Planting of "green crops."	Chemical lecture at 7.—Soil in relation to plant life.
Wednesday	Physiology of Reproduction. Fruits, their formation, development and ripening.	Tomatos: training and planting.	Social Evening.
Thursday	Natural Classification of Flowering Plants. Preliminary Exercises in floral dissection.	Cucumbers: preparation of beds, indoor and out.	Chemical lecture.—Chemical compounds formed by plants.
Friday	Examination of types of Lily, Daffodil, Iris and Orchis families.	Preparation of Mushroom beds.	Demonstration in Botanic garden.
Saturday	Revision.	Visit to Melon and Tomato houses.	

Third Week, July 20th to 25th.

Days.	Morning. 9—12 Laboratory Work.	Afternoon. 1—5 Garden Work.	Evening.
Monday	Natural Classification of Plants. Examination of types of Larkspur, Poppy, Brassica, Viola, and Carnation Orders.	Budding Roses, Plums, &c.	Discussion at 7.
Tuesday	Hollyhock, Geranium, Pea and Rose families.	Potting of Orchids.	Botanical ramble.
Wednesday	Cucumber, Gooseberry, Saxifrage and Parsnip families.	Strawberries: preparation of beds and planting.	Budding competition.
Thursday	Sunflower, Heath, Potato, Mint and Oxlip families.	Visit to a fruit farm.	Demonstration on drying and preserving plants, at 8.
Friday	Beet, Rhubarb, Nettle and Hazel families.	Staking and staging of plants.	Examination at 6.
Saturday	Visit to a seed (flower) farm and fruit garden.		

University of California.—The report of the Agricultural Experiment Stations of the University of California for the years 1894 and 1895 chronicles much work done with regard to analysis and examination of soils and sub-soils, and the possibility of improving and fertilising these for the better cultivation of certain crops. There are also included papers on California fruits, and Canaigre (Rumex hymenosepalus), Olives, &c. There is a section devoted to entomology, and the reports from the various stations are carefully tabulated and arranged.

The Horticultural Conference at Chester, we may remind our readers, will be opened at 7.30 P.M. on Tuesday next, August 4. The Duke of Westminster will preside. Sir Trevor Lawrence, Bart., the Dean of Rochester, and Mr. F. W. Burbidge, M.A., are expected to deliver addresses. On the following day will be held the horticultural show, which is anticipated will be a great success.

Home Correspondence.

Pansies and Polyanthuses.—Mr. Douglas states that neither Violas nor Pansies can endure the hot, dry seasons of the London district. That is quite true, as it is true of many other plants during such seasons, as last year and the present, if no culture be given. When, however, I see how, under good culture, Violas thrive and bloom so charmingly at Hampton Court every year, I have to question the force of Mr. Douglas's conclusion. I have not seen Mr. McLeod's Viola garden at Dover House, Roehampton, this year; but last year, whilst still hot and dry, I did so, and I must say I never saw Violas massed in numerous colours, and making up a parterre-garden more truly beautiful, than was this garden then. Dover House is within a few miles of Charing Cross, and the soil is essentially dry and porous, but in no garden, even in Scotland, could Violas have been presented in more beautiful, vigorous, florescent condition than there. I did tell Mr. McLeod that, beyond bringing with him across the Border special knowledge of Viola culture, he must have brought in his train something of Old Scotia's climate as well. With respect to Polyanthuses, presumably raised from seed sown in the spring, Mr. Douglas advised they be now planted out. Poor "pollies" indeed that have as seedlings to be planted out this hot, parching weather. I always advise sowing seed outdoors at the end of August, or early in September, the plants to stand the winter in the seed-bed, and then be transplanted in April, whilst the ground is yet cool and moist. I got a big batch raised for me in that way, and I had several hundreds planted out about the middle of April. They are now very strong, established plants, defying the drought, and will next spring make plants double the dimensions of those planted out in July will make. *A. D.*

Violas.—Passing along a road in Reigate a week or two since, I was almost surprised to see growing in a garden good clumps of Viola cornuta and V. c. alba. These are so seldom seen now that their presence seemed to be like an unexpected meeting with old friends. I could not but think, on looking at the very compact growth of these old forms, how very much too many of our newer so-called Violas have departed from them. What will Viola raisers say to the suggestion that these former popular kinds be again used as starting-points, with the object of preserving their undoubtedly very free compact habit, rather than in utilising the Pansy as a seed or pollen-parent, and thus producing, as is now so largely found, a race of loose-growing, large-flowered varieties, that have not the dense, compact, tufted habit in any degree. Raisers seem very largely to have overlooked, in producing new Violas, the chief use to which they should be put, to produce solid masses of flower, and producing this bloom continuously over a long period. Violas have been very much spoilt by the practice now so prevalent of showing them at exhibitions set up in sprays. Thus, in many cases, varieties are so utilised that have no fitness whatever for bedding or massing purposes. Very likely, when employed to run loosely amongst other bedding plants, just as Verbenas do, these loose growers are suitable enough. It was somewhat odd, that in connection with the recent exhibition of the Viola Society at the Regent's Park, so much should have been reported concerning winners of prizes and names of the flowers staged for

exhibition, but nothing was said about the many varieties said to have been bedded out in the gardens. That is the test likely to create most interest, and to have the greater value. Some independent testimony on the results is desirable. *A. D.*

STARCH AND SUGAR CONTENTS OF POTATOS AND OTHER ROOT CROPS.—I am greatly obliged to Mr. J. J. Willis, Harpenden, and "A. D." for their courteous replies and valuable suggestions in this matter. It is one of very considerable commercial interest and importance. In crops such as Potatos we need a trade outlet to steady prices beyond what may be called the chances and caprices of the consumption of Potatos as a constant ration in our daily diet. It is more than doubtful whether such perishable food as Potatos follow the usual supply and demand in regard to consumption and price. On the contrary, our glutted markets often seem to prove that the cheaper the Potato the fewer are used for food; and hence the greater necessity to find other outlets for Potatos, such as their conversion into starch, sugar, spirits, yeast, pork, butter, cheese &c. For the diversion of Potatos to other uses, and their profitable devotion to other purposes, it seems most desirable to increase their starch or sugar contents. It may be true, as "A. D." points out, that the Germans, by special raising of varieties or peculiar culture, have added to the starch ratio of the Potatos that they grow for manufacturing purposes. It can, however, hardly be that they owe much of the extra starch-ratio to their climate. Some forty years ago quantities of Potatos were grown in Scotland for conversion into Potato-starch and arrowroot, and the new industry was said to have proved very profitable. It would be interesting to know if it still exists, and how far it has extended. The process was very primitive and simple, as I remember it. The Potatos were washed and smashed by simple machinery, the flour or starch washed and allowed to settle, then dried, packed, and distributed as starch, and used for food and other purposes. No complaints seemed to have been made as to lack of a good percentage of starch and substantial profits. Though much outcry was raised as to the adulteration of foreign arrowroot with home-grown Potato-flour, Mr. Willis seems to furnish cultivators with the secret of substantial profits in the increasing of the starch contents of Potatos, and turning this into solid and sure commercial advantage. Potatos though safer stores for food, and more durable than most fruits, are yet very perishable commodities. Their ability to grow from early eyes, also results in lowering the quality of their food supplies. Every change of temperature, and alteration of moisture in earth or air, or Potato-store, tends thus to waste the food stores of the Potato. Hence the vital importance of converting its food contents so far as possible into dry goods, starch, sugar, spirits, ferments, &c. Mr. Willis shows that not only the nutty flavour of the Potato, so highly prized, but the amount of starch, depends on the quantity of potash taken up during growth. During my lectures on Potatos for County Councils, I have constantly impressed upon my audience that weight meant quality, and that both measured starch or sugar-contents. It is pleasing to have these views confirmed by Mr. Willis in these remarkable words:—"The Rothamsted experiments further show that high specific gravity in Potato tubers and high percentage of dry matter go together." The total amount of dry matter produced per acre is considerably increased by mineral manures containing potash alone, kainit-salts, or sulphate of potash, but very much more when the mineral and nitrogenous manures are used together; thus, the weight of the dry substance of tubers was, without manure, 1353 lb. per acre; with purely mineral manures, 2384 lb.; and with the mixture of mineral and nitrogenous manure more than 4000 lb. per acre, or 1½ tons. Another practical point of great moment is mentioned by Mr. Willis. From 80 to 85 per cent. of the total potash in Potato tubers is found in the juice, and about two-thirds of the phosphoric acid is also found in the juice, and as two-thirds of the nitrogen is found in the albuminoids in the juices, it follows that if the mode of cooking the Potato is such as to exclude these constituents of the juice from the food product, there is a considerable waste of nutritive matter and nutty flavour. *D. T. F.*

THE WEATHER IN SHROPSHIRE.—We have witnessed a decided change in the weather in Shropshire during the past week, for during the four days ending July 25 we have registered 2 inches of rain, and there is every likelihood of another downpour while I am writing. During all my gardening career I have never witnessed vegetation suffer so much as this year, Peas especially are generally a failure, and buyers in Shrewsbury have had to send to other counties for them. It is said by persons sixty years of age that they have never seen the water in the river so low as at the present time, and to no county will the rain be more welcome than to Shropshire. *Geo. Burrows, Berwick Gardens, Shrewsbury.*

THRIPS ON PEAS.—It may be of value to growers of late Peas to know that I have made two trials in the Aughton County Council experimental ground, in order to ascertain how this pest might be eradicated. A liberal sprinkling of the haulm with freshly-slaked lime has quite answered my expectations, for the plants are now practically freed from the insects, and yielding a good crop of Peas. In the second trial, 1 lb. of soft-soap, 1 quart of petroleum, and 26 gallons of hot-water were used, and this, too, kills the thrips; but lime is the best means for the purpose. The mixture may be applied with either a fine-rose watering-can, or by means of a spray-pump. *E. Thomas.*

STANDARD AND TRAINED FUCHSIAS. — Few persons who have passed through the little town of Egham in the summer time can have failed to admire the standard and trained Fuchsias in the front garden of The Limes, Mr. Wm. Paice's residence. The standards vary in height from 6 to 10 feet, and are of ages ranging from ten to twenty-one years, and these have a very imposing appearance, many of them possessing very fine heads of bloom. There are, besides these, Fuchsias which form arches, and cover a bower some 10 feet in width, several feet high, and of considerable length—leading from the front-door to the entrance-gate, which are really very telling and effective. Most of the plants are cultivated in pots and plunged in the ground, they are not closely pruned-in, when grown for this purpose, so that the shoots soon cover the trellis and become effective very early. The plants form capital summer screens for trellis-work of various descriptions. The Fuchsia is a very telling plant, when planted in a conservatory, and the branches allowed to ramble and droop in a natural manner from the roof and wall; in fact, few other kinds of plants are more so. Miss Marshall, Beaconsfield, and corallina seem to be the best varieties for bower-work, having a pendent habit, and making shoots of considerable length. For the forming of standards beside those named, there may be added fulgens, serratifolia, and corymbiflora. Is it not a little singular that the Fuchsia is so neglected as a pot plant in the present day, whereas some thirty years ago grand specimen plants were commonly met with at exhibition and elsewhere, but now one scarcely ever meets with anything worthy of the name of specimens. It is surely time, the taste for the superior culture of the Fuchsia should again be to the fore. *Edward Bennett, Queen's Road, Egham.*

STRAWBERRY WATERLOO. — Though never rising to the high estimate of many of our authorities as to the merits of this densely-coloured, attractively-shaped Strawberry, I confess to feeling sorry to hear Mr. J. Wilson strongly voicing a rather wide feeling of disappointment with Waterloo in his assertion that he could neither grow nor fruit it at St. Andrew's, and had therefore to discard it. It may comfort Mr. Wilson to learn that though the Waterloo has been with us for some years, and has been called popular, it can hardly be said to have reached the latter phase as yet, though its colour and specific gravity alike give it special weight in the dessert. It is not, however, the first time I have heard or seen its somewhat erratic fruiting. But in not a few soils and situations it has grown too much rather than too little. Some of the finest crops of Waterloo I have seen have been on rather light than heavy soils. But then the soil has been made specially firm, and what is called hard planting has been practised. However, if any market grower has succeeded in growing profitable crops of Waterloo by the acre, 20 or 50 acres, as they have Paxton, President, Royal Sovereign, British Queen, it would be most interesting to hear of them. The dark, almost black, colour would check their sale at first; but this overcome, the Waterloo ought to become popular, if it can be made to fruit as heavily on a large scale as either of those named in competition with it in this note. As the male or female parent in the cross-breeding of Strawberries, we are already greatly indebted to the Waterloo, and shall probably be much more so in the near future. In this connection the Waterloo may be correctly described as an abnormally vigorous parent, handing on much of its prepotency to its successors. And neither is this abnormal fertility confined to their fruits, but overflows into the abundance and vigour of their runners. Can the purplish tinge of the latter prove a factor in their vigour? *D. T. Fish.*

GRAPE GROWING ON SANDY SOILS.—But for the fact of my name being mentioned in the paragraph on this subject, I should have allowed the matter to pass; yet it is of great interest to many growers of Grapes, and coming from the fertile pen of so keen a critic as "A. D.," I should like to make a few remarks. First, however, in justice to the makers of the Patent Silicate Manure, it should be noted as such. Silicate soil or sand being a natural production, and no doubt good for Vine and Grape growing, should not be classed as a manure. All soils are manures in one sense of the word, but the Patent Silicate being a fixed chemical mixture should have been so named by "A. D." Very few persons may be aware of the great quantity of sand in most kinds of soil, especially loamy soil, which in some instances would give nearly half sand in the upper 2 feet of the surface. It is to the presence of sand that I attribute much of the success attending Grape culture. Again, if sand lies below the loam, followed by gravel, all will be well; but if, on the other hand, gravel comes next to the loam, it is a hungry soil. Not only Muscat Vines, but all other varieties enjoy sand in greater quantity than we can always afford it. Such sandy soils, while the Vines are young, require a slight mulching of litter, &c., to keep the surface from being rendered too dry, which, if it be not done, greatly favours the spread of red-spider on the Vines. A sandy surface-soil will hold the surface-roots well if it be properly attended to. Then all persons will know that this is due in a great measure to the fact that all manures are absorbed and held by the surface soil. A great contrast, indeed, is the soil with which I have to deal, to that of some I am acquainted with—a clayey soil—the top spit being of a very tenacious sort. Such a soil will never grow either Vines or Grapes for any great length of time, for the water must have a free passage through a soil, or the roots will decay in a wet season, or in the winter; the result being either weak growth, or undue shanking. I have found that sandstone placed in a border in lumps always attracts the roots of Vines. The soil here if turned up shows much sand after rain, the sand being nearly white, and Muscat Vines revel in such soil. Some thirty canes planted last Lady day are now doing grandly, a bunch or two showing on them being good in berry, and every berry properly stoned, the bunches weighing 1 lb. These are taken without injuring the growth of the rods, for they are on the young rods, the Vines having been cut down to three buds. How peat would grow a crop of Grapes is another question; yet if on a sandy bottom I should believe, with due cultural attention, that the Vines would do well. I happen to be acquainted with a good Grape-grower—C. Cooper, of Sunninghill, near Ascot, and although I do not suppose that he has thought much about the sand present in his ground, I have no doubt that it is one cause of his success. Too often we "growers" call a soil poor, and very often, too, because of the sand that is in it; while all the same, it is, perhaps, one of the best for the Vine, always providing it has depth, with good natural drainage. It by no means follows that because Vine-roots run into clay that they like it, and certainly it is against good Grape-growing. To keep the roots out from getting into a clay bottom, the very worst for the growth of the Vines and for the fruit, the land should be well cultivated at the top. *Stephen Castle, Bottesford Vineries, Nottinghamshire.*

MESSRS. CANNELL'S PRIMROSES.

Messrs. Cannell & Sons send us a reduced copy of the imposing Certificate they have just received from the United States of America for the collection of Chinese Primroses exhibited by them at Chicago. It runs thus "The United States of America, by Act of their Congress, have authorised the World's Columbian Commission at the International Exhibition held in the City of Chicago, State of Illinois, in the year 1893, to decree a medal for specific merit which is set forth below over the name of an individual judge acting as an examiner upon the finding of a board of international judges, to H. Cannell & Sons, England, Swanley, Kent.

Exhibit: Collection of Primroses. Award: For a fine exhibit of Primula sinensis fimbriata.

Among the named varieties the following merit

special mention: Cannell's Pink, a new and well-established strain; the flowers are very large, well formed, and of a decided rose-pink colour; the foliage is Fern-like, and the habit of the plant is good. The Queen, a strong and well-established variety, having foliage of Acanthus like appearance. The flowers are very large, perfect in form, and borne on stout stalks, which stand well above the foliage; the flowers are snowy-white in colour, and slightly crested. In this type the greatest advancement that has as yet been attained in Primula sinensis is shown. Lilacina, a very free-flowering variety, of extra-good colour, compact habit, and strong Fern-like foliage. Market White, a typical variety, of strong compact habit; the flowers are ivory-white in colour, and very large. White Perfection, a very distinct and vigorous-growing type; the flowers are pure white, and stand well above the foliage. Crimson Velvet, a well-established, free-flowering variety; the flowers stand well above the foliage.

Henry Ffister, individual judge; Robert Craig, President Departmental Committee; Geo. R. Davis, Director-General; T. W. Palmer, President, World's Columbian Commission; Jno. T. Dickinson, Secretary, World's Columbian Commission; John Boyd Thacker, Chairman, Executive Committee of Awards."

Nursery Notes.

THE READING GLOXINIAS.

One of the chief features at Messrs. Sutton's at the present time is a beautiful exhibition of their selected strain of Gloxinias. Those now in flower consist entirely of plants raised from seed this year, and they afford an excellent object-lesson in culture combined with rapid development, thus demonstrating, firstly, that capital plants can be grown by treating them as annuals, the plants being very floriferous, better, in fact, for decoration than if larger and older; and secondly, that within six months from seed good material can be secured, conspicuous for vigour of growth. A few of the best and most striking coloured varieties are kept under name. There is abundant variation in the colouring of these seedlings, and the same good habit is common to all of them. Of those which are named is the pure white "Her Majesty," which is an ideal type of a good Gloxinia, having purity, size, and a good form, large wide lobes, with an unusually long and well expanded throat and substance. The stems are short and stout, bearing the blossoms quite erect without any kind of support. The leaf growth is also remarkably fine of the G. crassifolia type, but more rounded in form, thus easily covering the pots, and partially hiding them without extending very far beyond the rims, making the plants excellent decorative subjects, without any suspicion of drooping, as seen at times in the ordinary forms of Gloxinia. Others possess the same good quality as the foregoing; that named Empress of India is notable by reason of its rich velvety-purple colour, which is extended well towards the margins of the lobes; Duchess of York is of a like colour, but with a clear white edge to the lobes; whilst in Duke of York the purple is replaced by a dark shade of crimson, with the edging of white rather broader; Azure Blue is very well described by its name, the ground-colour being pure white, with the sky-blue covering about one-half of the lobes towards the margins; Princess May is of the same type, the ground-colour pure white with rose and pink alternating in the lobes towards the throat, and like the foregoing, is a very distinct variety; Reading Crimson (Crimson Velvet, would not be at all inappropriate), which is strikingly rich in colour. The spotted, laced, or reticulated forms are all tending towards the same size and substance, as noted in "Her Majesty." This strain of Gloxinia is well suited for sowing during the summer to flower during the ensuing winter—a method of treatment which has proved successful in many instances. These seedlings now in flower bid fair to last well into the autumn. *H. G.*

Mr. John Robson's.

Altrincham and Bowdon lie in juxtaposition, and form together a favourite suburban resort for Manchestrians, not only to visit, but to dwell in, the climate being clear and salubrious, and vegetation thriving accordingly It is not very many years since Mr. John Robson planted his nursery down there, and his business has been increasing year by year. His nursery quarters are well stocked, and the demand this year, consequent upon the ice-bound weeks of 1894-5, has been such as to make up for the past season's business deficiency. He has besides a large quantity of glass-houses, covering quite an acre of his land, and from out of them he despatches great quantities of cut flowers as well as plants in pots.

Roses grown in a house 100 feet long have done splendidly, those which are planted out yielding a great crop of flowers, coming in most useful for cutting; and a collection of Tea Roses in pots round the house were doing well. Camellia plants in a very large house have been cut back, as being less profitable than some other subjects, and decorative Palms and Ferns in great variety have taken their places. In other houses are Cannas, now in great variety and in captivating colours; quantities of Eucharis and Pancratiums, whose flowers are useful in floral decorative work; Pelargoniums, Petunias, more particularly the double white variety with flowers of frilled edging, much used for bouquet work. Vallotas and Nerines were in fine condition, as well as a large collection of Sikkim Rhododendrons and their hybrids, and many other miscellaneous flowering plants.

A house of Tomatos is particularly interesting, quite 120 feet long, and the plants planted out in turf, and trained like Hollyhocks to a height of quite 10 feet. The lower half of the Tomato plants bore an immense crop of large fruits just ripening, and a second crop was showing which must be rapidly harvested, because of the Chrysanthemums that find a home there after October. The variety exclusively grown is the selected Orangefield, which in the Manchester district has been grown for more than thirty years. The seed of Orangefield was received by Mr. Robson from Mr. Smith while the latter was gardener at Longford Hall. The fruit is large and beautifully coloured, and only selected ones are saved for seed purposes, the remainder going to the market.

The Orchid-houses are very well managed, the plants generally in excellent health, being much improved since they were placed under the charge of Mr. J. Evans. They consist of the chief among the species and varieties that find most favour among Orchid-growers.

The Dendrobium-house was filled with clean, healthy plants, most grown in holed pots and suspended baskets. The plants of Dendrobium Wardianum were strong and faultless, the white form doing well in limited pot-room; D. nobile in many forms and crosses; D. Dearei, extra well-grown; D. formosum, D. crassinode album, and many others were remarked during my stroll through the Orchid-houses. Mr. Evans, following the practice of Mr. O. O. Wrigley, of Bury, sprinkles the floors and benches with water in which soot and lime are mixed, doing this twice a week, and apparently, the practice induces vigour without giving rise to "spot." In this house also was found a good assortment of Phalænopsis, the plants having fine leaves, excellent roots, and giving a promise of good flowering. Many very vigorous plants of Angræcum sesquipedale were remarked. Quantities of young Crotons and Dracænas were growing on the tables under the shade of the Dendrobes. Both D. Phalænopsis and D. Dearei get little water at the root, and they are exceptionally vigorous.

A large house is chiefly occupied with Cattleyas, Lælias, and Cypripediums. The Cattleyas are in great vigour; some good Gaskellianas being in flower, and then the sheaths of C. Mendeli, of C. labiata, C. Percivalliana, very prominent. Lælia tenebrosa, L. crispa, and L. xanthina were in robust health, and there are scores of strong L. purpurata of good types. Cypripediums were found in quantity, and amongst some very good C. Curtisi in flower, we noted C. œnanthum, C. superbum, C. Gowerianum, C. Leeanum giganteum, C. Polletianum, C. Arthurianum, C. Saundersianum, &c. Cymbidium eburneum were remarked in scores of fine plants. A particularly healthy lot of plants of Odontoglossum grande was observed in this house; a large stock of plants of Cœlogyne cristata and its varieties is grown for cut flowers.

The span-roofed Odontoglossum-house is full of vigorous plants. Notwithstanding the enormous quantities imported, the demand for cut flowers of O. crispum is so great as to pay the grower, even supposing he cannot sell the plants. Out of the thousands here, some good varieties have been secured, which, as most nurserymen know, find a ready-enough sale at a price. The cool treatment and the pleasing moistness of the atmosphere produce here very vigorous plants. The best O. Pescatorei, grown in suspended pots, are well furnished with branching flower-racemes. Along with these are the brilliant yellow Oncidium St. Legerianum; the beautiful O. Marshallianum, which summers best in a climate of this kind; O. varicosum Forbesii, often burned with strong, dry heat; O. macranthum, and great pieces of Epidendrum vitellinum. I was glad to notice some promising Masdevallias revelling in the cool, moist house.

The whole of the plant houses are substantially built, and in good order of keeping, without anything being cut to waste in the way of needless expenditure; and the state of the general stock is such, that it will surprise many a connoisseur. *J. A.*

Societies.

ROYAL HORTICULTURAL.

July 28. An ordinary meeting of the Committees of the Society was held on Tuesday last in the Drill Hall, Westminster. As is usual during this month and next the exhibits calling for distinctive awards were not numerous, but there was a good display. Hardy flowers formed the greater part of the show, if we except for the moment a very large group of Begonias, and a smaller one of Pelargoniums. This occasion was also the meeting at which it had been arranged there should be made a display of Succulents and Cactaceous plants, and there were several very interesting collections staged. A lecture upon the subject of these plants was given in the afternoon by Mr. Chapman, an enthusiastic amateur.

There was a considerable quantity of fruit staged, but it was principally from one exhibitor.

The three awards that were made by this committee were a First-class Certificate and an Award of Merit to new Gooseberries from Messrs Veitch; and an Award of Merit to a fine variety of the Red Currant from Mr. Becker of Jersey. A new Plum known as the Burbank, and possessing very distinct characteristics, was interesting.

Floral Committee.

Present: W. Marshall, Esq., Chairman; and Messrs. Jno. Fraser, John Laing, H. B. May, H. Herbst, R. Dean, Geo. Stevens, Robt. Owen, Jno. Jennings, J. Fraser, J. D. Pawle, Geo. Nicholson, Geo Gordon, J. T. Bennett Poë, Chas E. Shea, Chas. E. Pearson, H. J. Jones, Ed. Beckett, H. Cannell, Harry Turner, Chas. T. Druery, O. Thomas, and H. Honeywood D'Ombrain.

An Award of Merit was recommended to Messrs. Barr & Son for Delphinium Zalil, a most distinct variety, of sulphur yellow, flowers small but numerous, and produced from long spikes. Upon first sight the spikes of flowers resemble in appearance those of an Oncidium.

Mr. Geo. Wythes, gr. to Earl Percy at Syon House, Brentford, exhibited sprays of Campanula pyramidalis alba compacta, an improved white variety, in which the size of the flower as well as the habit of the plant is better than in the type (Award of Merit).

A number of varieties of double Hollyhocks was shown by Messrs. Webb & Brand, Saffron Walden in several shades of colour and white. Ovid, a very large double rose variety, was recommended an Award of Merit. (A Bronze Banksian Medal also to the group was recommended.)

Messrs. P. Barr & Son, King St., Covent Garden, London, W.C., made a first rate display of hardy flowers. Coreopsis grandiflora and Gaillardias were very good. Herbaceous Phloxes in numerous good varieties were included; and Alstrœmeria aurantiaca, Allium pulchellum, and A. pallidum, Lilium tigrinum sinense, and other good things also (Silver Banksian Medal).

Mr. Thos. S. Ware, Hale Farm Nurseries, near Tottenham, made a display of Pentstemons, which were exhibited in much variety and in bunches of good flowers. The varieties Mrs. Empson, Miss Patey (coral scarlet with silver throat), and Lord Hillingdon (rosy lilac with silver throat), were especially noteworthy. Mr. Ware's exhibit consisted also of a large number of miscellaneous hardy flowers, which, together with the Pentstemons, effected a very good display. Lathyrus latifolius albus, flowers of Gaillardia grandiflora hybrida, and a number of Carnation blooms, were observed (Silver Flora Medal).

Messrs. Young & Dobinson, Stevenage, Herts, exhibited flowers of tuberous rooted Begonias (single and double), together with foliage of same upon a groundwork of moss.

A group of a remarkably dwarf and dense habited variety of Ivy-leaved Pelargoniums was shown by Mr. J. Hazelby, Station Road, Hampton. It is named Moxoni, and appeared to have at least a score of breaks upon a single plant in a 3-inch pot.

From Messrs. Cripps & Son, Tunbridge Wells, were shown three plants of a variegated form of the Maidenhair tree (Ginkgo biloba), also a few plants of Hypericum aureum.

A large group of tuberous-rooted Begonias, from Mr. H. J. Jones, Ryecroft Nursery, Lewisham, constituted a most unusual feature. Its characteristics were such as are usually seen at the Temple Show, or large provincial exhibitions at which the arrangement of artistic groups is made a specialty, rather than those we usually associate with the Drill Hall. In length it was almost equal to half the extent of the hall, of considerable breadth also; it was arranged on the floor of the hall and under the wall. Though the primary object was to exhibit Begonias, means were taken to do this as effectively as possible, and to this end very free use was made of such plants as Crotons, Palms of a graceful habit, Caladiums, Ferns, Asparagus and Ficus. The front margin of the group had a decidedly wavy outline, and in the small groups thus caused were placed dot plants of various kinds. The double-flowering varieties of Begonias were kept together in a measure, as were also the singles. No effort was made to show particular named varieties, but all were made subservient to effect, and, we think, with much success. The disposition of the plants was tasteful, and the specimens used were choice (Gold Medal).

Sprays of flowering shrubs from Messrs Jas. Veitch & Sons, Royal Exotic Nursery, King's Road, Chelsea, represented Stuartia pseudo-Camellia, a single white-flowering shrub, the unopened buds upon which greatly resemble a Camellia at the same stage; Corylus colurna in fruit, Pavia macrostachya, bearing an abundance of its ornamental spikes of blooms, and Eucryphia pinnatifolia, an exceedingly ornamental shrub, with pinnate foliage and white flowers.

A grand display of Sweet Peas and Dahlias was made by Mr. J. Walker, Thame, Oxon. The Sweet Peas exhibited were arranged tastefully, and together with the more formal Dahlias made quite a show (Silver Banksian Medal).

Messrs. H. Cannell & Sons, Swanley, Kent, exhibited some plants representing an uncommonly dwarf type of Antirrhinum. The flowers were pure yellow, purple, crimson-and-yellow, and other shades of colour, some also were striped in bizarre fashion.

A capital exhibit of hardy flowers was made by Messrs Wm. Cuthbush & Sons, Highgate, London, who staged a number of varieties, including Echinops sphærocephalus, Eryngium amethystinum, Gaura Lindheimeri, Hyacinthus candicans, Romneya Coulteri, Acanthus candelabra, Crinum Powelli, &c. Also a great number of varieties of border Carnations, staged on a groundwork of moss (Silver Banksian Medal).

Messrs. J. Carter & Co., High Holborn, exhibited a few plants of a very pretty single flowered Petunia named Queen of the Rose, furnished with larger, brighter flowers than the type.

A group of plants of the zonal Pelargonium King of Denmark was staged by Mr. R. Jensen, Mansfield Hill Nurseries, Chingford, Essex. The variety, which has flowers of a salmon-pink colour, was given an Award of Merit in May. The plants on this occasion were well grown (Silver Banksian Medal).

CACTI.

Mr. C. A. Blogg, Croydon, exhibited a small collection of Echinocactus, Opuntias, and Mamillaria. We remarked the fur-looking, yellow-spined Echinocactus Grusoni, 8 inches in height, with brilliant yellow spines; E. multicostatus, whose numerous small furrows take a serpentine direction; E. ornatus, with a skin speckled closely with white; the long curved spined E. crispatus; the yellow-flowered E. Ottonis, and E. cornigerus, with vicious-looking spines; several species of Cereus, Opuntia, and Pilocerus were also noted.

Mr. Pritchard, 78, Godwin Road, Forest Gate, showed a very large collection of Cactaceous plants, including species of great rarity. Opuntias were largely represented, which, whilst showing a certain degree of similarity in form, had great diversity in minor points. The following were noted in fair-sized specimens, O. decumana spinosior, O. candelabriformis, O. elongata, O. Rafinesqueana, O. bicolor, O. vulgaris, O. nigricans, O. humilis, O. brachyartha, O. glomerata, O. tunicata, O. cylindrica, O. arborescens, O. albicans, O. Engelmanni, the noble O. Tuna major, the slender-stemmed O. aurantiaca, and the less slender O. dejecta, O. polyantha, O. armata argentea, and O. monacantha. Of Rhipsalis shown, there were noted R. crispata (?), R. c. var. purpurea, and R. funalis. Phyllocactus species, as P. Russellianus, P. nitens, P. Johnsoni, P. crenatus, P. ptilifrons, and P. anguliger, were shown, but none was in bloom. Specimens of diverse species of Echinocacti, Cereus, and Mamillaria were numerous. A few species of Anhalonium and Echinopsis were also remarked, mostly forms that are still very rare in gardens. The Cereus included such tall growers as C. azureus, C. rostratus, C. repandus, C. grandiflorus, C. Baumanni, C. macrogonus, C. Mallisoni, C. McDonaldi, C. triangularis, and C. flagelliformis. The plants in this collection numbered 320.

Mrs. Chilton, Wealdstone, Middlesex, showed a smaller collection of these plants, consisting mainly of Echinocactus, Mamillarias, Opuntias, and Cereus, all small, but apparently healthy. A nice example of Pilocereus senilis was noted.

Messrs. Cannell & Sons, Home of Flowers, Swanley, had a more numerous collection than the last-named, consisting, too, of the more popular species. Nice examples were remarked of Echinocactus McDowelli and E. cornigerus; of Mammillaria bocasana, M. recurva, and M. spinosissima; of Pilocereus senilis, Opuntia microdasys, Euphorbia Fourmeri, Haworthia longiaristata, two nice examples. Agave Victoria Regina (figured in *Gard. Chron.*, June 19, 1880, p. 788), A. coccinea, A. maculata, Aloe plicatilis, Pachyphytum Sieboldi, Gasteria verrucosa, Hechtea Ghiesbreghti, Dyckia longifolia, several Mesembryanthemums, &c.



Fig. 26.—Red currant "The Comet."

(See Report of Royal Horticultural Society's Meeting, July 28, 1896, p. 137.)

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. Jas. O'Brien (Hon. Sec.), F. W. Moore, De B. Crawshay, E. Hill, J. Douglas, W. H. White, H. J. Chapman, W. Cobb, H. M. Pollett, T. Statter, and S. Courtauld. There was but a small show of Orchids.

Sir Trevor Lawrence, Burford, Dorking, exhibited a few rare botanical plants, some of them making their appearance for the first time. Of these were Odontoglossum aspidorhinum, Lehm., a species with numerous graceful sprays of yellow and brown flowers, with large and curiously formed pure white lips, more or less spotted with purple. The individual flowers somewhat resemble those of O. blandum and O. constrictum, from which, however, it is botanically distinct (Award of Merit); Dendrobium curviflorum, Rolfe, one of the handsomest of the Aporum section of Dendrobium. The plant has the usual compressed growths of the section, and bears rather showy and curiously-formed white, boat-shaped, curved flowers, with yellow blotch on the lip (Botanical Certificate). Sir Trevor Lawrence also showed the pretty Maxillaria Hubschii, of the M. grandiflora class; Masdevallia infracta purpurea, with twenty flowers—a charming little plant; the singular-looking Dendrobium revolutum, whose flowers opened in April, and have been in good condition ever since, and may last a considerable time longer; and Cypripedium × Chas. Steinmetz, a pretty hybrid between C. philippinense and C. Lawrenceanum.

Messrs. J. Veitch & Sons, Royal Exotic Nursery, King's Road, Chelsea, again showed the handsome Cattleya × Atlanta (not Atalanta), which they first exhibited at the Royal Horticultural Society, August 14, 1894. The plant is of neat habit, the flowers large, and wax-like in substance; sepals and petals rose, closely veined with rose-purple; the lip (which although large in size, follows somewhat the form of that of C. Leopoldi) bright purplish majenta. Its nearest affinity is C. × Fowleri, recently exhibited, but C. Atalanta is larger, richer in colour, and shows more clearly the characteristics of the lip of C. Leopoldi (First-class Certificate). They also showed their new hybrid Masdevallia × Ajax (× Chelsoni × Peristeria), a remarkable cross, with waxy flowers with a ground colour of yellow, and thickly set with reddish-brown papillæ, which along the veining of the sepals also form three red-brown lines. The tails are of chocolate-brown colour, and the inner surface of the upper sepal yellow, with purple lines; lip purple (Award of Merit). Also the white Cypripedium × Brysa (Boissieranum × Sedeni candidulum). Messrs. Thos. Cripps & Son, Tunbridge Wells, showed a very handsome group of Disa grandiflora, excellently grown, well-flowered, and showing great variation (Silver Banksian Medal).

W. C. Clark, Esq., Orleans House, Sefton Park, Liverpool, exhibited Cypripedium × Harrisander (Harrisianum × Sanderianum), a very distinct and pretty hybrid, showing the compressed lip and curved wavy petals of C. Sanderianum in a marked degree. The upper sepal was greenish-white, with numerous dotted and feathered chocolate lines. Petals curved and narrow like those of C. Sanderianum, but shorter, green at the base, spotted with chocolate spots, the rest brownish rose, getting lighter towards the tips; lip shining dark red-brown (Award of Merit). Mr. Clark also showed a good example of Cypripedium × Mabelliæ (superbiens × Rothschildianum).

Major Mason, The Firs, Warwick, sent a flower of the true Cymbidium Parishii. Messrs. F. Sander & Co., St. Albans, staged a small group of Cypripedium × A. de Lairesse, C. × Patersoni, C. × A. R. Smith, C. × Massaianum, C. × Lord Derby, the blue tinted Calanthe × Laucheana, a nice variety of Odontoglossum crispum, Acropera luteola, Restrepia antennifera, R. elegans, Pholidota obovata, Dendrobium bracteosum, and Aganisia ionoptera.

W. Cobb, Esq., Dulcote, Tunbridge Wells (gr., Mr. J. Howes), showed Miltonia vexillaria, Dulcote variety, a large, bright, rose-coloured form, with purple rays on the base of the lip and petals.

Messrs. W. L. Lewis & Co., Southgate, N., sent Cattleya granulosa Schofieldiana superba, and a very remarkable variety of it, which is said to have come with C. bicolor, and which has a lip in which the isthmus and the front lobe are very narrow; and M. Seavy, 164, Camberwell New Road, exhibited several remarkably fine photographs of groups and single specimens of Orchids in which the subjects were represented with accuracy (Vote of Thanks).

Fruit Committee.

Present: Philip Crowley, Esq., Chairman; and Messrs T. F. Rivers, A. F. Barron, T. J. Saltmarsh, J. Wright, A. Dean, J. W. Bates, C. Herrin, Geo. Wythes, F. Q. Lane, H. Balderson, J. Smith, Robt. Fyfe, G. Norman, Jos. Cheal and G. W. Cummins.

Mr. Jas. McIndoe, Hutton Hall Gardens, Guisborough, exhibited three trees in pots of the new Burbank Plum. This is a very extraordinary variety, with particularly distinct foliage and habit. It appears to be an uncommonly free cropper, and many fruits upon the specimens shown were developed from dormant eyes in the old, hard wood close to the base. It is a yellow, almost round fruit, and from some fruits of Kirke's that had been grown under similar conditions to the Burbank, it is evident that the latter is a very early fruiting variety. The fruits were not ripe, but ripe ones are promised for the next meeting.

From the Royal Horticultural Society's Gardens at Chiswick were shown Early Rivers Peach, from open, unprotected wall; also Nectarine Newton, and a fine coloured Peach at present undetermined.

A wonderfully large Red Currant was exhibited by Mr. H. Becker, nurseryman, of Jersey. The fruit was from a seedling raised by a Jersey amateur some fifteen years ago. Its chief vantage points over most others arise from its unusual productiveness, size of berry, and length of bunch. As many as twenty-six large berries, have, it is said, been observed upon one bunch. The variety is illustrated in fig. 26, which has been made of exactly the natural size from specimens sent by Mr. Becker to this office. The variety is

to be known as "The Comet," and an Award of Merit was extended to it on Tuesday last.

A large tray of fruits were shown of a new Gooseberry named Langley Beauty, raised by Messrs. VEITCH, from a cross between Railway and Yellow Champagne. It was intended to combine the larger berries of the former with the upright habit of the latter. The fruits, as exhibited, were large, hairy, of decided yellow hue, and of fine flavour. Langley Gage is another new one raised from Pitmaston Greengage and Telegraph. The result is a white or transparent, amber-coloured berry of moderate size, smooth, and of good dessert flavour, and very sweet. In this case also it was desired to combine upright habit with size, and flavour of fruit. Judging from a few branches of this variety that accompanied the berries, it is evidently a very free cropping variety.

Messrs. JAS. VEITCH & SONS were also responsible for a large exhibit of fruit consisting of Gooseberries, Cherries, and a few other kinds. There were one hundred varieties of Gooseberries in single dishes, and judging by the quality of those staged, the unusual drought has had less effect upon the size of these berries than might have been supposed. Among so many varieties it is difficult to select any for special mention, but the following fine ones were observed in good condition: Scotch Nutmeg, a small but highly flavoured berry of very dark colour; Dan's Mistake, a large smooth-skinned berry, excellent for culinary purposes; Lancashire Lad, a well-known red berry; Early Red Hairy, Yaxley Hero, a light red berry of good quality, and a free cropper; Ironmonger, an exceedingly dark berry of small size and good flavour; and Whinham's Industry. Of yellows, the fine variety Broom Girl was noticed; also Rumbullion, a good late dessert variety, rather small in berry; Yellowsmith, Garibaldi, a very distinct one in colour; Early Sulphur, and Prince Arthur. Of green berries the largest is Surprise, then there were Green Laurel, Alma, Fearless, London City, &c. There were a few whites also, including Whitesmith, Queen of the West, and Patience.

A few early varieties of Plums, such as Early Prolific, Early Favourite, and Early Greengage; Cherries, Late Duke, Morello, and Planchowry—the latter an excellent late variety; early Apples and Pears, and white and red Currants completed the exhibit (Silver-gilt Knightian Medal).

Mr. JNO. CROOK, Chard, exhibited four dishes of Gooseberries.

MR. ABBOT, South Villa, Regent's Park, N.W. (gr., Mr G. Kelf), was awarded a Silver Knightian Medal for a collection of fruit, including two dozen Royal George Peaches, and six bunches of Grapes, Black Hamburgh and Buckland Sweetwater. All of this fruit, and particularly the Peaches, was first rate, although it had been grown within two miles of Charing Cross.

Messrs. T. RIVERS & SON, Sawbridgeworth, exhibited a white Hungarian Grape named Gradiska; and Mr. W. HANDYSIDES, 68, Granger Street, Newcastle, showed a new Tomato.

There were several Seedling Melons exhibited, but no awards were made.

Messrs. W. CUTBUSH & SONS, Highgate, London, exhibited numerous fruits of two new Tomatos: The Cropper, a fine red fruit of the Perfection type, and a good cropper; and King of the Yellows, from a cross between Conference and Blenheim Orange.

Lecture on Cactaceous Plants.

A LECTURE upon this subject was delivered in the afternoon by Mr. E. H. CHAPMAN, who, at the commencement, briefly remarked upon the history of their culture in this country, and the difficulties connected with their importation until recently. It was stated that evidence of an awakened interest in this class of plants was found in the fact that he knew of two hundred and thirteen, more or less, enthusiastic collectors during last year. Anyone desirous of cultivating Cacti at the present time could obtain them most easily, either as established and acclimatized plants from certain of our own nurserymen, or by importation. The lecturer advised the former method as being the most satisfactory if practicable, and complained greatly of the insect pests with which most of the plants are infested when they reach this country, which is explained, to a large extent, by the close packing to which the plants are subjected. A few remarks were made anent the botany of the group, and to the nomenclature of the plants, also upon the extraordinary vitality possessed by these plants. Instances were given of pieces of specimens which had been the subjects of exceedingly bad usage, but which afterwards had become fine healthy plants. They could stand any temperature from 40° to 140° Fahr., but about 90° was most favourable to them.

In regard to the best house for them, Mr. Chapman said that the principal points for consideration were light, heat, and a dry atmosphere. Direct sunlight was beneficial and essential to most Cacti. Reference was then made to a house which is being tested at Chiswick; this house has an iron frame and no woodwork, the glass being fixed without putty, to stretched wires. It has a curved roof, and Mr. Chapman described it as being perfectly watertight and an ideal one for Cactus culture.

There should be no stagnation of moisture in the atmosphere, though, with plenty of ventilation, a little moisture might be even beneficial. Direct contact to the roots with manure was fatal, the plants required none. Small pots in the greenhouse exposed to full sunlight often became too hot, and it was advisable to shade them or plunge them into shingle.

Soil was important. Fibrous loam should form the basis and if a little sand and brick rubbish be added, the soil would be made porous and the plants root freely.

Propagation by means of off-sets and cuttings was very easy in the case of almost all the species. The operation should be done at a suitable time, that they may make roots before winter. Off-sets or cuttings should not be taken from plants that have been in this country less than twelve months.

The worst insect pest was the Mealy Bug. The best way to exterminate it, is to seek it out and remove it; afterwards to wash the plants with a very weak solution of paraffin.

Reference was also made a kind of blight, and the advice given that in cases of this the plants should be cut down.

The chief source of supply was from the North American continent, and dealings with Mexico had been much simplified of late. Much of the technical part of the paper was reserved for publication in the Society's Journal.

In a discussion which occurred afterwards, Mr. PRITCHARD referred to sufficient ventilation being an indispensable condition. They liked heat, but must not be baked. This gentleman pleaded that someone might translate foreign works upon Cacti, that they might be available to English cultivators.

Mr. CANNELL of Swanley strongly recommended that the hot-water pipes necessary for the heating of a structure for these plants should be suspended close to the eaves of the house. The system had worked most satisfactorily at Swanley.

Mr. CANNELL also stated that Mealy Bug could be killed easily and safely by the use of the XL All vaporiser.

Mr. G. W. CUMMINS stated that he had seen the house the lecturer had referred to at Chiswick, and that the glass was broken owing to the method of glazing. He thought the house most unsuitable for cacticulture. Dr. MASTERS (Chairman) referred to the "tough hide" and other structural adaptations to resist undue evaporation. He had seen them cultivated to great advantage in cottage windows, and they flourished well in such a dense district as Limehouse. There were no more interesting plants than Cacti; and, none more gaudy when in flower.

WATERFORD HORTICULTURAL.

JULY 22.—The annual summer exhibition of this well-supported society was held on the above date in the Courthouse grounds, Waterford, an admirable place for a show of this kind, affording ample scope for the carrying out of the arrangements.

The competition that the various sections of the show displayed this year was acknowledged to be above the commonplace level, and the result cannot fail to add materially to the reputation of Waterford as a centre of horticultural operations second to none in Ireland. The exhibits in every department reflected great credit on professional and amateur growers alike, and both in point of quantity and quality, exceeded the anticipations of the most experienced members of the society. The Begonias and Pelargoniums were especially of more than average merit.

Orchids were shown by W. G. D. GOFF, Esq., Glenville (gr., Mr. Innes). This gentleman exhibited numerous other plants. His Orchids were novelties in that part of Ireland, and excited great interest.

The Marquis of WATERFORD'S exhibits were likewise many, and included a hive of bees at work. The Curraghmore Pelargoniums bore off the 1st prize; and a tray of fruit (not for competition) consisted of excellent produce. The Windsor Castle Potatos, in capital samples, and fine Beans, Peas and Lettuces were well grown.

Double and single-flowered Begonias (tuberous) and Carnations in variety came from Messrs. SAUNDERS & SONS, Cork. Good Pansies, Peaches, Melons, Leviathan Onions, Peas, &c., came from W. G. PIM, Esq., Summer Grove, Mount Mellick (gr., Mr. M. Hartley).

The fine Begonias of Messrs. R. HARTLAND & SON, Lough Nurseries, Cork, were greatly admired. In this collection were included Dr. Nansen, M. Dgony, and Madame Le Barrone St. Didier, &c. Begonias came from F. JACOB, Esq., Newtown (gr., Mr. W. Morrisy).

W. RICHARDSON, Esq. (Mr. J. Stack, gr.) was successful with Maréchal Niel Roses, Cockscombs, Sweet Peas, double and single-flowered Pelargoniums, and Carter's special prize for a collection of vegetables.

Lord CAREW'S stove plants were the admiration of all who saw them.

Lord ASHBROOKE had well-bloomed Begonias.

ROYAL PERTHSHIRE HORTICULTURAL.

JULY 23.—This society held its first exhibition of this season in conjunction with the Highland and Agricultural Society, on the above date. The exhibits in every class were fairly numerous, and the quality was of high order.

The tables of plants—foliage and flowering—raised keen competition. The 1st prize was, however, easily taken by Mr. Francis Nicol, gardener to THOS. ROY, Esq. The plants consisted for the greater part of Orchids. They all exhibited most successful culture. The species most conspicuous were Odontoglossum crispum, Miltonia vexillaria, of many shades of colour, and most floriferous; Cypripedium Curtisii, Oncidiums, Epidendrums, &c. They were set on a groundwork of Ferns—but we thought, as did many others, that their beauty would have been much enhanced by the addition of a few similar foliaged plants as were seen in the 2nd and 3rd exhibits.

The specimen stove and greenhouse plants, though not of great size, were excellent; and the circular exhibits of fine foliage-plants and Ferns placed on the grass were most effective. Cut flowers of mostly every species were in great profusion, forming a capital exhibition of themselves.

Messrs. DOBBIE & Co. of Rothesay exhibited largely of their choicest stock—Sweet Peas, about fifty bunches, artistically arranged; Gladiolus in variety, Antirrhinums, Gaillardias, Dianthus, Chrysanthemums, varieties of new Cactus Dahlias, remarkably distinct, were among the most attractive species.

Messrs. STORRIE of Glencarse had a splendid display of herbaceous and other flowers, arranged for effect; so had Messrs. CROLL of Dundee, whose exhibit was well interspersed with florists' flowers.

Mr. COCKER, Aberdeen, was well represented; but his great strength was in the Agricultural Show, where his cut flowers filled a tent, which was always crowded with admiring visitors.

Messrs LAIRD & SINCLAIR of Dundee were also leading exhibitors in the classes for cut flowers.

FRUIT

from under glass was not an extensive display, but there were some capital Peaches, Nectarines, Melons, and Grapes exhibited. Black Hamburgh Grapes were very fine. The best of these forfeited their position through being rubbed and disfigured. The Muscats, though large in bunch, were unripe. The Duke of Buccleuch Grapes in several classes (exhibited by that successful cultivator, Mr. LESLIE, Pitcullen, near Perth) were grand examples. A bunch of Appley Towers was in excellent form, the best example of this new Grape which we have seen, perfect for bloom, berries large and oval in form; the bunch was compact, and such as would be of special service for sending to a distance. Gooseberries, Currants in variety, Raspberries, Apples, many dishes for dessert and kitchen purposes, in some cases by their earliness seemed as if they had been cultivated under glass. These hardy fruits filled the whole side of a tent, and not an inferior dish was tabled.

THE VEGETABLES

formed of themselves a great exhibition. The collections were better than one usually sees. Potatos, Carrots, Peas, Cucumbers, Tomatos, Celery, of great size and well blanched; Onions, Cabbages, Cauliflowers, and Turnips constituted the dishes in the collections. Mr. FLENDER, Cultoghey Gardens, was 1st; the 2nd prize collection was also excellent; indeed, every vegetable was good.

ROSES, &c.

The earliness of the season was in favour of most of the out-of-doors produce. Roses were comparatively scarce. Messrs. CROLL, of Dundee, had a capital exhibit of thirty-six blooms, which was awarded 1st prize; Mr. COCKER, Aberdeen Nursery, made an excellent 2nd—Horace Vernet, Ulrich Brunner, Gustave Piganeau, A. K. Williams, White Lady, W. Brunner, Sénateur Vaise, were shown in extra fine form—this old variety is still one of the most perfect in form.

In the Agricultural Show splendid stands of seeds, grasses, cut flowers, roots, &c., attracted much attention, and were specialties of Messrs. WEBB, Stourbridge, Mr. WATT, Cupar, Fife, and DRUMMOND BROS., Edinburgh. Lord BALVAIE, the future heir to the princely domain of Scone Palace, presided at the judges' dinner, and spoke on practical Horticulture and its pleasure-giving influence to those who follow it, cottagers and amateurs in particular.

PLAISTOW AND UPTON PARK FLORICULTURAL.

JULY 23, 24.—One could scarcely expect to see plants well-grown at Plaistow, for though it has some open spaces, remnants of market-gardens which could be found there a few years ago, yet there are enormous gasworks, chemical, and other manufactories that must be prejudicial to vegetation. And yet the very existence of the above society is a proof that something can be done, and we were somewhat astonished to find so many good examples of careful culture. The society is one formed by working men to induce others of their own order to take up the cultivation of plants, and there are cheering signs they are achieving this result, as the second exhibition, held on the above date in St. Mary's Parish-Hall, was a distinct advance upon the first.

Groups of plants were shown by amateurs, one to occupy a table space of 12 superficial feet. Here Mr. EARL, Eastern Road, a machine-maker, was 1st with bright flowering and foliaged plants; and Mr. R. COURT, a tin-plate worker, was 2nd. The best table group of 9 feet came from Mr WHITE, Upton Park, a manufacturer's workman; Mr. M. WEEKS, was 2nd. Still another group of 6 feet, and here Mr. MILLBANK was 1st; and Mr. OLDHAMSTEAD 2nd. The principal plants forming these groups were Plumbago capensis, Fuchsias, zonal and variegated Pelargoniums, flowering Begonias of the tuberous type, also B Weltoniensis, and some capital examples of the Rex section, Cannas, Nicotiana affinis, Lobelias, Antirrhinums, Tradescantia, Gloxinias, Hoya carnosa, Liliums, &c.; and of foliage plants, Isolepis, Ficus elastica, Coleus, Yuccas, Ferns, Selaginellas, &c., all grown in little glass houses, mainly of their own construction.

The best three flowering plants were tuberous Begonias

from Mr. Wilkins, Jr.; Mr. Boother came 2nd with two Begonias and a Petunia. Foliage plants were mainly represented by Rex Begonias The best specimen plant was a capital Lilium auratum from Mr. Markwork; Mr. Court winning 2nd with a good Campanula pyramidalis, both in flower.

Of cut flowers Mr. Simmonds had six pretty bunches of hardy flowers grown in the open air; and a policeman by the name of Ireland six dishes of very good vegetables gathered from an allotment. A Silver Medal was offered for twelve plants, three each of Fuchsias, Pelargoniums, Petunias, and Begonias, and was won by Mr. Simmonds.

There were professional classes, in which florist's and small nurserymen competed, Messrs. Smith and Dyer being the leading prize-winners, and they staged very pretty groups; Mr. Ireland had the best six plants, Mr. Earl the best three, and Mr. Webb the best single specimens.

HAMMERSMITH HORTICULTURAL.

July 24.—The twelfth annual show of this Society took place on the above date, and was by far the best it has yet held. Messrs. Charles Lee & Son sent from their Feltham branch a beautifully-arranged group of hardy ornamental foliage plants, in which the Cornuses figured effectively, constituting one of the features of the show.

Mr. James Gibson, gr. to E. H. Watts, Esq., Devonhurst, Chiswick, sent, not for competition, a charming and well-arranged group of stove and greenhouse plants; as did also Mr. West, gr. to Mrs. C. Brandon, Oakbrook, Ravenscourt Park; and Mr. Keys, The Nurseries, Shepherd's Bush.

In the amateurs' section, Mr. Woodhouse gained premier honours for a beautifully effective group of foliage and flowering plants; 2nd, Mr. Bromley.

Mr. James Hillier gained 1st prize for the best specimen plant in the show. Mr. John Addison, gr. to Mrs. Lloyd, Merton Lodge, Chiswick, sent some fine specimens of British Ferns, which gained the leading position.

Wild flowers, exhibited by school children, formed a pretty and extensive display.

MANCHESTER ROYAL BOTANICAL AND HORTICULTURAL.

July 25.—The extraordinary season we have had has knocked all calculations "agley" as to the most suitable week for giving exhibitors a chance in bringing forward the very best of their Rose blooms. The display of Roses in Manchester was no doubt a very fine one, but if it had been only a week earlier it would have been much finer, and then the weather which has been so excellent in the North of England for the whole month of July would have drawn thousands together to look at them. As it happened, the day of the show was wet. Most of the great growers and exhibitors, both nurserymen and amateurs, were present, and one could see that most of the exhibits, which came from north, south, east, and west, had been suffering—some from a droughty atmosphere, others, such as the Irish Roses, from a plethora of moisture, rendering it exceedingly difficult to put up a lot to please each exhibitor.

The main competition between the nurserymen was with those from the Midlands, the Emerald Island, and Forfarshire, the pride of place for seventy-two single trusses going somewhat easily to Mr. H. Merryweather, Southwell, Notts; after painstaking deliberation and counting up of marks, the 2nd went to Messrs. A. Dickson & Son, Newtownards, co. Down, whose lot, upon the whole, was more even; and the 3rd to Messrs. D. & W. Croll, Dundee.

In Mr. Merryweather's stand were the fine deep crimson Duke of Edinburgh, the ruby-red E. Y. Teas, a glorious bloom, with its fine shell-petals of the bright crimson Salamander, Comtesse de Nadaillac, Merveille de Lyon, Sultan of Zanzibar, Edith Gifford, Alfred Colomb, Marchioness of Londonderry, Duke of Wellington, Denmark, Duke of Connaught, Germaine Gautier, the fine-formed pale rose Baroness Rothschild, Charles Darwin, Earl of Dufferin—a charming Rose, Kaiserin A. Victoria (white, lemon-shaded), Fisher Holmes, Duchess of Bedford, A. K. Williams, Emilie Hausberg, Souvenir de S. A. Prince, Sir Rowland Hill, Captain Christy, G. Piganeau, Mdlle. Joseph Bennaire, a charming Rose, with great shell petals of extra form, rose-shaded white, most effective in a stand; Maurice Bernardin, Catherine Mermet, Captain Hayward, Heinrich Schultheiss, Suzanne-Marie Rodocanachi, The Bridesmaid, Star of Waltham, Souvenir d'Elise, pretty when in bud; Innocente Pirola, Abel Grand, Monsieur Verdier, Ulrich Brunner, large and full; Marie Verdier, the still first rank red Marie Baumann, Marchioness of Dufferin, Prince Arthur, François Michelon, grand hue of pure soft cerise; Marie Rady, John Stuart Mill, Charles Lefebvre, Mr. John Laing, a magnificent bloom; Etoile de Lyon, Ella Gordon, the soft blush Clio, a good, distinct Rose; Horace Vernet, Paul Neyron, with large-sized, rosy-coloured bloom; Comte de Raimbaud, Ernest Metz, Jeannie Dickson, Madame Hoste, Dr. Andry, Countess of Oxford, and the equally full and rich-coloured Pierre Notting, the cupped white Etendard Jeanne d'Arc, Madame Verdier, Victor Hugo, and several others. We give these names as showing some of the best old and some of the best new varieties; although they were chiefly in the premier stand, they comprised most of the best flowers in other exhibits.

The best new Rose in the show, and indeed the only one that was rewarded with a First-class Certificate, was one shown by the Newtownards firm and named Bessie Brown. It had been exhibited before—at Ulverston. It is a hybrid Tea, pure white in colour, with large well-formed petals, very much of the same outline of that famous Rose, Mrs. John Laing, and will bulk as largely.

For thirty-six, distinct, three trusses of each, 1st, Messrs. Dickson & Sons, Newtownards; 2nd, Mr. H. Merryweather; 3rd, Messrs. W. & D. Croll. There were many good Roses in this group, but nothing looked finer or more commanding than Mrs. John Laing.

AMATEURS.

There was not so large a number of exhibitors from a distance among the competitors in these, as in the trade classes; still, there was sufficient distinction to point out that as much depends upon the grower as upon the exact geographical area in which he is situated. It was a battle really between Essex and the confines of Sherwood Forest, Rev. J. H. Pemberton holding his own among many combatants, as he has done, year after year.

This time Mr. H. V. Machin, Gateford Hall, Worksop, ran him hard, losing in the class for thirty-six, but winning in that for twelve blooms. This grower also showed well in the Teas and Noisettes, showing many clean well-grown flowers. The best in the big lots were Xavier Olibo, Ulrich Brunner, François Michelon, John Stuart Mill, Mdlle. Joseph Bennaire, Horace Vernet, and Alfred Colomb. The prizes went as follows:—

For twenty-four distinct, single trusses (open to residents within 20 miles of Manchester), Mr. Charles Burgess, Plumbley; and Mr. T. S. Jackson, Ashley, had stands of good average blooms, and they held position in most of the classes, followed by Mr. Jas. Brown, Heaton, Mersey.

FRUIT.

Mr. Goodacre, gr. to the Earl of Harrington, Derby, had the premier prize; Mr. Joseph Ward, Alfreton, was 2nd for a collection of fruit, and also for the twelve best bunches of Grapes. The six bunches of Muscat of Alexandria were large and shapely, but a little wanting in colour. Mr. J. E. Platt, Cheadle, was 2nd with a good fresh lot, and Mr. Elphinstone had also a creditable lot from Shipley Hall.

Mr. McKellar exhibited from Abney Hall a collection of fruit comprising six bunches of Grapes, Lord Napier Nectarines, and Jefferson Plums.

HONORARY EXHIBITS.

There was a very large lot of miscellaneous cut border flowers, comprising several hundred bouquets of them in glasses in grand colour, but sadly wanting some greenery among them to reduce the stiff formality. The white Asters were superb; the Carnations, Liliums, Stocks, Gaillardias, and Chrysanthemums—in fact, every description of flower suitable for cutting for the daily market here were put up by Mr. Frank Law, Sherington Farm, Sale.

Messrs. Sutton & Sons, Reading, had a grand assortment of Begonias, both single and double. The setting them in Maidenhair Ferns had a good effect.

Messrs. Paul & Sons, Cheshunt, had a very good collection of cut Phloxes, the blue one taking the eye. They also showed Tea and Noisette Roses, and a select collection of cut flowers.

Mr. Septimus Pye, Garstang, "Pansy, Viola, and Carnation specialist," had a very large representative lot, justifying the title he bears. The Violas were ranged on a tiered trellis in single pyramids of bloom; and the Fancy Pansies were really a good well-cultivated lot—well shown, too.

Feeling allusion was made at the luncheon to the death of Mr. Bruce Findlay. Dean Hole, who was expected to have opened the show, sent his expressions of regret in suitable words; and the care of the gardens were deputed to two members of the Council—Mr. Brown and Mr. Robinson, who were ably seconded by the late Mr. Findlay's lieutenant, Mr. Charles Paul.

THE MIDLAND CARNATION AND PICOTEE.

July 24.—This followed close upon the heels of the exhibition of the London society: it was necessary it should be so, for the season of the bloom, owing to the great heat and dryness of the atmosphere, was compressed into a very few days. At Birmingham decidedly better quality prevailed than at the Crystal Palace. There were no flowers from the South, but to those numerously shown from the Midlands there could be added blooms from Lancashire and Yorkshire, and so a display of quality quite beyond what was anticipated took place. Entries were numerous, and there were but few absentees. As usual the exhibition took place in the show house of the Botanical Gardens, overhead being wreaths of Bougainvillea, Tacsonia, Lapageria, &c., and considering the warm atmosphere of such a building, the flowers lasted remarkably well. Mr. Robert Sydenham, the Chairman and Treasurer, was again to the fore, taking some of the principal prizes, and becoming the holder for a year of the very handsome Challenge Cup given by the Society for a competition among trade growers. The companion cup given by the Charles Turner Memorial Trustees for amateur growers brought a dead heat between Mr. Chas. F. Thurstan, a rising young grower of Wolverhampton, and Mr. A. W. Jones, Handsworth, Birmingham; they being with 42 points each. It was suggested that each should hold the cup for six months out of the twelve.

CARNATIONS.

There were eleven competitors with twelve Flake and bizarre Carnations, and it was remarked by the judges that the stands were astonishingly equal in point of merit, there not being a great deal to choose, between the first and the last; and this made the task of awarding seven prizes in each class a somewhat onerous one. Mr. R. Sydenham, Tenby Street, Birmingham, was placed 1st, having very good blooms of P. P. B. Arline, P. F. Gordon Lewis, S. B. Robert Lord, R. F. Mrs. Rowan, S. F. Guardsman, S. B. Edward Adams, P. P. B. Sarah Payne, P. P. B. W. Skirving, C. B. J. D. Hextall, P. F. George Melville, C. B. Master Fred and R. F. Rob Roy. 2nd, Mr. Tom Lord, florist, Todmorden, with C. B. Master Fred, P. P. B. Edith Annie, S. B. Admiral Curzon, C. B. Lord Salisbury, P. F. Magpie, C. B. Thaddeus, P. P. B. Arline, S. F. Sportsman, S. B. Robert Lord, R. F. Thalia, S. F. Guardsman, and C. B. J. S. Hedderly.

There were eleven exhibitors of six varieties, and in this class the competition was also keen; Mr. Crossley Head, Hebden Bridges, taking the 1st prize.

PICOTEES.

There were eleven exhibitors of twelve white ground Picotees, and here again the competition was very close and exciting. Mr. R. Sydenham was again 1st, having H. Red E. Mrs. Wilson, L. Rose E. Favourite, H. Ro. E. Little Phil, L. P. E. Pride of Leyton, L. P. E. Jessie, H. Ro. E. Lady Louisa, H. P. E. Muriel, H. Ro. E. Mrs. Payne, H. P. E. Amy Robsart, H. P. E. Mrs. Openshaw, L. Red E. Lena, and H. Red E. Ganymede. 2nd, Mr. J. Edwards, Florist, Manchester, with a dozen blooms which ran those of Mr. Sydenham very close indeed.

There were eleven exhibitors of six Picotees, Mr. Crossley Head being again 1st with H. Red E. Brunette, L. Ro. E. Nellie, L. P. E. Thos. William, L. P. E. Esther, H. P. E. Zerlina, and H. Ro. E. Mrs. Payne; and Mr. C. F. Thurstan, Wolverhampton, was 2nd.

Yellow Grounds and Fancies.—These were finely shown, and there were nine entries for twelve dissimilar varieties, Mr. R. Sydenham again taking the 1st Prize with Romulus, Monarch, Yellowhammer, Cardinal Wolsey, Ladas, Nisbet Hall, The Dey, Mrs. Gooden, 'Janira, Mrs. R. Sydenham, Mrs. Douglas and Corisande; Mr. A. R. Brown, florist, Handsworth, was 2nd; Messrs. Thomson & Co., nurserymen, Sparkhill, Birmingham, were 3rd.

There were nine exhibitors of six varieties. Mr. C. F. Thurstan was 1st with excellent blooms of George Cruikshank, The Dey, Yellowhammer, Ladas, Mrs. Douglas, and Mrs. R. Sydenham; 2nd, Mr. A. W. Jones.

The next class was for true Yellow-ground Picotees, the flaked and fancy varieties excluded; Mr. A. W. Jones being placed 1st, with Ladas, Countess of Jersey, Mrs. R. Sydenham, Mrs. Douglas, Mrs. Gooden, and Mrs. Whitbourn; Mr. R. Sydenham was a close 2nd with the same varieties, excepting Mrs. Whitbourn, he staging Mrs. Dranfield. Mr. Sydenham is to be commended for instituting this class, as it is high time the true Yellow Picotees should be formed into a class by themselves.

Self Carnations.—There was a very keen competition with twelve Self Carnations, Mr. W. Kenyon coming 1st, with Mancunian, a very fine maroon-crimson Self: R. Bealey, a large purple-crimson sport, from the P. P. B. R. Bealey; Mrs. R. Hole, Meteor, Rose of Cardiff, Mrs. Muir, and seedlings. Mr. T. Lord was 2nd.

There were ten exhibitors of six Selfs, Mr. C. F. Thurstan taking the 1st prize, with capital blooms of Germania, Bridesmaid, Alsemonde (rose Self), Mrs. Eric Hambro, Hebe and Mancunian. 2nd Mr. J. Brocklehurst, Moston, Manchester

In a few classes, blooms of the several types of the Carnation were shown, each with a spray of foliage and set up in glasses. As a rule none of the varieties were named, and as in London so at Birmingham, the flowers so shown did not rise much above the level of button hole flowers sold in the streets; had the strict letter of the schedule been adhered to most of the collections would have been disqualified.

Single blooms of the various classes were produced in considerable numbers. Carnations were numerous, and of S. Bs., Robert Houlgrave and Robert Lord took the leading prizes; of C. Bs., J. S. Hedderley, Lord Salisbury and Edward Rowan; of P. P. Bs., William Skirving took all the prizes; and of S. Fs., Sportsman; R. Fs., Mrs. Rowan and Mrs. May; P. Fs., Gordon Lewis and James Douglas.

Picotees.—H. Red E.: Mr. John Sunthand had Brunette; L. Red E. Thomas William and Mrs. Gorton, H. P. E. Polly Brazil and Muriel, L. P. E. Pride of Leyton, Ann Lord and Clara Penson, H. Rose E. Lady Louisa and Mrs. Payne, L. Rose E. Favourite, H. Scarlet E. Mrs. Sharp, one of the brightest edged flowers in cultivation.

Selfs.—White, Mrs. Eric Hambro and Mr. Lee; yellow or buff, Germania, nothing can beat it; pink rose or scarlet, William Dean (Sport) and Ruby; dark crimson or maroon, Manxman, a very fine northern flower, and Mephisto. The best yellow ground Picotee was Mrs. R. Sydenham, it took the three leading prizes; the best Fancy was a run form of the S. B. Othello, Romulus and President Carnot.

Premier Blooms.—The best bizarre was S. B. Gilbert, a rich coloured new variety from Mr. J. Edwards; he had also the

premier rose flake in Mrs. Rowan; the premier heavy edged Picotee in P. E. Mrs Edwards; and the premier light edged in Rev E. Thomas Williams; the premier yellow ground Mrs. R. Sydenham from Mr. R. Sydenham; the premier self, Mrs. Eric Hamro, white, from Mr. A. R. Brown; the the premier fancy Monarch, also from Mr. R. Sydenham.

Border Carnations shown in bunches with long stems were a good feature, five stems forming a bunch. The best twelve came from Messrs Rogers & Son, Whittlesea, Peterborough; Messrs Thomson & Co. being 2nd, and Mr. J. Walker, 3rd. The best Carnation from Mr. C. F. Thurstan; the Rev. C. P. Brickwell, Broadway, was 2nd; and Mr. Geo. Chaundy, Oxford, 3rd. With twelve bunches of Fancies and Selfs, Messrs Rogers & Son were again 1st, Messrs. Thomson & Co., 2nd. With six bunches, Mr. Geo. Chaundy was 1st, and the Rev. M. Brickwell, 2nd, but none of the varieties were named, though there is a rule requiring they should be so.

Pots of Carnations represented by well-grown and bloomed specimens were shown in sizes; Mr. R. Sydenham was 1st, and Messrs. Thomson & Co., 2nd. Mr. R. Sydenham was the only exhibitor for Mr. Ernest Benary's special prize for six varieties raised in Erfurt, he having admirably-grown and flowered plants.

The Silver Medal of the Botanical Society was awarded to Mr. R Sydenham, and the Bronze Medal to Mr. T. Lord, they having gained the greatest number of prizes in certain classes. In other classes the Silver Medal went to Messrs. Rogers & Son, and the Bronze Medal to the Rev. Mr. Brickwell.

Certificates of Merit were awarded to Yellow Self Carnations Lord Wantage, pure, and finely formed, from Mr. T. E. Henwood, Reading; and to the following new varieties of Sweet Peas from Mr. Henry Eckford, viz., Lady Nina Balfour, Salopian, and Prince Edward of York.

Obituary.

Mr. John Ewing. — Many *habitués* of the Sheffield Botanical Gardens in the old days [and doubtless numerous readers of this journal. Ed.] will hear with regret of the death, on July 23, of Mr. John Ewing, a gentleman who for more than thirty years occupied the responsible post of Curator there. Mr. Ewing was a native of Fife. He was well known among the leading horticulturists and nurserymen of the country, and in his later days loved to talk of the great people with whom he was acquainted When the late Emperor of Brazil visited Sheffield, he called upon Mr. Ewing at 6 o'clock in the morning, and the two paraded the pleasant grounds, discoursing botanical subjects. Mr. Ewing died from sheer old age, after a life well spent. A few years ago he retired, with the promise of a pension from the authorities at the Botanical Gardens. It was, unfortunately, discovered after his retirement that the payment of the pension-money was illegal, and this somewhat embittered the good old man's last days. He became, however, a few months ago, a pensioner of the Royal Gardeners' Benevolent Institution. The deceased, who was eighty-three years old, leaves a son and two daughters. *Sheffield Daily Independent, July* 24, 1896.

Professor Kanitz. — We regret to have to announce the death of M. Auguste Kanitz, the Professor of Botany and Director of the Botanic Garden at Kolosvár (Klausenberg). Prof. Kanitz was in his fifty-fifth year.

The Week's Work.

PLANTS UNDER GLASS.

By Jno. McIntyre, *Gardener, Woodside, Darlington.*

CYCLAMEN PERSICUM VAR. GRANDIFLORUM.—To have these pretty plants in the best condition, the following method of culture should be adopted, The seed should be sown forthwith, care being taken to procure seeds of a good strain. Prepare some thoroughly clean, shallow, earthenware pans, draining them with clean crocks, and filling them with a compost consisting of loam and leaf-mould in equal parts, and a liberal amount of clean sharp sand all well mixed together and made firm, and afterwards watered and allowed to stand aside for an hour or two. In sowing, place one seed on each square inch of surface, cover to the depth of ½ inch with finely-sifted soil; afford water lightly with a fine rose water-pot, and when the surface is dry, place a sheet of thick brown paper over each pan, and stand in a house or pit having a warmth of 60°, well shading the pans from the sun. By keeping the surface of the paper moist, it is not usually found to be necessary to water the soil in the pans before germination has taken place; still, in hot dry weather it is prudent to examine the seed-pans occasionally to ascertain if the direct application of water is required, for on no account should the soil lack moisture. Plants raised from seed which was sown in the autumn of last year, if their cultivation has been of the proper kind, should now receive their last re-potting, the compost used being that which I have recommended for the seed-pans, only in a rougher condition; merely adding a small quantity of an artificial fertiliser. Place the plants near the glass, well shading them from bright sunshine, for at no time whilst in growth can the Cyclamen stand exposure to bright sunshine. For a month after re-potting, the plants should be dewed overhead at least twice a day, after that length of time overhead damping must be discontinued, and the plants carefully watered, taking care that the tubers are not even wetted on the top, or the damping-off of the flower-stalks may result.

BALSAMS. — These beautiful plants, if raised from early-sown seed, and their cultivation has been carried on in a brisk bottom-heat (80°), afforded by stable-manure and tree-leaves, may now be re-potted for the last time. If the plants are intended for greenhouse, conservatory, or house decoration, pots of 6 or 7 inches in diameter are sufficiently large, manurial aids to growth being better than the use of very large pots. The soil used should be rich, and consist of one part of dried cow-dung, one of leaf-mould, one of loam, and one of sharp sand if the loam be tenacious. When re-potted, plunge the plants up to the rim of the pot in a partly-spent hotbed. If large well branched plants are required, 10 to 11 inch pots may be used. Although Balsams are gross feeding plants, do not begin to afford them manure-water before the soil is filled with roots. Damp the plants overhead morning and evening, attend to the thinning of the side-shoots, and remove the bloom-buds entirely till the plant has arrived at the required size, or nearly so.

CROTONS. Sunshine and a free circulation of air are the chief factors in getting Crotons to colour well. The Crotons struck from cuttings in the spring should now be afforded their last re-potting for the season, which may consist of 5 or 6 inch pots. Such plants will, in the course of two months, make very suitable plants late in the autumn and early winter for a variety of purposes. Pot-bound Crotons will require manure-water to encourage growth, and for this purpose the drainage of the cow-shed is excellent; and where this cannot be obtained, Thomson's, Clay's, Beeson's, and Goulding's are all good if used according to the directions given with them.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

LESS-SHOWY ORCHIDS.—Owing to a desire for large and showy Orchids, a great number of the smaller-growing species have been neglected. No description can give an adequate idea of the quaint distinctiveness of many of these or of their varied charms, which in a representative collection are present in more or less degree throughout the year. Among these may be mentioned Bulbophyllum barbigerum, B. comosum, B. mandibulare, B. Lobbi, B. Ericssoni, B. patens, B. Dearei, B. grandiflorum, B. umbellatum, B. longisepalum, B. Sillemianum, and B. auricomum, Cirrhopetalum Medusæ, C. Cumingi, C. ornatissimum, C. Rothschildianum, C. robustum, C. Thouarsi, C. picturatum, C. Macraei, C. O'Brienianum, C. Colletti, and many others. Their culture is not particularly difficult. Many of them having long creeping rhizomes, and being vigorous in habit, should be planted in Teak-wood baskets of sufficient size. For the smaller growing varieties shallow pans are in every way suitable. The baskets or pans used should be filled to three-fourths of their depth with clean crocks, and a layer of sphagnum moss placed above these. Upon this place the plants, and carefully spread out the roots over the surface of the moss, then fill up to the rhizome with ordinary Orchid compost, mixing a moderate quantity of small crocks with it. After repotting, and until the roots and growths have fairly started, only a very slight sprinkling of water on the compost is necessary; but when re-established, and in full growth, they require an almost unlimited supply of water at the root. The proper time to re-pot Bulbophyllums, Cirrhopetalums, Sarcopodiums, and Megaclinium, is just when new growth commences. All of them should be suspended close to the roof-glass on the shady side of the East Indian house, or warm plant. stove. Insect-pests rarely trouble them, but an occasional sponging of the leaves is conducive to healthy growth. The rare Cœliopsis hyacinthosma may be grown under similar conditions, and in shallow baskets, but no crocks need be used for drainage, as the flower-spikes always push out through the bottom of the basket. Acineta Barkeri, A. densa, A. Humboldti, A. chrysantha, Stanhopea Wardi, S. insignis, S. tigrina, S. eburnea, S. Ruckeriana, &c., also Luddemannia Lehmanni, and L. triloba have all similar characteristics in their habit of flowering, therefore basket culture is the most suitable for them. The correct temperature for these species is that of the intermediate-house. Abundance of water is essential during the growing season, and it is well to periodically sponge the under-surface of the leaves to prevent the attacks of red-spider, to which Stanhopeas, Acinetas, and Luddemannias are subject. Arpophyllum giganteum and A. spicatum, when strongly grown and well bloomed, make handsome specimens. Both species thrive in well-drained pots in a mixture of peat and sphagnum. Stand them in a light position in the intermediate-house, and afford plenty of water at all times. Epidendrum prismatocarpum, E. variegatum, E fragrans, E. brassavolæ and E. Stamfordianum, having finished flowering, are now commencing to grow afresh, and any that need to be repotted may now be taken in hand. Afford plenty of drainage, and elevate the base of the plants a trifle above the rim of the pot; and use a compost consisting of two parts of rough fibry peat to one of sphagnum-moss. Place them in a light moist position in the intermediate-house, and afford water carefully until well rooted, neither letting them become very dry nor too moist.

COOL-HOUSES.—Such Orchids as Oncidium Phalænopsis, O. nubigenum, O. cucullatum, O. olivaceum Lawrenceanum, O. dasytyle, O. cristatum, O. virgulatum, and O. St. Legerianum will now require fresh material to root in. The first four named species succeed best in pots stood upon the ordinary stage, and in the coolest and shadiest position available. The other species prefer shallow pans suspended from close up to the roof-glass of the house. All of them should be plentifully supplied with water during the season of growth. The pretty Cochlioda Noetzliana should also be repotted now that it is starting to grow. During summer the cool-house is the best place for it; but in winter, when the weather is severe, the intermediate-house is better. Keep this house as cool as possible, and, if necessary, shade a trifle heavier than usual during brilliant sunshine, and syringe the shading several times during the day; also the intermediate external surroundings may be kept moist by the same means; and only afford water at the root when it is necessary.

THE HARDY FRUIT GARDEN.

By G. Woodgate, *Gardener, Rolleston Hall, Burton-on-Trent.*

PEACH AND NECTARINE TREES.—All the young wood should be secured, keeping it straight and neatly trained between the old shoots and branches, being careful that they do not unduly shade or interfere with the development of the fruit. In doing this be careful to remove wall-nails and studs which may injure any of the fruits; remove the leaves that overhang the latter, so that they may receive full exposure to sunshine, in the absence of which the high colour characteristic of most varieties of Peaches and Nectarines never fully developes. Syringe the trees daily till the fruit begins to change colour, then discontinue it entirely till the crop is taken. Where a mulch is spread on the border, and trees have a daily syringing, the surface-soil will generally show a sufficiently moist appearance, but these indications are deceptive as to the state of the soil as regards moisture at 6 inches deep; the prudent gardener will therefore examine the borders to their full depth, and afford water as it may seem to be needed. Some fresh manure should be placed on the borders if the old mulch has in great part disappeared.

CHERRIES. The nets should be removed from all trees whence the crop is taken, and placed over the Morello Cherry-trees. The secondary growths of sweet varieties may be shortened back to a leaf, and insect-pests destroyed with tobacco-water, &c, and the trees washed with clean water early in the afternoon in sunny weather. The borders in most gardens will require to be thoroughly saturated with water.

APPLES AND PEARS.—The early varieties will now require special attention as regards gathering the fruit, for if these are gathered only a few days before they are ready, flavour will be conspicuous by its absence, and if they are left on the trees too long they become mealy. It is a good practice to go over

the trees daily, taking off a few at a time as they become fit.

VINES.—Lay in, and make secure the young rods of Vines which were left for extending the Vine or taking the place of old branches; remove the weaker laterals where there are too many, securing to the wall those that are retained; also remove the smaller and worst-placed bunches if the crop is too heavy for the Vine to properly finish off.

THE FLOWER GARDEN.

By Hedley Warren, *Gardener, Aston Clinton, Tring.*

HERBACEOUS BORDERS.—These borders will require frequent attention in order to prevent overcrowding, which may be partly obviated by the removal of all useless growths, and these are, in consequence of the drought, very numerous in some kinds of soil. Tall-growing plants should be made secure against wind by means of strong stakes, one, two, or three, as may seem desirable being given to each plant. Asters, Stocks, and other annuals, made use of in filling up vacant spaces in the border, should not be allowed to lack moisture, but this should be frequently applied till such time as a good fall of rain takes place.

GENERAL WORK.—Foliage-plants will need to be cut back where the beds in which they are growing form part of a geometrical garden. The decaying flowers on shrubby Calceolarias should be kept picked off the plants, and the latter kept in as vigorous a condition as possible, thus favouring their flowering, and the production of shoots fit for making cuttings at a later part of the year. Mowing will require careful doing until the turf regains its freshness, it having become much browned by the drought. In many gardens there is really no grass to cut. In places where the gardener is enabled to water the lawns, this work should not be suspended before we get abundant rains. Gravel walks made of binding materials, the surface of which may have become loose, should be watered also where the means allow it to be done, afterwards giving them a good rolling; otherwise, beyond the rolling giving a tidier appearance, little good is done. Nothing adds so much to the well-kept appearance of a place as smooth, clean walks, neatly trimmed at the edges.

PROPAGATION OF SUMMER BEDDING PLANTS will soon engage the attention of the flower-gardener who makes much use of the tenderer kinds of plants in filling his flower-beds. In order that as little delay as possible should occur when the work is begun, various mixtures of soils should be got in readiness, flower-pots, pans, and boxes cleaned and crocked, and the frames or pits in which the cuttings are to be placed should be cleaned, and the bottom surfaced with clean gravel or fine coal ashes.

EARLY-FLOWERING CHRYSANTHEMUMS.—These useful and pretty plants are now growing rapidly, and in some instances the flower-buds are expanding, looking well on the whole in spite of the drought. It would, however, be well to afford them farmyard liquid-manure, or some kind of artificial manure, particularly the plants growing in shrubbery borders, the soil in such places being rendered very dry by the roots of the shrubs, &c. Madame Desgranges still holds its own as one of the most useful Chrysanthemums for flowering outside; others worthy of cultivation being La Vierge, Précocité, Mrs. Hawkins, and Mrs. Cullingford.

GYPSOPHILA PANICULATA, now in the height of flower, is one of the most useful of our hardy plants, its gracefulness being its greatest attraction. The light graceful sprays of blossoms make, when placed in flower-glasses or vases along with Sweet Peas, Coreopsis lanceolata, Iceland Poppies, and Fern fronds, a very pretty combination. This plant is propagated by seed or division of the roots. Seeds should be sown as soon as ripe on a spent hotbed, the month of June being the most suitable period. [G. cerastioides seeds may be sown in the same manner from the beginning of May to the end of June, the plants making capital groundwork or edgings. G. elegans should be sown in the open ground where it is intended to flower, and it is a most abundant bloomer; this species and G. muralis should be sown on a spent hotbed, or in pots in the greenhouse in the month of May. The last two are annuals. Ed.] Division of perennial species should be carried out when the plants are on the move.

STATICE LATIFOLIA (Great Sea Lavender) and its kindred varieties are amongst some of our best autumn-flowering perennials, and their value for decorative purposes in the fresh and in the dried state are not sufficiently known. The plants are of easy cultivation, thriving in almost any kind of soil or position, and they should therefore find a place in every garden, however small. The annual varieties are very useful, although not so much so as S. latifolia.

THE KITCHEN GARDEN.

By C. Herrin, *Gardener, Dropmore, Maidenhead.*

ONIONS.—Although the time has now arrived when sowings of Onions to stand through the winter should be made, the preparation of the seed-beds will entail much labour if the drought continues. In the event of rain not falling in quantity before this appears in print, it may be advisable to defer sowing for a short time, as with the present warmth in the soil, should rain ensue, the growth would be rapid. Planting and sowing of every description has hitherto been carried on with difficulty, and with a change in the weather much of this kind of work which has had to wait will require to be finished up quickly. If the plot intended to be sown with winter Onions carried a crop of Peas or Cauliflowers, it should be dressed with rotten manure, and then dug, thoroughly incorporating the manure with the soil, and immediately afterwards trampling it over, so as to confine the small amount of moisture present in it. On preserving moisture, and the ammonia of the manure, much of the well-being of the future crop will depend, and this is most effectually done by compacting the soil. After affording a dressing of soot and burnt garden-refuse to the dug ground, rake it over, and treat generally in the manner recommended for spring sowings. If the seeds are sown before rainfall, the drills, which should be drawn fully 1 inch deep and 12 inches apart, must be copiously watered before and after the seeds are put into the ground, covering them with soil, with the back of a rake. By doing the work in this manner, the moist soil may be made to rest upon the seeds, and that which is dry, if raked over the surface afterwards, will then act as a mulch, and prevent the rapid escape of moisture from the land. Although any variety of Onion may be sown at this season, there are some which are generally recognised as being more suitable than others. The early white Naples Tripoli is quick to form useable bulbs, but the seeds should not be sown in quantity, as the bulbs are not good keepers; the Giant Rocca, Globe Tripoli, Brown Globe, and James' Keeping are better. What remains in the ground of the Onion crop of last autumn may now be pulled up, dried in the open air, and then stored away thinly in some cool shed.

SPRING-SOWN ONIONS.—These, if not mulched with short manure, should be kept well stirred, as the frequent waterings afforded the land will have caused it to cake, and where they have not had water applied during the drought they will be very small.

OUT-DOOR TOMATOS.—These, with us, have set well, and many of the plants have three or more good bunches of fruits which are swelling fast. A mulch of rotten manure should be put over the roots, and a copious watering afforded as often as may be necessary, with liquid or artificial manure occasionally. The plants should have all side growths removed twice a week, the stem being secured in an upright position. If the laterals are pinched out as soon as observed, there will be little need for the removal of the chief leaves, at least, for a time.

VARIOUS.—Marrows and Ridge Cucumbers should be well supplied with water, and the fruits removed as soon as large enough for use, otherwise growth will be much restricted, and the flowers fail to set. Disused hot-beds may have Vegetable Marrow seeds dibbled into them, the plants thus raised, in a favourable autumn, producing a useful crop of late Marrows. Seedlings of common Thyme, Marjoram, and such like, should be thinned, vacancies in the herb borders made good; and with a change to dull or wet weather, slips of Sage, if dibbled in, will strike freely.

FRUITS UNDER GLASS.

By W. Pope, *Gardener, Highclere Castle, Newbury.*

STRAWBERRY-PLANTS FOR EARLY FORCING.—There should now be no delay in getting the rooted runners potted in the pots in which they are intended to fruit, it being of primary importance that all which will be forced early in the new year should fill the pots with roots, and mature the crowns in good time, and in that way assure the plants a season of rest before starting to force them. When potted, stand them on a firm and level bed of coal-ashes; and, failing this, they may be stood upon boards or trellis-work, being careful, wherever they are placed, to avoid crowding them, so that air and sunlight may have full play on all sides. Afford water plentifully when the soil fills with roots, and weak liquid-manure two or three times a week. All runners which form should be taken off weekly, and the soil kept free from weeds. If the required number of runners for general forcing have not been layered, they should be secured forthwith.

THE PINERY.—Succession plants now in rapid growth require liberal yet careful ventilation, to prevent their leaves becoming drawn; and if, owing to insufficient space being available at potting-time, they were closely crowded together, a re-arrangement should now be made, and more space afforded each plant. Examine the stock of plants on alternate days, and when water is afforded, let it be without stint, so as to moisten the ball of soil throughout. Plants which will fruit early in 1897 should be grown on without any check from over-dryness being given, which might result in premature fruiting. Lightly syringe them every afternoon on fine days, doing it very lightly over the foliage, as to have water constantly standing in the axils of the leaves is very undesirable. During the late tropical weather fire-heat has been altogether dispensed with here, but it will be turned on as required if the weather alter to dull and rainy. The degree of warmth at night should range from 65° to 70° for successions, and 70° to 75° for fruiters, with a 10° increase by day. Maintain humidity about the plants which have swelling fruits, syringing the paths, and surface of the bed twice a day, and slightly dewing the plants after a bright day without wetting the crowns. Plants with ripening fruit must not be allowed to get over-dry at this season, but sufficient water should be supplied to keep the soil nicely moist. Should more fruits appear to be ripening than are likely to be required at one time, some of the less forward ones—that is, before becoming fully coloured—may be retarded by placing them in a well-ventilated vinery; and even quite ripe fruit may be kept in good condition for some time by taking the plants with the fruits thereon to a cool, dry fruit-room.

THE APIARY.

By Expert.

DRIVING BEES: INCREASING STOCKS.—At this time of year stocks may be increased very cheaply by means of driven bees, which can often be obtained from people who do not care, or who are afraid of taking their own honey, and are willing to give the bees away for the sake of having the honey taken from them. To commence driving bees, first see that you have all the necessary appliances by you, which should consist of a straw skep, two driving-irons, and a skewer smoker filled with brown-paper, old cotton-waste, or old cloth—in fact, anything that will burn well, carbolic cloth, and a few goose or turkey feathers tied together to form a small brush. The driving-irons are easily made by taking two pieces of thin round iron, 8 or 9 inches in length, and bent down at each end about 1 inch to a sharp point, to allow it to enter the straw skep easily. The carbolic-cloth must not be made too wet; the best way is to sprinkle the cloths with a small tin pepper-box containing a solution of one part carbolic (Calvert's No. 5), and one of warm water, which is better than cold, as it allows the carbolic to mix better. After you are prepared with the needful articles, give the bees a little smoke in the entrance of the hive, which causes them to fill themselves with honey, and so to a certain extent subdues them; then loosen the skep on each side gently, which will always be found sealed down with propolis. Take the carbolic cloth in both hands, gradually raise the skep; in doing so, allow the cloth to fall over the bottom of it; see it is brought well over to prevent any bees from getting out; carry a little way off, and stand on a bucket, box, or anything that will make a firm standing; remove a little portion of the cloth, to see that the combs run (this is important, otherwise they will have to travel across the combs, and round the skep) into the empty skep, which you secure down to the full one firmly, and then attack the sides with the irons; commence tapping each side gently, and the bees will run up very easily. In cases where the combs are soft, which is the case with swarms, great care should be exercised or the combs and bees will be all mixed up together. As soon as the hive has been removed, place an empty skep on the same stand to catch all the

flying bees, which you can secure afterwards; by doing this you not only save the bees, but they have something to do, instead of buzzing round you, when you are driving. In driving bees they will often go to the back of the skep: to prevent this, have a second cloth placed round it at the back; this will cause them to go up into the empty one above. In carrying bees away, always carry them with the mouth of the skep upwards, and feed as soon as you get them home.

ROBBING.—Having collected all the honey that is to be had, bees will attack weak stocks; and to prevent this, close up the entrances of all hives to about 1 inch. This will enable them to protect themselves better, otherwise a colony will be robbed of all their stores and perish.

LOUIS SCIPIO COCHET.

The famous French rosarian, whose death we briefly noticed in our issue for June 20, deserves to have a fuller notice than we were then enabled to give our readers. Cochet was a man of extraordinary strength of character, who gained for himself numerous friends; and at his funeral at Grisy-Suisnes, one may say, that all the inhabitants of Grisy and Suisnes were present, besides many members of the Société Nationale d'Horticulture de France. The important business at Suisnes which he guided with a firm hand, and of which many envied him the possession, was raised from very modest beginnings. It was founded by Christopher Cochet, with the assistance of Admiral, Comte Bougainville, in the year 1799, Cochet being the Comte's gardener. He commenced with the cultivation of Roses in the open air, and brought them to such a state of perfection and development that to this day the entire locality of Brie-Comte-Robert, situated in a charming part of the Seine-et-Marne department, bears the name of the "Pays des Roses."

The possession of the nursery business at Suisnes descended from father to son in the family Cochet, and in 1853 Scipio Cochet, in company with his brother Philemon, began to exhibit great energy in the conduct of the nursery, bringing it up to requirements of the day. In 1860, S. Cochet became sole proprietor of the business in which he had been only partner, and in 1877, in company with Camille Bernardin, he founded the *Journal des Roses*, a monthly periodical almost entirely devoted to Roses. The direction of affairs is now undertaken by Pierre Cochet, son of the deceased.

Among the many fine Roses raised by the late L. S. Cochet, we may mention just a few that maintain a leading place in collections in this country: Souvenir de la Reine d'Angleterre, Mdlle. Elise Chabrier, Chas. Lee, Baron Girardot, Madame Scipio Cochet, Madame Bonin, Madame Pierre Cochet, Maman Cochet, Grand Duc Pierre de Russie, Mdlle. Marie Perrin, La Nantaise, and Baron G. de Noirmont. A truly goodly list, and sufficient to keep the name of L. S. Cochet in the grateful remembrance of lovers of Roses for a hundred years at the least.

FOREIGN CORRESPONDENCE.

THE EFFECT OF SOIL ON PALMS.

Here, in the Riviera, where Palms attain to gigantic dimensions in the open ground, it is interesting to note the effect that the soil has upon their development, as the following will show. We have here three distinct kinds of soil, sometimes confined to districts, or in some cases to be found in very limited areas. The three generally met with are—1, granitic; 2, argillaceous; and, 3, calcareous. Other kinds exist, but are generally found in narrow veins, the formation of which may be attributed to the action of glaciers, of which there are many proofs of their existence in bygone ages.

In the granite soil the majority of Palms thrive well, but owing to its porous nature, the trunk and petioles of the leaves become elongated, and the old leaves retain their vitality a much shorter time than when growing in a stiffer soil.

In the argillaceous soil there is a marked difference; the trunks have a tendency to increase in bulk (diameter), the Palms are much dwarfer, and the leaves retain their vitality much longer. In this soil the Cocos, in most instances, refuses to grow for any length of time, and it is evident, with the exception of Phœnix, that this soil is the worst kind for the generality of Palms.

The calcareous soil is decidedly the most suitable to the generality of Palms (unless of too stiff a nature), as may be noted by their thorough development and the deep green tint of their foliage. Aspect, depth of soil, and nature of subsoil have to be taken into consideration; but the latter, which invariably consists of hard impenetrable rock, is of little or no importance. Peat soil, which is sometimes employed in gardens here, is too expensive for experimenting with, but I have had occasion to note that Cocos flexuosa will not thrive in it.

With regard to large specimens, it is evident that a good porous loam is the nearest approach to their requirements.

Erigeron mucronatum (Vittadinia triloba).

As far as I can ascertain, this plant is as yet little known in English gardens [?], but owing to its easy culture and free-flowering habit it ought to prove a valuable addition to the flower-garden.

It mostly resembles a Liliput Daisy, and the flowers open nearly white and shade away to deep red, thus there are often several shades of colour on the same plant. It strikes freely from cuttings, and should prove a valuable plant for mixing with other colours for summer bedding. It withstands the drought, and might also be employed with effect in the rock-garden. In the Riviera gardens it is chiefly employed in the rockery associated with succulent plants, where it gets but very little moisture during the summer months.

A Hybrid Serapias.

Amongst the terrestrial Orchids of the Maritime Alps it is rare to find a natural hybrid, but whilst botanising a short time ago at St. Cesaire, about twelve miles from Grasse, I had the good fortune to discover one which has, I believe, not been found before. Allioni in his *Flore des Alpes Maritimes* describes two, under the names of Serapias triloba, and Isias triloba. One was found at Berre in 1866, and is a supposed hybrid between Serapias lingua and Orchis papilionacea, and the other at Diano, near D'Onielle, in 1843-1862, growing with Serapias longipetala and Orchis laxiflora, which are probably the parents. The one in question was growing with Serapias longipetala and Orchis globosa, and is undoubtedly a hybrid between these two. The sepals and petals are chocolate coloured, the dorsal sepal oval in shape, with the edges slightly curving inwards, and the lip trilobed, white, with purple lines and spots.

It is rather singular that considering the quantity of seed which one capsule will produce, that in each case only one plant could be found, although I searched the spot thoroughly. *Riviera.*

A Double-flowered Rhododendron hirsutum.

Last year a gentleman found in the neighbourhood of this much-frequented place some bunches of a very double Rhododendron hirsutum. I mentioned this to the inspector of the botanic garden at Insbruck, and was told by him of the following, I think very interesting occurrence. The former inspector of these gardens found in the Ortler district a Rhododendron ferrugineum with double flowers. He examined these flowers very carefully, and discovered a very small, nearly microscopic insect in the flower-heads. He concluded that this insect bites away the pistils in an embryo state, so that the latter developed into flower leaves. To ascertain the correctness of his opinion, he threw some of the Rhododendron blooms into a copse of Saponaria ocymoides, and visiting next year the place, was much pleased to find a large number of the Saponarias very double. Could this experience not be made use of in horticulture? *O. F., Lebanhof.* [The production of double flowers in consequence of the attacks of mites was asserted by the late Prof. Peyritsch. Ed.]

BELGIUM.

BRUSSELS INTERNATIONAL EXHIBITION IN 1897.

During this exhibition there will be held a permanent horticultural exhibition from May to November, including classes for groups and single specimens of trees and shrubs, Roses, herbaceous, sub-ligneous plants, annuals, decorative plants for the greenhouse, &c.

There are to be four temporary exhibitions; the first, an inaugural one, to take place in May, divided into two sections; one section is for plants not for competition, that is to say, arranged according to the taste of the exhibitors, and composed of choice species and varieties remarkable for rarity, blooming, and cultivation. The other section is for plants in competition, including Palms, miscellaneous species, flowering plants, tree Ferns, and Orchids. There will also be a Rose show, and in July a general exhibition, also divided into two sections. One section to include imported plants, seedlings, examples of cultivation and flowering, general exhibits, special exhibits — Orchids, Palms, Pandanus, Scitamineæ, Ferns and Lycopods, Cycads, Conifers, Aroids, Maranta—Lilies and Bromeliads. The other division is for greenhouse plants, horticultural industries, and *Plantes d'Appartement.* In October there will be a Chrysanthemum show, with special classes for blooming, cultivation, grafting, and cut flowers.

Cattleya Mossiæ at Moortebeke.

The houses of MM. Lucien Linden et Cie., at Moortebeke (near Brussels) have lately been filled with glorious masses of Cattleya Mossiæ, which attracted many admiring visitors. Among the varieties of this Orchid were C. M. moortebekensis, flower very large, petals and sepals warm rose, lip golden yellow, save where the inferior lobe is veined with bright rose. The two spots on the throat extend to the upper edge, which is much curled, undulating, and bordered with white above. The lip slopes very sharply. One variety has a straw-coloured throat, with a deep violet-red spot on the lower lobe, the edges fringed, bordered with white; in another, the large lip is open, showing the column, the throat rich citron-yellow, two great spots of the same tint on the sides of the tube; the lower lobe veined with bright rose. A third variety has an extra lip, well formed, the bottom of the tube golden-yellow, the lower lobe of the lip bright carmine; another has a long and beautifully-coloured lip, the bottom of the throat golden-yellow, the front of the lip bright rose, the edges fringed. Yet another variety has a handsome lip with two old-gold spots at the opening of the throat, and another purple carmine marking on the lower lobe, the edges fringed, undulating, and bordered with clear rose. *Ch. D. B.*

Society of Jersey Gardeners.—The above young but certainly go-ahead society is to be congratulated on the success of its initial effort of Thursday, July 16, in the Triangle Park, Jersey. The fête was indeed a success, as evidenced from the fact that the gate receipts amounted to £144 5*s.* 3*d.*, leaving, after paying expenses, a sum of £60 5*s.* 6*d.* The fête opened with a presentation to Mr. Philip Baudains, Constable of St. Helier. There were more than 500 exhibits, and among some of the principal prize-winners were Mr. E. Gould, Mr. Singleton, and Mr. G. T. Day among the flower group. Mr. A. Luxon, the popular president, secured a Silver Medal for the best collection of Gladiolus. Quite a feature among the exhibits was a display of Carnations by Mr. Thos. S. Ware, of Hale Farm Nurseries, Tottenham; another fine display being those of Mr. P. Le Cornu, of the Jersey Nurseries. The arrangements altogether were capital, but the society were somewhat overwhelmed by the success of their first endeavour, and but for the hearty co-operation of one and all, great confusion might have occurred. Some 3000 persons visited the show during the evening.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Accumulated. Above (+) or below (−) the Mean for the week ending July 25.	Above 42° for the Week.	Below 42° for the Week.	Above 42°, difference from Mean since December 29, 1895.	Below 42°, difference from Mean since December 29, 1895.	Rainfall. More (+) or less (−) than Mean for the Week.	No. of Rainy Days since Dec. 29, 1895.	Total Fall since Jan. 1, 1896.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Dec. 29, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	1 −	87	0	+ 259	− 318	9 +	141	30·5	18	24
1	0 aver	103	0	+ 273	− 241	10 +	109	13·5	24	32
2	3 +	139	0	+ 311	− 222	2 +	87	8·9	38	32
3	3 +	153	0	+ 264	− 229	6 −	89	9·8	43	38
4	2 +	137	0	+ 306	− 247	2 −	86	9·8	39	34
5	3 +	156	0	+ 320	− 240	5 −	78	8·2	54	39
6	1 −	104	0	+ 293	− 228	11 +	116	23·2	20	32
7	1 +	130	0	+ 378	− 258	7 +	101	16·3	37	35
8	2 +	137	0	+ 403	− 206	4 +	84	11·7	44	43
9	0 aver	111	0	+ 322	− 233	12 +	120	20·5	16	29
10	1 +	127	0	+ 393	− 210	11 +	100	17·2	24	34
*	3 +	160	0	+ 490	− 109	1 +	92	8·5	63	47

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending July 25, is furnished from the Meteorological Office:—

"The *weather* continued fine, dry, and very warm during the earlier days of the period at all except our extreme northern and north-western stations. Later in the week, however, unsettled, rainy conditions extended from the westward to all but our extreme south-eastern districts, the rain being very heavy in the west and north towards the end of the week. A sharp thunderstorm was experienced over the north-east of England on the 24th.

"The *temperature* was very high during the early part of the week, but subsequently fell decidedly—especially in the north, with the result that the average for the week was a little below the mean value in the north and west of Scotland, and only equal to it in 'Scotland, E.' and 'Ireland, N.;' in all the English districts, however, as well as in 'Ireland, S.,' it was again somewhat above the normal. The highest of the maxima were registered, as a rule, on the 21st, and varied from 88° in 'England, E. and S.,' and 86° in 'England, N.E.' and the 'Midland Counties,' to 75° in 'Ireland, S.,' 72° in 'Ireland, N.' and 'Scotland, N.,' and 68° in 'Scotland, W.' The lowest of the minima, which were recorded during the latter part of the week, ranged from 35° in 'Scotland, E.,' and 38° in 'Scotland, N.,' to 47° in 'England, S.' and 'Ireland, N.,' to 50° in 'Ireland, S.,' and to 53° in the 'Channel Islands.'

"The *rainfall* was again considerably less than the mean in 'England, E. and S.' and the 'Midland Counties,' but exceeded it in all other districts. In 'Scotland, Ireland, and England, N.W.' the excess was very large.

"The *bright sunshine* was very deficient in the Irish and Scotch districts, but exceeded the mean in England. The percentage of the possible duration ranged from 63 in the 'Channel Islands,' and 54 in 'England, S.,' to 24 in 'Scotland, E.' and 'Ireland, S.,' to 18 in 'Scotland, N.,' and to 16 in 'Ireland, N.'"

ENQUIRY.

"*He that questioneth much shall learn much.*"—Bacon.

Has any reader of the *Gardeners' Chronicle* experience of the use of Formal dehyde as a preservative of botanical specimens, either fresh or dry? *Alnus.*

MARKETS.

COVENT GARDEN, JULY 30.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. Ed.]

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Adiantum, per doz.	4 0	12 0	Ficus elastica, each	1 0	7 6
Aspidistra, per doz.	12 0	30 0	Foliage plants, doz.	12 0	36 0
— specimen, each	5 0	15 0	Heliotrope, per doz.	4 0	6 0
Asters, doz pots	4 6	6 0	Hydrangea, various per doz.	6 0	12 0
Balsams, per doz.	3 0	6 0	Ivy Geraniums per dozen	3 0	4 0
Campanula, per doz.	6 0	12 0	Lilium Harrisii, pr. dozen pots	9 0	18 0
Cock's-combs, doz.	3 0	4 0	Marguerites, p. doz.	6 0	10 0
Coleus, per doz.	2 0	4 0	Mignonette, p. doz.	4 0	6 0
Dracena, each	1 0	7 6	Palms, various, ea.	2 0	10 0
— various, p. doz.	12 0	24 0	— specimens, ea.	10 6	84 0
Evergreen Shrubs, in variety, doz.	6 0	24 0	Pelargoniums, doz.	6 0	10 0
Ferns, small, doz.	1 0	2 0	— Scarlets, p. doz.	2 0	4 0
Ferns, various, doz.	5 0	12 0			

Bedding Plants in variety.

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Arums, p. 12 blooms	2 0	4 0	Orchids:—		
Asters, French, bun.	1 6	1 3	Cattleya, 12 blms.	6 0	12 0
— English, dozen bunches	3 0	6 0	Odontoglossum crispum, 12 bm.	2 0	6 0
Bouvardias, per bn.	0 6	0 9	Pansies, doz. bun.	1 0	2 0
Carnations, 12 bun.	4 0	6 0	Pelargoniums, scarlet, per 12 bun.	2 0	4 0
12 blooms	0 6	2 0	— per 12 sprays	4 0	6 0
Eucharis, per dozen	2 0	4 0	Pyrethrums, 12 bn.	2 0	4 0
Forget-me-nots, p. doz. bunches	1 6	3 0	Roses, Tea, per doz.	0 9	1 6
Gardenias, per doz.	1 0	3 0	— coloured, doz	0 9	1 6
Gladiolus, doz. bun.	6 0	9 0	— yellow (Marechal), per doz.	2 0	4 0
Lavender, doz. bun.	6 0	9 0	— red, per dozen	0 6	1 0
Lilium Harrisii, per doz. bunches	2 0	4 0	— red, doz. bun	4 0	6 0
Maidenhair Fern, per 12 bunches	4 0	8 0	Gloire, doz. bn.	4 0	6 0
Marguerites, per 12 bunches	1 0	2 0	Safrano, p doz.	1 0	2 0
Mignonette, p. doz. bunches	2 0	4 0	Stephanotis, 12 sps.	1 6	2 0
			Stocks, p. doz. bun	2 0	4 0
			Sweet Peas, 12 bun	1 6	3 0
			Tuberoses, 12 blms.	0 2	0 4

Orchid-bloom in variety.

Fruit.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Apples, Suffields, per sieve	6 0	7 0	Grapes, Gros Maroc, per lb	1 9	2 6
Quarrenden, ½ sieve	4 0		Gros Colmar, per lb.	1 9	2 0
Apricots, per doz.	1 0	2 0	Muscats, English per lb.	2 6	3 0
Cherries, Morello, half-sieve	4 0	5 0	— Muscat, Channel Islands, per lb	1 6	2 0
Currants, Black, ½-sieve	7 0	8 0	Nectarines, 1st size per doz.	9 0	10 0
Red, ½-sieve	4 0	4 6	— 2nd do., p doz.	3 0	4 0
Figs, per doz.	2 6	3 0	Peaches, 1st size, per doz.	8 0	10 0
Melons, each	2 0	2 6	— 2nd do., doz.	3 0	4 0
Grapes, Alicante, 1st quality, per lb.	1 6	2 0	— 3rd do., doz.	1 6	2 0
— Hamburgh, 1st quality, per lb.	1 6	2 6	Pine-apples, St. Michael, each	7 0	10 0
— Alicante, 2nd quality, per lb.	1 0	1 3	Plums, Early Rivers, per ½ sieve	5 6	6 0
— Hamburgh, 2nd quality, per lb.	0 9	1 0			

Vegetables.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Beans, Scarlet Runner, p. ½-sieve	3 0		Cucumbers, home-grown, per dz.	1 6	2 6
— French, do.	2 6		— Dutch, per doz.	1 3	1 6
Marrows, Vegetable, per 5 doz. tally	7 0	10 0	Peas, per sieve	4 0	4 6
Mushrooms, (Indoor) per lb.	1 0		Tomatos, home-grown, smooth, per doz. lb.	4 0	
— (Outdoor), per half-sieve	4 0	0	— ordinary kinds, per doz. lb.	2 6	3 0

Potatos.

Supplies in excess of demand. Trade very slow. Prices, 2*s.* 6*d.* to 5*s.* per cwt. *J. B. Thomas.*

SEEDS.

London: *July* 29. — Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that there is now an improved sale for Trifolium, and as supplies are moderate, holders are realising higher prices. The new English Winter Tares now coming to market show excellent quality. Fine new home-grown Giant seed Rye can be bought on tempting terms. White Mustard is in better request at full rates. Sowing black Rapeseed comes good in quality, and low in price. Canary is substantially higher; the earlier estimates of the Turkish crop were too favourable. There is no change in Hempseed. Blue Peas and Haricot Beans meet with but little attention.

FRUIT AND VEGETABLES.

Borough: *July* 28.—Quotations:—Cabbages, 1*s.* 0*d.* to 3*s.* per tally; Spinach, 1*s.* 9*d.* to 2*s.* 3*d.* per bushel: English Onions, 6*s.* to 7*s.* per tally; Egyptian do., 3*s.* to 3*s.* 6*d.* per cwt.; Portuguese do., 5*s.* to 6*s.* per case; Carrots and Turnips, 2*s.* 9*d.* to 3*s.* per dozen bunches; Marrows, 1*s.* 6*d.* to 2*s.* per dozen; English Cucumbers, 2*s.* to 3*s.* do.; Dutch do., 1*s.* 6*d.* to 2*s.* do.; Lettuces, 2*d.* to 9*d.* per score; Jersey Grapes, 1*s.* to 1*s.* 6*d.* per lb.; do., Belgian, 9*d.* to 1*s.* 3*d.* do; Tomatos, English, 4*d.* to 6*d.* do.; do., Jersey 3½*d.* to 4*d.* do.; Currants, Red, 4*s.* to 5*s.* 6*d.*; do., Black, 5*s.* to 5*s.* 6*d.*; Gooseberries, 1*s.* 6*d.* to 3*s.*; Cherries (English), 4*s.* 9*d.* to 6*s.* 9*d.* per half sieve; do., foreign, 1*s.* 6*d.* to 2*s.* per basket; Raspberries, 18*s.* to 30*s.* per cwt.; Pine-apples, 2*s.* to 3*s.* each; Mushrooms, 8*d.* to 9*d.* per lb.; Peaches and Apricots, 8*d.* per box.

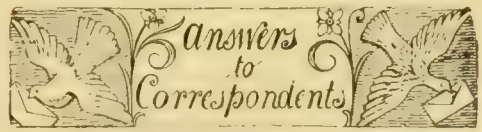
Spitalfields: *July* 28.—Quotations: Cabbage, 3*s.* 6*d.* to 5*s.* per tally; Marrows, 5*s.* to 6*s.* do.; Scarlet Beans, 5*s.* to 5*s.* 6*d.* per bush.; Peas, 3*s.* 6*d.* to 4*s.* per bush.; Broad Beans, 1*s.* to 1*s.* 3*d.* do.; Onions, spring, 2*s.* to 2*s.* 6*d.* per dozen bunches; Carrots, 2*s.* 6*d.* to 3*s.* do.; Turnips, 4*s.* to 5*s.* do.; Red Cabbage, 3*s.* per dozen; Mint, 2*s.* to 3*s.* per dozen bunches; Parsley, 1*s.* 6*d.* to 3*s.* do.; Beetroots, 1*s.* 6*d.* to 2*s.* per dozen; Cucumbers, 2*s.* 6*d.* to 3*s.* per dozen; Plums, Rivers' Early Prolific, 5*s.* to 6*s.* per half-sieve; Currants, red, 5*s.* to 5*s.* 6*d.* per half-sieve; black do., 7*s.* to 7*s.* 6*d.* do.; Apples, 2*s.* to 3*s.* per bushel.

Stratford: *July* 28.—Quotations:—Cabbages, 2*s.* 6*d.* to 4*s.* 6*d.* per tally; Cauliflowers, 6*d.* to 1*s.* per dozen; ditto, 2*s.* 6*d.* to 5*s.* per tally; Beetroot, 4*d.* to 6*d.* per dozen; Parsley, 1*s.* to 1*s.* 6*d.* per dozen; Spring Onions, 3*s.* to 3*s.* 6*d.* do.; Salad, 1*s.* 9*d.* to 2*s.* do; frame Cucumbers, 1*s.* 3*d.* to 3*s.* 3*d.* do.; Beans, Broad, 1*s.* 9*d.* to 2*s.* per bag; do., Scarlet, 5*s.* to 5*s.* 6*d.* per bushel; Peas, Green 4*s.* to 6*s.* per bag; Marrows, 2*s.* 6*d.* to 6*s.* per tally; Gooseberries, 2*s.* 6*d.* to 3*s.* 6*d.*, per half-sieve; Raspberries, 16*s.* to 20*s.* per cwt; Currants, black, 3*s.* 3*d.* to 3*s.* 9*d.* per half-sieve; do., red, 2*s.* to 2*s.* 6*d.* do.; Tomatos, Guernsey, 2*s.* 6*d.* to 3*s.* per dozen lb.; do., English, 3*s.* to 4*s.* do.; Pears, English, 3*s.* 6*d* to 4*s.* 6*d.* per sieve; do., 2*s.* to 2*s.* 3*d.* per half-sieve; Turnips, 2*s.* to 2*s.* 6*d.* per dozen bunches; Carrots, household, 1*s.* to 2*s.* 6*d* per dozen bunches; Onions, Portuguese, 5*s.* 6*d.* to 7*s.* per case; do., Valencia, 5*s.* 6*d.* to 6*s* 6*d.* do.; do., Egyptian, 3*s* 6*d* to 4*s.* do; Apples, English, 4*s.* to 7*s* per bushel; do., Tasmanian, 7*s.* to 8*s.* per case.

Farringdon: *July* 30.—Quotations.—Beans, 5*s.* 6*d.* per bushel; Cabbage, 5*s.* per tally; Peas, 9*s.* per bag; Beetroots (new), 3*s* per dozen; Lettuce, 1*s.* 6*d.* per score; Turnips, 4*s.* per dozen bunches; Carrots, 3*s.* do.; Marrows, 8*s.* per tally; Cucumbers, 2*s.* to 2*s.* 6*d.* per dozen; Parsley and Mint, 4*s.* per dozen bunches; Sage, 4*s.* per dozen bunches; Grapes, English, 1*s.* 3*d.* per lb.; Apples, Suffield, 5*s.* per bushel; do, Quarrenden, 5*s.* per half-bushel; Plums, Orleans, 8*s.* per half-bushel; blue do., 6*s* do; Greengages, 6*s.* do.; Pears, Californian Williams, 3*s.* per case; Currants, Black, 8*s.* per bushel; Red do., 5*s* do.; English Tomatos, 3*s.* 6*d.* per dozen pounds; Apricots, 3*s.* per pad.

CORN.

Averages. Official statement of the average prices of British Corn, imperial measure (qr.) for the week ending July 25, and for the corresponding period last year:—1896: Wheat, 24*s*; Barley, 19*s.* 8*d.*; Oats, 15*s.* 1895: Wheat, 24*s* 1*d*; Barley, 19*s.* 10*d.*; Oats, 17*s.* 11*d.*



Australia: *J. W. B.* We are unable to inform you what are the prospects of your engaging in the business of a florist in the larger towns, although we may be sure that a demand for the elegancies and luxuries of life has greatly increased there in recent years.

Books: *A. T. Bulbs and Bulb Culture*, by D. T. Fish (*Bazaar* Office, 170, Strand, W.C.).—*C. B. W. Cucumber Culture for Amateurs*, by W. J. May (*Bazaar* Office, 170, Strand, W.C.).—*H. L. H. Handy Book of Fruit Culture under Glass*, 2nd ed., by David Thomson, W. Blackwood & Sons, London.

Diseased Vine Shoots: *T. Fenton.* The appearance noted on the shoots is due to the presence of a slime fungus, Plasmodiophora vitis. See "Vine Diseases," p. 217, of our issue of August 19, 1893. All diseased parts should be cut away and burnt.

Emblematic Plants: *Taffy.* We are not aware that (with one exception) there are any plants adopted as national emblems by the countries you mention. The Chrysanthemum is the national emblem of Japan. The Lilies of France (Irises) are probably known to you.

Insects: *A. B., Bournemouth.* The galls are caused by the Cattleya-fly (Isosoma Orchidearum), which we have often given illustrations of. The only remedy is to cut off and burn the affected portions, and to look for and destroy the mature fly.

MEMORIAL CARD: *T. M. S.* Cupressus funebris; Weeping Willow, Myrtle, Rose, Asphodel. The first-named if but one plant be used.

MOULD ON ANGELICA: *D. H. W.* The mould did not reach us in such condition that its identity could be established.

NAMES OF FRUITS: *A. J. Bateman.* 1, Peach smashed; 3, Peach Grosse Mignonne; 2, Nectarine Victoria; 4, Apricot Moor Park; 5, Apricot Breda.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to be so good as to consult the following number.—D. T. F.* Probably, Acacia Seyal. —*A. J. H.* 1, Campanula rotundifolia; 2, C. Rapunculus; 3, Filago germanica; 4, Hypericum pulchrum; 5 and 6, Agrostis alba; 7, Bromus asper.—*J. W. T.* We cannot name florist's flowers, especially of Petunias, whose flowers vary considerably even on the same plant.—*T. C., Beckenham.* The two Fuchsias sent seems to us to be distinct, but we cannot undertake to arbitrate in the matter of dispute on the subject.—*J. W. F.* The Everlasting Pea seems to represent a really desirable and pretty new variety just intermediate between the purple and white-flowered varieties.—*G. B.* The Orchid is Dendrobium moschatum, an old and rather common species. — *W. P. J.* Epidendrum alatum.—*C. W., Leyland.* Your seedling is one of the finest double Fuchsias we have yet seen. —*J. T., St. Albans.* Stipa pennata (Feather grass). —*W. W.* and *A. F.* Colutea arborescens, the Bladder Senna.—*N. C.* 1, 2, Ferns too young to be determined; 3, Plumbago Larpentae; 4, Geranium pratense; 5, Antennaria margaritacea; 6, Rhus Cotinus, the Wig Plant; 7, Anthriscus, probably; but there are no flowers.—*E. J.* Impossible to name a withered scrap without flowers.—*Lionel.* Seeds of Encephalartos, a plant of Palm-like habit.

PEACHES: *W. C. & Son.* The fruits arrived as an unrecognisable mass of pulp. The rotten state may be due to Monilia fructigena. Can you send fruits showing an earlier stage of the attack of the fungus?

ROYAL HORTICULTURAL SOCIETY'S EXAMINATIONS. *J. H.* The Secretary, Rev. W. Wilks, 117, Victoria Street, Westminster, S.W.

TOMATO: *D. C.* It is not at all unusual for Tomato fruits not to ripen at the base, and yet there is no disease. They, however, soon ripen if placed in the sun.—*Gardener, Belfast.* The Tomato was so pulped-up when it arrived, that nothing could be made of it. If there is mould on the leaves, it results from the close atmosphere, and would be relieved by ventilation.

TOMATO GRAFTED ON POTATO-STEM: *Gardener, Tivoli.* The union is perfect, as the 3-feet height of stem and eighteen fruits in all stages of development manifest. The flavour is excellent, and on the score of wholesomeness they leave nothing to be desired. We remarked that the tubers on the roots are very small in size and few in number.

TOMATOS: *T. B.* To show these culinary fruits in a collection of fruit might disqualify the entire exhibit.

VINES INFESTED WITH MEALY-BUG, &C.: *A. B.* You will not be enabled to do much in freeing the Vines of insects whilst the foliage is on them, although you might see what effect the XL All vapour would have at the present time. As the Vines are very old, it might be better to clear them out, and start anew.

COMMUNICATIONS RECEIVED.—Little & Ballantyne.—G. Norman. J. H. Goodacre.—H. C. F.—Marchese Hanbury.—J. A. J. N. D. W. F. W. M.—F. B., Chester.—E. C. National Cactus Society.—C. J. G.—W. G. S. D. R. W.—N. & U.—Forbes, Calne.—John Thomson.—J. A. C.—F. F. —Pope & Sons.—R. D.—H. W. W.—D. T. F.—J. D.—A. G. —W., Harrow.—R. Dunlop.—J. McIntyre.—D. S.—M. T. —J. H. Veitch.—E. J. A.—J. H.—H. W. White.

PHOTOGRAPHS, SPECIMENS, &C., RECEIVED WITH THANKS.—J. D.—M. Buijsman.

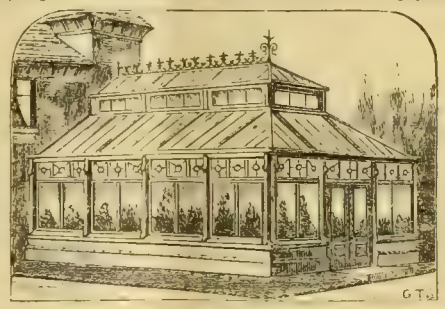
CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

Increased to the extent of more than 90 per cent., and that it continues to increase weekly.

Advertisers are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN, AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS *at home, that it has a specially large* FOREIGN AND COLONIAL CIRCULATION, *and that it is preserved for reference in all the principal Libraries.*

JAMES SENDALL & Co. LTD.
CAMBRIDGE.
ROYAL SHOW EXHIBITION HOUSE.

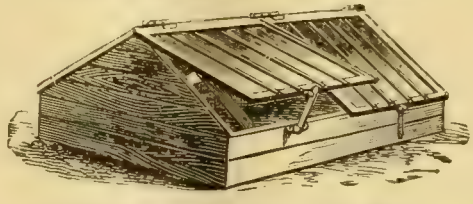


£100 Conservatory, 21ft. long, by 6ft. wide, 8ft. high to the eaves; pair of entrance doors, ornamental lights, with side and centre staging. Best materials and workmanship; painted, and glazed best 21-oz. English glass (brickwork only to be provided).
Boiler and piping complete, erected by our men in any part. Carriage Paid, for the sum of £100 0 0

GARDEN REQUISITES.
COCOA-NUT FIBRE REFUSE.
6*d.* per bushel; 100 for 30*s.*; truck, loose (about 2 tons), 60*s.* Bags, 4*d.* each.
SPECIALLY SELECTED ORCHID PEAT.
LIGHT-BROWN FIBROUS PEAT, 5*s.* 6*d.* per sack; 5 sacks, 25*s*; sacks, 4*d.* each.
BLACK FIBROUS PEAT, 5*s.* per sack; 5 sacks, 22*s.*; sacks, 4*d.* each.
COARSE SILVER SAND, 1*s.* 9*d.* per bushel; 15*s.* per half-ton; 26*s.* per ton, in 2-bushel bags, 4*d.* each.
YELLOW FIBROUS LOAM, PEAT-MOULD, and LEAF-MOULD, 1*s.* per bushel.
SPHAGNUM MOSS, 8*s.* 6*d.* per sack.
MANURES, GARDEN STICKS, TOBACCO CLOTH, RUSSIA MATS, &c. Write for Price LIST.
H. G. SMYTH, 21, Goldsmith Street, Drury Lane, W.C.

RICHARDS' NOTED PEAT.
(Trade supplied on best terms).
A large stock of the finest quality ORCHID PEAT. Also for Stove and Greenhouse Plants, Ferns, Rhododendrons, &c. By the sack, cubic yard, ton, or truck-load. Can be seen in bulk at London Wharf. Immediate despatch either from London or Grounds. By Rail or Steamer. Prompt and Special Quotations for delivery to any Station or Port.
G. H. RICHARDS, Old Shot Tower Wharf, Lambeth, London, S.E.; Peat Grounds and Depôts, Ringwood, Hamworthy, and Wareham. Address all letters to London Wharf.

GREAT REDUCTION IN FRAMES
OUR WELL-KNOWN MAKE.



PORTABLE PLANT FRAMES.
These Frames are made of the Best Materials, and can be put together and taken apart in a few minutes by any one.

Sizes and Prices, Glazed and Painted.		£	s.	d.
6 feet long, 3 feet wide	CASH	2	0	0
6 feet „ 4 feet „		2	5	0
12 feet „ 4 feet „	PRICES,	4	0	0
6 feet „ 5 feet „		2	15	0
12 feet „ 5 feet „	CARRIAGE	4	15	0
12 feet „ 6 feet „	PAID.	5	12	6

Larger sizes at proportionate prices.

R. HALLIDAY & CO.,
ROYAL HORTICULTURAL WORKS,
MIDDLETON, MANCHESTER.
London Agent, Mr. H. SKELTON, Seedsman, &c., 2, Holloway Rd., N.

GLASS! GLASS! CHEAP GLASS!
4ths, 15 oz., in 50-feet boxes,
Sizes from 10×8 up to 14×10, at 4*s.* 6*d.* per box.
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Sizes, 10×8 and 12×8, at 8*s.* per box.
3rds, 21 oz., in 200-feet boxes,
Sizes, 9×7 up to 14×10, at 18*s.* per box.
Ex wharf, London. All other sizes equally cheap.
Full detailed list of stock sizes sent free on application to
THE CHEAP WOOD COMPANY,
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HORTICULTURAL GLASS.
A Large Stock always on Hand.
Special quotations for quantities.
WHITE LEAD, OILS, AND COLOURS
At lowest possible prices.
NICHOLLS & CLARKE,
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EPPS'S A1 PEAT
(SELECTED specially for ORCHIDS),
Also for Stove & Greenhouse Plants, Hardwood Ferns and Rhododendron do. (Trade supplied).
LOAM, SAND, LEAF MOULD, C. N. FIBRE, CHARCOAL, SPHAGNUM MOSS, &c. PEAT sent to all parts of the world at Special Through Rates. Large or small quantities.
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CHEAP CLOTH
For Trouserings, Suitings, Ladies' Jackets, Melton and Tweed Dress Cloths. Patterns sent post free.
C. HEWITT, 14E, Winfield Road, LEEDS.

FARMS, ESTATES, RESIDENCES.
Any one desirous of
Renting a Farm or Residence, or Purchasing an Estate, can have copies of the
MIDLAND COUNTIES HERALD
SUPPLIED FREE FOR SIX WEEKS,
on stating the purpose for which the paper is required, forwarding Name and Address, and six halfpenny stamps for postage, addressed, "*Midland Counties Herald* Office, Birmingham." The *Midland Counties Herald* always contains large numbers of advertisements relating to Farms, Estates, and Residences for Sale and to be Let.

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INSURED AGAINST BY THE
RAILWAY PASSENGERS' ASSURANCE CO.,
No Extra Charge for Ladies.
No Medical Examination.
Established 1849. Claims paid, £3,650,000.
64, CORNHILL, LONDON.
A. VIAN, *Secretary.*

ESTABLISHED 1851.
BIRKBECK BANK,
SOUTHAMPTON BUILDINGS, CHANCERY LANE, W.C.
TWO-AND-A-HALF per Cent. INTEREST allowed on DEPOSITS, repayable on demand.
TWO per Cent. on CURRENT ACCOUNTS, on the minimum monthly balances, when not drawn below £100.
STOCKS and SHARES purchased and sold.
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For the encouragement of Thrift the Bank receives small sums on deposit, and allows interest at the rate of TWO-AND-A-HALF PER CENT. per annum on each completed £1.
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HOW TO PURCHASE A HOUSE FOR TWO GUINEAS PER MONTH.
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STOCK SIZES—in inches.

12×10 | 14×12 | 18×12 | 16×14 | 20×14 | 20×16 | 24×16 | 22×18
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21-oz. Foreign, of above sizes, in 200-feet boxes, 3rds and 4ths qualities.

English Glass, cut to buyer's sizes at lowest prices, *delivered free and sound* in the country in quantity.

PUTTY, WHITE LEAD, PAINTS, OILS, BRUSHES, &c.

GEORGE FARMILOE & SONS,
34, St. John Street, West Smithfield, London, E.C.
Stock Lists and Prices on application. Please quote *Gard. Chron.*

EATING PIPES. BOILERS. COILS HOT WATER AND STEAM JOINTS. RADIATORS. VALVES &c. SPECIALITIES

ILLUSTRATED CATALOGUE FREE.

W. Jones' Treatise, "Heating by Hot-water,"
Second Edition, 216 pages and 93 Engravings,
2s. 6d. nett; per post, 2s. 10d.

JONES & ATTWOOD STOURBRIDGE

HILL & SMITH,

BRIERLEY HILL, near DUDLEY.

H. & S.'s BLACK VARNISH,

For Iron, Wood or Stone Outdoor Work.



Forty years' regulation. Ready mixed. Dries in ten minutes with perfect gloss. Is used at Windsor Castle, Kew Gardens, and London and Dublin Parks, and most Landowners. In 18 and 36-gallon Casks only, 1s. 6d. per gallon at works, 1s. 8d. at nearest Railway Station.

Registered Trade Mark.

THOMSON'S VINE AND PLANT MANURE.

The very best for all purposes.

The result of many years' experience. Largely used both at home and abroad.

Agent for London:—J. GEORGE, 14, Redgrave Road, Putney, S.W.
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Sole Makers:—WM. THOMSON AND SONS, LTD., Tweed Vineyard, Clovenfords, N.B.

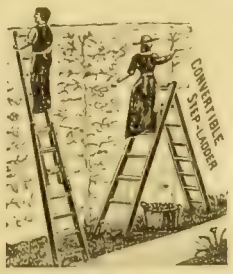
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Analysis sent with orders of ½-cwt. and upwards.

SOLD BY ALL SEEDSMEN

BENTLEY'S COMPOUND LIQUID QUASSIA EXTRACT.

½ gallon, 2/6; 1 gallon, 4/3; 5 gallons, 19/2; 10 gallons, 37/6; 40 gallons, 3/6 per gallon.

Chemical Works, Barrow-on-Humber, Hull.



HEATHMAN'S PATENT TELESCOPIC LADDERS, STEPS, and TRESTLES,
are sent carriage paid, and Illustrated Price Lists Post Free.
HEATHMAN & CO., Endell St., London, W.C.

HEATHMAN'S GARDEN HOSE
IS MOST DURABLE.
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IS MOST DURABLE.
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PRICE LISTS POST-FREE, from
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HEATHMAN'S LIFT & FORCE PUMPS
Are Best, Cheapest, and Most Durable.

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Are Portable, Easy-Working, and Powerful.

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BEESON'S MANURE, SHEFFIELD.—For Vines, Plants, and Vegetables. Sold with a Guaranteed Analysis. Has stood the test of the principal growers for over 20 years, and is admitted to be the Best for all Horticultural Purposes. In boxes, 1s. and 2s. 6d.; bags, 50 lb., 8s.; 1 cwt., 15s. May be obtained through any Seedsman; or, direct (bags only), carriage paid, and liberal discount for cash with trial order, from W. H. BEESON, SHEFFIELD. Pure Crushed Bones, all sizes, and other Fertilisers at market prices.

Under the Sanction of the Permanent Nitrate Committee.
TO GARDENERS (Amateur and Professional).
COMPETITORS at HORTICULTURAL SHOWS, and OTHERS.

NITRATE OF SODA, the indispensable nitrogenous fertiliser, may now be had of Seedsmen in Town or Country. Warranted of standard purity.
Price in tins, containing 4 lb., with full directions for use, ONE SHILLING.

KILL-M-RIGHT

Certain cure for Blight, and all Insect Pests, without injury to plants. Once tried, always used.
Sample Tin, 2 lb., free by Post, on receipt of P.O. for 2s. 10d. Price LIST and testimonials on application.

The STOTT FERTILISER & INSECTICIDE CO.,
Barton House, Manchester.

FOWLER'S MEALY-BUG DESTROYER.—It is easily applied, is instant destruction to both insect and ova, and does not stain or injure the foliage. In Bottles, 1s., 2s. 6d., 5s., and 10s.—CORRY & CO., Ltd., E.C. Sold by all Seedsmen.

HUGHES' VAPOUR ROLL FUMIGATOR

FOR GREENHOUSES.
One is sufficient for 1300 cubic feet.
REDUCED PRICES—9s. per dozen; refills for three tins 2s. per packet.
THE BEST and CHEAPEST IN THE MARKET.
E. G. HUGHES, Victoria Street, MANCHESTER.
SOLD BY ALL SEEDSMEN.

TENTS! TENTS!! TENTS!!!—I have purchased 5000 ARMY TENTS (40 ft. circumference), scarcely used. Complete with poles, pegs, and lines. Cost £6 each. Will send any number, carriage paid, for 28s. each; inferior qualities, 22s. and 24s. each. Cash with order; can be sent on approval. Specially adaptable for sporting and pleasure purposes. TWO JUST SUPPLIED TO BUCKINGHAM PALACE. The following unsolicited testimonial is one out of many hundreds weekly:—
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"F. H. Hill, Duddingston Park, Portobello, Midlothian."
MARQUEES for Flower Shows, Sports, &c.—Made of best Tent Canvas, 30 feet by 16 feet, with Poles, Pegs, Runners Lines, Mallets, and Bags, all complete, ready for use, cash £14, cost £36.
ANDREW POTTER, Melbourne Works, Wolverhampton.

The Best Present for a Gardener.

VINES AND VINE CULTURE.
The most complete and exhaustive Treatise on Grapes and their Culture ever published.
Third Edition just out.
Price 5s.; post free, 5s. 6d.
A. F. BARRON, 13, Sutton Court Road, Chiswick.

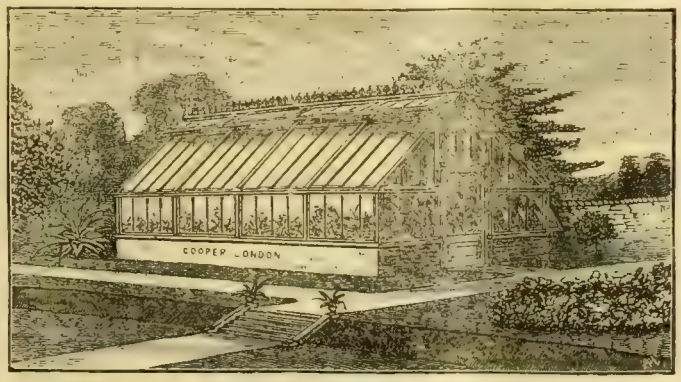
W. COOPER, LTD., HORTICULTURAL PROVIDERS, 755, OLD KENT ROAD, LONDON, S.E.

The Original Inventors of Cheap Greenhouses, Nurseries—HANWORTH and FELTHAM. The Largest Steam Horticultural Works in the World. Inspection Invited

1000 Houses in Stock to Select from.
Works cover 5 acres.

FOR EVERY READER OF THIS PAPER.

We beg to inform all readers of this Paper that we shall have much pleasure in forwarding to every person one of our REVISED PRICE LISTS, consisting of 400 pages and about 1200 Illustrations, bound in cloth, post-free, on receipt of Six Stamps, published at 1s. Small List free on application.



MUST BE SOLD.
GENUINE BARGAIN.
PERFECTLY NEW.

5 CUCUMBER or TOMATO-HOUSES,

each 100 feet long, 12 feet wide, 7 feet 6 in. to ridge, 3 feet to eaves. Can be built in one block, or separately. Made of good sound, well seasoned materials. Framework of Ends, 3½ × 2; Ridges, 4 × 1½; Bars, 3 in.; Ventilators, 7 in.; Glass, 21 oz. Painted one coat. All carefully packed on rail.

These were made to order for a Customer who cannot now erect them, owing to some dispute with his landlord. Usual price, £150.

As the room is required at once, will accept the low sum of £100 to immediate purchaser.

Address, MARKET HOUSES, care of WILLIAM COOPER, 755, Old Kent Road, London, S.E.

W. COOPER, LTD., HORTICULTURAL PROVIDERS, 755, OLD KENT ROAD LONDON, S.E.

THE GARDENERS' CHRONICLE

PUBLISHER'S NOTICES.

GARDENERS' CHRONICLE TELEGRAMS.—*The Registered Address for Foreign and Inland Telegrams is "Gardchron, London."*

ADVERTISEMENTS.

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4	Lines ..	£0	3	0	15	Lines ..	£0	8	6
5	„ ..	0	3	6	16	„ ..	0	9	0
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7	„ ..	0	4	6	18	„ ..	0	10	0
8	„ ..	0	5	0	19	„ ..	0	10	6
9	„ ..	0	5	6	20	„ ..	0	11	0
10	„ ..	0	6	0	21	„ ..	0	11	6
11	„ ..	0	6	6	22	„ ..	0	12	0
12	„ ..	0	7	0	23	„ ..	0	12	6
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AND SIXPENCE FOR EVERY ADDITIONAL LINE.

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Page, £8; Half Page, £4 10*s*.; Column, £3.

GARDENERS AND OTHERS WANTING SITUATIONS. *26 words, including name and address, 1*s*. 6*d*., and 6*d*. for every additional line (about nine words) or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, which are charged at the ordinary scale.*

NOTICE TO ADVERTISERS.—*In many instances Remittances in Payment of Repeat Advertisements are received without name, address, or anything beyond the postmark on envelope by which to identify the sender; this in all cases causes a very great deal of trouble, and frequently the sender cannot be identified at all.*

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POSITION.—*Advertisers are specially requested to note, that under no circumstances whatever can any particular position be guaranteed for advertisements occupying less space than an entire column.*

*Births, Deaths, and Marriages, 5*s*. each insertion.*

POSTAL ORDERS.—*To Advertisers, Subscribers, and Others.—It is very important in remitting by Postal Order that it should be filled in payable at GREAT QUEEN STREET, London, W.C., to* H. G. COVE, *as, unless the number of a Postal Order is known, and it has been made payable at a particular office, and to a particular person, it is impossible to prevent any person into whose hands it may fall from negotiating it.*

N.B.—The best and safest means of Remitting is by POST-OFFICE MONEY ORDER.

Advertisements for the current week MUST *reach the Office by first post, Thursday morning.*

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements, 41, WELLINGTON STREET, STRAND, W.C.

SUBSCRIPTIONS.

*All Subscriptions payable in advance. The United Kingdom, 12 months, 15*s*.; 6 months, 7*s*. 6*d*.; 3 months, 3*s*. 9*d*. All Foreign Subscriptions, including Postage, 17*s*. 6*d*. for 12 months. Post-office Orders to be made payable at the Post-office, Great Queen Street, London, W.C., to* H. G. COVE.

Subscribers who experience any difficulty in obtaining their copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint).

ROYAL HORTICULTURAL SOCIETY'S EXAMINATIONS IN GARDENING.

"Coaching" by Correspondence arranged for intending Candidates unaccoustomed to write papers. Fees moderate, to suit Practical Gardeners.

COLVILE BROWNE, F.R.H.S., Hextable, Kent.

Intimation.

IN CONNECTION with the ADVERTISEMENT for a HEAD SHOPMAN which appeared lately, we have to THANK the MANY APPLICANTS, and to inform them that the situation HAS BEEN FILLED. — SEEDSMAN, care of Peter Lawson and Son, Limited, Edinburgh.

WANTED, a HEAD WORKING GARDENER, for the country, who thoroughly understands Flower and Kitchen Gardens, Greenhouses, Orchids and Fruit Trees. Must have good references.—Apply by letter, B. B., "Garth," Broadstairs, Kent.

WANTED, a GARDENER, experienced in Mushroom and Vegetable growing in a large way for Market work.—Apply, with full particulars, to The PRINCIPAL, College of Rural Industries, Terwick, near Petersfield.

WANTED, a GARDENER, thoroughly experienced. First-class reference. No objection to horse and trap. State age, also wages required; live outdoors. —Apply by letter only, 53, Rutland Road, South Hackney, N.E.

WANTED, a GARDENER, for Kitchen Garden and Pleasure Grounds.—Young man not afraid of work; 16*s*. a week and bothy. Apply with references.—D. C. FYFE, Gardener, Branksea Island, Poole, Dorset.

WANTED, UNDER GARDENER, age 22 to 24, for Lawns and Kitchen Garden. Strong and industrious; 14*s*. week.—F. H., Kingston Lisle Park, Wantage.

WANTED, a MAN and WIFE, either without family, or with boy, 14 or 15. Wife as thorough Laundress; man as experienced GARDENER, thoroughly understanding the Management of Stock. Age between 30 and 40, non-smoker and total abstainers preferred. Rooms in cottage, convenient laundry.—Write to "K 784," at Shelley's Advertising Offices, 38, Gracechurch Street, London, E.C.

WANTED, a FRUIT-TREE and ROSE-GROWER.—Thoroughly efficient in Budding, Grafting, Training, knowledge of Stocks, varieties, &c. Only experts with a sound backing need apply. Wages 28*s* to 30*s*., with cottage. Permanent and advancing situation to suitable man. State where at present employed and how long in each situation, age, family, &c. Communications held strictly private, and ample time for exchange of confidences.—CAMBIUM, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, smart energetic MAN, as PROPAGATOR and GROWER of General Market Stuff, Cut Flowers, &c. Capable of taking charge of Houses. State age, experience, and salary expected, with copies of testimonials, to JOHN HENDERSON AND SONS, Fortfield Nurseries, Templeogue, Dublin.

WANTED, for Nursery 30 miles out of London, man as PROPAGATOR and GROWER for all kinds of Pot Stuff and Plants for Cut Flowers. One who can do florists' work preferred.—Write, in first instance, stating wages and experience, A. A., 41, Wellington Street, Strand, W.C.

ADVANCEMENT.—Will any Foreman in an establishment where things are thoroughly well done recommend a deserving young Man as GROWER and PROPAGATOR (under Glass) for a small but well-equipped General Nursery. Dispatch, accuracy, and command of assistants essential. Full particulars (in strictest confidence) of experience, aptitude, age, &c., in first instance, to X., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, steady industrious MAN, to grow Cucumbers, Tomatos, Mushrooms, &c., for market. State wages, &c., to—GRAY AND CO., Southcourt Nursery, Worthing.

WANTED, a single MAN about 30, for the Flower Garden and Pleasure Grounds, must be energetic and well recommended. Wages, 17*s*. per week.—G. R. GEORGE, Champneys, Tring.

WANTED, TWO or THREE expert ROSE-BUDDERS for a few weeks. Wages, 18*s*. per week and overtime. None but men used to the work, and quick, need apply.—S. G. RUMSEY, Rose Farm, Wrotham, Kent.

WANTED, a young MAN for Potting and Watering; willing to make himself generally useful. Must thoroughly understand the growing of all soft Wooded Stuff, and give attention to Ferns. Wages to commence with £1 per week. T. BALDWIN & SON, Edith Nurseries, Burchall Road, Leyton.

WANTED, a young MAN, experienced in growing Cucumbers, Tomatos, and Ferns for Market. —Apply, stating age, and wages required, to G. MESSER Hyde Side Nursery, Lower Edmonton, N.

WANTED, young MAN, well up in Growing Tomatos, Grapes, Chrysanthemums, Mushrooms, and Bulb Forcing for Market.—Apply, with references, stating wages, to M. CHARLTON, North Grange, Sunderland.

WANTED, an energetic and obliging MAN for Small Nursery, where a high-class trade is done. Must be well up in Growing a Mixed Collection of Plants, and a good Salesman. Good wages to a really competent and reliable man. Full particulars to—SPERO, 41, Wellington Street, Strand, W.C.

WANTED, a respectable and thoroughly trustworthy young MAN, age about 22, to attend to Conservatory and Flower Garden. Wages commencing at 16*s*., and bothy.—Apply to G. WOODGATE, Rolleston Hall Gardens, Burton-on-Trent.

WANTED, a young MAN, quick at Potting, Tying, &c., one who has had nursery experience. Wages, 18*s*. per week. Apply, with reference to—PERKINS AND SON, Warwick Road Nurseries, Coventry.

WANTED, a MAN for General Work in a Market Nursery. One from a private place not objected to. — State age, wages, with references, to A. BARTLEMAN, New Malden, Surrey.

WANTED, an IMPROVER, in the Houses. —Wages, &c., to LAXTON BROTHERS, Bedford.

WANTED, an APPRENTICE, or IMPROVER, respectable. Good insight given. Board and lodging found. Small premium required.—Apply, CHAS. GILL, Nurseryman and Landscape Gardener, Clapton Road Nurseries, Clevedon, Somerset.

WANTED, an industrious MAN, to do rough Carpentering, Painting, and Glazing. A permanent job to an energetic man.—State experience, wages required, &c., to HUGH LOW AND CO., Bush Hill Park, Middlesex.

WANTED, a SALESMAN, with knowledge of values of all kinds of Hardy Nursery Stock. When not engaged with Customers to assist with the correspondence in office. — Apply, by letter, to WM. PAUL AND SON, Waltham Cross, Herts.

WANTED, JUNIOR SHOPMAN, with good knowledge of Bulbs and Seeds.—State salary, with references, WATKINS AND SIMPSON, Exeter Street, Strand.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

Advertisers are cautioned against having Letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. All particulars on application.

Telegraphic and Postal Address—"DICKSONS, CHESTER."

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—

F. SANDER AND CO., St. Albans.

THOMAS BUTCHER can recommend several HEAD and UNDER GARDENERS of first-rate character and proved ability. Gentlemen seeking such may have particulars free.—Apply to THOMAS BUTCHER, Seed Merchant and Nurseryman, Croydon.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

AFRICA, CEYLON, INDIA, or any BRITISH COLONY.—Appointment wanted, as HEAD GARDENER, or in Tea Gardens or any Plantation. Eight years' good practical experience in private gardens. Two and a half years' in first-class London Nursery. Fifteen months as Overseer on Sugar Plantation, British Guiana. Highest references. Age 25.—WALKER, Waterloo Road, Sutton, Surrey.

GARDENER (HEAD). — Age 40, married; conversant with every department of Gardening life. Thorough practical experience in Fruit, Flowers, Vegetables, &c. Can be thoroughly recommended by present and previous employers.—G. NEWTON, 189, Cornwall Road, Notting Hill, London, W.

GARDENER (HEAD).—Married. Strongly recommended by Sir CHARLES OAKELEY, Frittenden House, Staplehurst. Can Manage Stock. Only leaving owing to a change in the establishment, after several years' service.

GARDENER (HEAD).—Married, no family. Good at Grapes, Peaches, Cucumbers, &c., Kitchen and Flower Gardens, &c. Good character.—GARDENER, Rose Cottage, Upper Richmond Road, East Sheen.

GARDENER (HEAD), where one or more are kept. Age 31, married when suited; experienced in all branches. No objection to superintend the Management of Cows, or Lodge Gate. Good testimonials.—F. COLES, Newlands, Teynham, Sittingbourne, Kent.

GARDENER (HEAD).—Age 40; no family. Thoroughly experienced in the cultivation of Vines, Peaches, Melons, Stove and Greenhouse Plants, and Kitchen and Pleasure Grounds. Twelve years in present situation. Disengaged August 22.—S. N., 6, Hanworth Villas, Chertsey.

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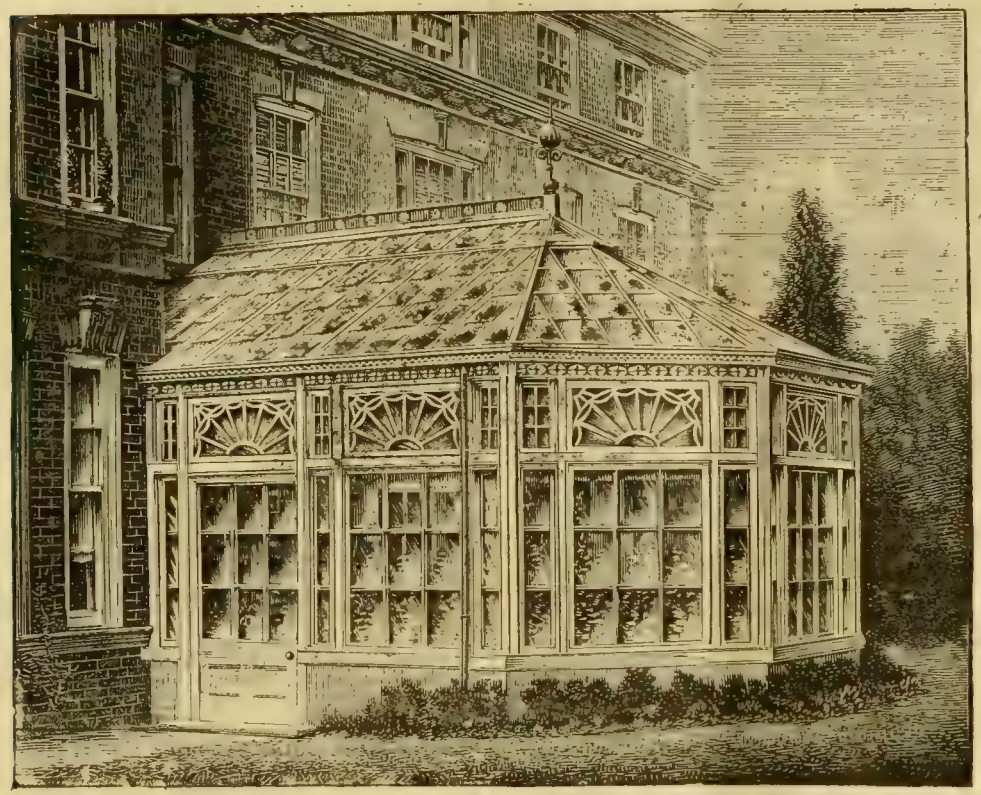
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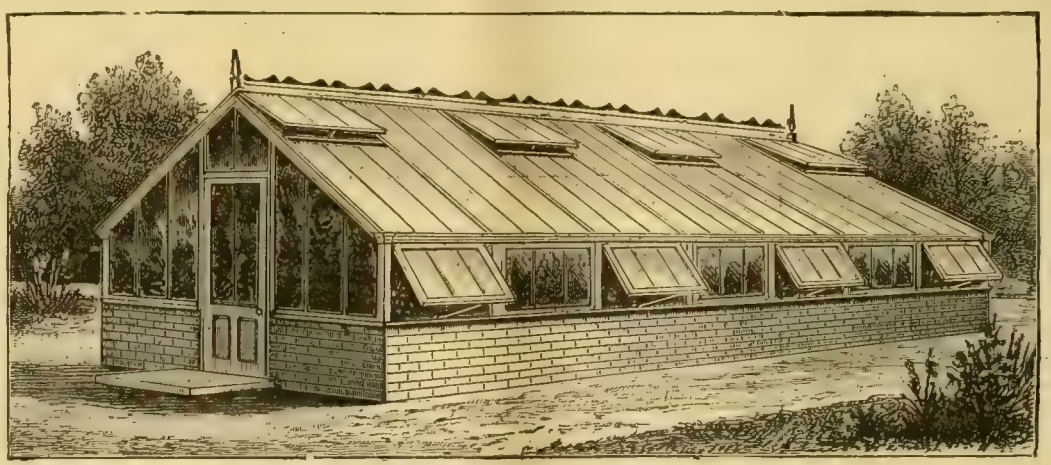
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Printed for the Proprietors by Messrs. BRADBURY, AGNEW, & Co. (Limited), Lombard Street, Precinct of Whitefriars, City of London, in the County of Middlesex, and published by HARRY GILLARD COVE, at the Office, 41, Wellington Street, Parish of St. Paul's, Covent Garden, in the said County.—SATURDAY, August 1, 1896. Agent for Manchester—JOHN HEYWOOD.

The Gardeners' Chronicle

ESTABLISHED 1841. No. 2902.

No. 502.—Vol. XX. { Third Series. } SATURDAY, AUGUST 8, 1896. [Regd as a Newspaper] PRICE 3d. POST-FREE, 3½d

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Nearly every day, from the Middle of August till the end of December.

MR. J. C. STEVENS begs to announce that he has now completed negotiations with several of the most prominent Nurserymen in Holland to Continuously Supply his Sales, during the coming season, with only really First-class Bulbs, of the best quality.

A supply of Catalogues can be sent on application.

GREAT CATTLEYA and LÆLIA SALE.
ON FRIDAY, AUGUST 14 1896.
A GREAT VARIETY OF THE GRANDEST TYPES.
A Consignment of

CATTLEYA SCHRODERÆ.—There is hardly any Cattleya in existence of such grand shape, none so deliciously scented. It is easy to grow, and free to flower. Its blossoms are very large and of great substance. From the district whence we originally imported this grand Cattleya—unequalled for form and delicacy of colour—and which has yielded the incomparable Schroderæ alba and other forms of great worth. More distinctive-looking plants have never been received. Varieties are certain.

CATTLEYA VELUTINA.—A handsome, highly fragrant species of great merit. Sepals and petals orange, spotted and streaked with purple. Lip of a soft velvety appearance, orange and white, streaked with violet.

ATTLEYA HARRISONIÆ. — The large-flowered, dark-coloured violacea type. A large consignment, in best order. Gathered in the district whence we obtained the almost scarlet-crimson Tring Park variety, and the white Measuresiæ. We can thoroughly recommend these plants. Their thick, plump bulbs, strong old flower-spikes, evidence their vigour. Six to eleven flowers are borne on a spike, and the firm texture of the blossoms, their pleasing colour, and the length of time they last, render them of great service for floral-work.

LÆLIA DORMANIANA.—Flowers, in shape, somewhat resemble Cattleya superba, sepals and petals olive-green, marbled with wine-purple, lip bright purplish crimson, lateral lobes rosy crimson, veined with purple. Free to flower and extremely useful.

LÆLIA HARPOPHYLLA, the Flame-coloured Lælia, stands alone in the genus, unapproached in brilliancy, distinctness of colour, and elegance of shape. The flowers are a brilliant orange-coloured vermilion, the lip bordered with white. Invaluable for bouquets, buttonholes, &c.

LÆLIA PRÆSTANS.—The darkest, most richly-coloured type known; sepals and petals brilliant rose, lip of the deepest Tyrian purple. The most neat, compact, and, in proportion to the size of the plant, the largest flowered in the genus. Oncidium crispum grandiflorum and O. præ-textum mixed. A small consignment of strong vigorous plants, offered as received, and consisting of the above-named species.

ONCIDIUM ROGERSII.—A splendid variety of O. varicosum. The true large-flowered, golden-yellow form. As many as 170 huge blossoms, each 2½ inches across, are borne on branched panicles. Plants in superb condition.

SOPHRONITIS GRANDIFLORA.—A consignment of this vivid scarlet-crimson-flowered gem in excellent order, also ORCHIDS in FLOWER and BUD.

MESSRS. PROTHEROE AND MORRIS will SELL the foregoing grand ORCHIDS on August 14, at half-past 12 o'Clock, in their Central Auction Rooms, 67 and 68, Cheapside, London, E.C., by order of Messrs. F. Sander & Co., St. Albans.

On view morning of Sale, and Catalogues had.

MONDAYS, August 17, 24, & 31.
THURSDAYS ,, 20 & 27.

DUTCH BULBS.

SPECIAL TRADE SALES.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on

MONDAYS, August 17, 24, and 31. And
THURSDAYS, August 20 and 27,

at Twelve o'Clock each day, large consignments of NAMED HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other DUTCH BULBS, together with white ROMAN HYACINTHS, and paper-white NARCISSUS, received direct for Unreserved Sale.

These early auctions have been specially arranged in lots to suit the Trade and other large buyers.

The Auctioneers will be pleased to enter the names of intending purchasers on their permanent lists who may desire a regular supply of Catalogues for these Sales.—Auction Rooms and Offices 67 and 68, Cheapside, London, E.C.

Friday Next.

An importation received direct of 550 CATTLEYA TRIANÆ, the contents of 13 cases just to hand, in good condition, for Unreserved Sale; also, 1 CATTLEYA GASKELLIANA ALBA, with 6 bulbs in flower; and 1 CATTLEYA MISS WILLIAMS (HARRISONIÆ × GASKELLIANA), with 6 bulbs in sheath, now offered for the first time.

MESSRS. PROTHEROE AND MORRIS will include the above in their ORCHID SALE on FRIDAY NEXT, August 14, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Birmingham.

MESSRS. THOMAS JAMES AND DAVIES have received instructions frm Messrs. F. Sander & Co., St. Albans, to SELL by AUCTION, at their Sale Rooms, 35, Temple Street, Birmingham, on THURSDAY NEXT, August 13, at 12 o'Clock, a large Collection of IMPORTED and ESTABLISHED ORCHIDS, in great variety. Upwards of 500 Lots.

Catalogues post free. Commissions carefully executed.

Birmingham.—Dutch Bulb Sales.

MESSRS. THOMAS JAMES AND DAVIES commence their SALES of DUTCH BULBS at their Rooms, 35, Temple Street, Birmingham, on THURSDAY, AUGUST 20, and continue to Sell every MONDAY and THURSDAY, at half-past 11 A.M., until the end of the season. The Auctioneers have made arrangements with reliable growers this season for shipments of Fifty Tons, and the Bulbs are all good, sound, and reliable. Catalogues post-free. Commissions carefully executed.

N.B.—THOMAS B. JAMES commenced these BULB SALES in Birmingham in 1890, and from a modest beginning they have steadily grown to their present large size (as many as 2000 lots being sold in one Sale).

FOR SALE, FREEHOLD MARKET GARDEN, consisting of 8 acres of Land and 1000 feet run of Glass, in full growth of Cucumbers and Tomatos. Good loamy soil.—For all particulars, apply to W. WREN, Bridge House, West Malling, Kent.

HADLEIGH, SUFFOLK.—TO BE DISPOSED OF, the Lease, Goodwill, Stock in Trade, and Glass Erections, &c., of above NURSERY, comprising about 1¾ acres of Land, convenient DWELLING HOUSE, Packing and Potting Sheds, SEED SHOP, and Fittings. Lease about nineteen years unexpired. Rent £27. No other Nursery within several miles. Price £150. Apply to—
WILLIAM BADMAN, Cemetery Nursery, Gravesend.

FLORIST, FRUITERER, and ART CHINA BUSINESS.—High-class trade; corner shop; plate glass front; in wealthy town; for IMMEDIATE SALE, cheap. Owner retiring.
C., 41, Wellington Street, Strand, W.C.

TO BE DISPOSED OF, a MARKET GROWERS' NURSERY, containing 1½ acres of rich Pasture and Garden, 6 Glasshouses, well-heated, and everything in good working order, nearly new. Good Cottage. Twelve miles from Covent Garden. Giving up through old age.—C. W., 41, Wellington Street, Strand, W.C.

To Nurserymen and Florists commencing Business.

HAMPTON-ON-THAMES, on the Marling Park Estate, free from London fogs, a deep rich loam, the favourite neighbourhood for Growers, FREEHOLD LAND for SALE on easy system of Purchase, or to be LET on Lease.

For full particulars, apply to Mr. FREDK. G. HUGHES (Surveyor), the Estate Office, Hampton-on-Thames.

COMPACT NURSERY. — 1 Acre, excellent soil, with five-roomed Cottage, TO LET. The Glass, over 200 feet run, with Jobbing Connection, and Stock to be SOLD. Situated between Brockley and New Cross on the L. B. & S. C. Railway, and only a few minutes from Brockley Lane Station, L. C. & D. Railway. Illness cause of leaving. Inspection invited. Further particulars apply—
A. S., Cottage Nursery, 110, Brockley Road, Brockley, S.E.

LONDON, S.W.—Good locally for Jobbing. TO BE SOLD, a small NURSERY, with two Show-houses, two Greenhouses, well heated; Sheds, and Stabling. Lease, 16 years unexpired. Rent £17. Price for Lease, Glass, and Stock, including Pony and Van, £150 or offer; owner must realize.—Full particulars of—
PROTHEROE AND MORRIS, 67 and 68, Cheapside, E.C

TO LET, a small NURSERY, close to station.—Address, S. A., Primrose Nursery, Fordham, Soham.

TO FLORISTS, &c.—TO BE LET (from Michaelmas), in splendid situation, in Midland Town, SHOP, DWELLING-HOUSE, and half-dozen GREENHOUSES. Apply to J. COLE, House Agent, Bedford.

TO LET, about 30 Acres of LAND, in a high state of cultivation, partly stocked with Garden Produce. Adjoining the town of Leamington, with 30,000 population. Enquire of J. BENNETT, Clevedale, 1, Church Hill, Leamington.

TO LET, a Small NURSERY (5 houses), well stocked. Water laid on, and every convenience. 9 miles from Covent Garden. Rent, inclusive, £15. Quarterly tenancy. Incoming, £25. Apply to—
Mr. SMITH, Wheelwright, Eltham, Kent.

CATALOGUE WRAPPERS, or Envelopes addressed from Horticultural Directory, or own Address Book, cheaply, correctly, and well, by Florist's Son.
T. C., 21A, Nursery Street, Lower Tottenham.

CYCLAMEN SEED should be sown now. We have still a few more ounces than we require for our own sowing, of our well-known strain. Price on application.
HUGH LOW AND CO., Bush Hill Nursery, Middlesex.

ASK for the CHEAP BULB and PLANT CATALOGUE from J. M. STIGGELBOUT AND CO., Wholesale Bulb Growers, Texel and Hillegom, Holland.
Telegram Address:—"STIGGELBOUT, TEXEL."

EUCHARIS, strong and clean, in 32's, some throwing up flower-spikes, 30s. per doz. Winter-flowering CARNATIONS, in 48's, splendid stuff, 12s. doz. BOUVARDIAS, in 48's, extra bushy, 10s. per doz. Samples and names on application.—WALSHAW AND SON, Scarborough.

THE NEW FUCHSIAS advertised in last week's *Gardeners' Chronicle* are now all in flower. An inspection is invited.
WILLIAM BULL, F.L.S., Establishment for New and Rare Plants, 536, King's Road, Chelsea, London, S.W.

Ferns from Stores.

PTERIS CRISTATA, 2s. 6d. per 100; 22s. per 1000. Good stuff, fit for immediate potting.—PTERIS, 41, Wellington Street, Strand, W.C.

CARNATIONS.—My List of Surplus Carnations and Picotees is now ready, containing all proved new varieties up to date, post-free.
CHARLES E. WHEELER, Bramley, Guildford.

PALMS.—PALMS.—Special Offer of 1 dozen, assorted, for 6s.; some are worth 1s. or 1s. 6d. each. MAIDENHAIR FERNS, in 4½-inch pots, good stuff, 5s. per dozen. Packing free. Secure at once.
C. R. SHILLING, Hartley Nurseries, Winchfield, Hants.

Archangel and St. Petersburg Mats.
NEW CONSIGNMENT.

ALLNUTT BROS., White Swan Wharf, Nine Elms, London, S.W. Prices on application.

WE can offer the following, in good plants:—1 Pandanus, 1 Croton, 1 Anthericum, 1 Cyprus, 1 Adiantum, and 6 small mixed Ferns. The lot for 5s., package free.—W. DARBY AND SONS, Scott Hall Gardens, Buslingthorpe, Leeds.

Choice Vegetable Seeds.
FOR AUTUMN SOWING.

H. AND F. SHARPE will be pleased to give Special Quotations for their fine Selected Stocks of CABBAGE, TURNIP, LETTUCE, ONION, RADISH, and other SEEDS suitable for AUTUMN SOWING, which will be found very advantageous to Purchasers. Also fine samples of WHITE MUSTARD, and Sowing RAPESEED, at moderate prices.
SEED GROWING ESTABLISHMENT, WISBECH.

MUNGO CHAPMAN, late of Easter Duddingston Lodge, Mid-Lothian, begs to intimate to his friends and acquaintances that he retires from his present situation on the 20th of the present month. He has arranged to reside at St. Ninians, near Stirling, where he intends to commence the Cultivation and Sale of Hardy Plants on his own account.

With the experience gained during twenty-four years in the management of one of the most choice private collections of plants to be found in the British Isles—that of the late Charles Jenner, Esq.—Mr. Chapman can confidently undertake to supply what is select and true to name of the most suitable plants for Borders and Rock-work.

He hopes to be able soon to issue a Plant Catalogue, from which customers may make their own selection. In the interval, he will be fully employed in getting up Stock.

May 19, 1896.

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Also for Stove & Greenhouse Plants, Hardwood Ferns and Rhododendron do. (Trade supplied).

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EXHIBITIONS.

MAIDENHEAD HORTICULTURAL SOCIETY.
ANNUAL SHOW on THURSDAY, August 13, 1896, at St. Ives Place. Entries close August 6.
CHAS. A. VARDY, Hon. Sec.

SANDY, BEDFORDSHIRE.
TWENTY-EIGHTH ANNUAL SHOW.
THURSDAY, August 27, 1896.
Plants, Flowers, Fruit, Table Decorations, Vegetables. Corn, Roots, Dogs, Poultry, Pigeons, Rabbits, Cats, and Cage Birds, Honey, Butter, &c.
PRIZES, £360, including Prizes of £12, £3, £8, and £3 for Ten Stove and Greenhouse Plants.
Live Stock entries close August 8, 1896.
All other entries close August 19, 1896.
Bands:—Royal Horse Guards (Blues), and Bedford Orchestral Band.
Secretary, E. T. LEEDS-SMITH, Sandy.
Assistant-Secretary, EDWARD SILLS, Sandy.

ASCOT, SUNNINGHILL, SUNNINGDALE and DISTRICT HORTICULTURAL SOCIETY.
ANNUAL CHRYSANTHEMUM SHOW, Nov. 4 and 5, 1896.
OPEN PRIZES.
Judges: Messrs. Molyneux, Drover, and Turner.

	1st.	2nd.	3rd.
Class 1. For the best 24 Japanese blooms, distinct varieties	£6	£4	£2
Class 2. For the best 24 Incurved blooms, distinct varieties	£4 10s.	£3	£1 10s.
Class 3. For the best 4 Trained Specimens (Standards excluded), any varieties, each plant on a single stem	£3	£2	£1

For Entry Forms and further particulars, apply to the Hon. Secretary, The Glen, Ascot. Lieut.-Col. Hon. H. NEEDHAM.

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ORCHID BASKETS, RAFTS,
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AND ALL GARDEN SUNDRIES.
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THIS GREENHOUSE erected and heated complete, in any part of the country, best materials only, workmanship guaranteed, 25 ft. by 12 ft., £50; 30 ft. by 15 ft., £70. Brickwork excepted. For particulars, see our Catalogue, post-free.



Superior Portable Frames, large stock ready for immediate use, well made, painted four coats, glazed with 21-oz. glass, carriage paid:—1-light frame, 4 × 6, 36s. 6d.; 2-light frame, 6 × 8, 58s.; 3-light frame, 12 × 6, 85s. 6d.
Span-roof Frames, 6 × 4, £2 5s.; 9 × 5, £3 15s.
HARDY BRUIN & CO., LEICESTER.

HILL & SMITH,
BRIERLEY HILL, near DUDLEY.

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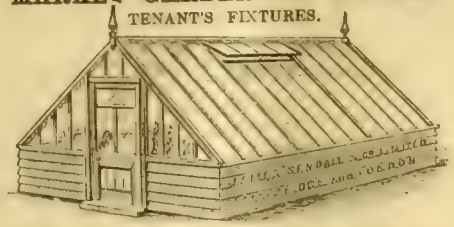


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50ft.	×	10ft.	...	27	10	0	100ft.	×	12ft.	...	55	0	0
100ft.	×	10ft.	...	50	0	0	100ft.	×	15ft.	...	65	0	0

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COMPETITORS at HORTICULTURAL SHOWS, and OTHERS.
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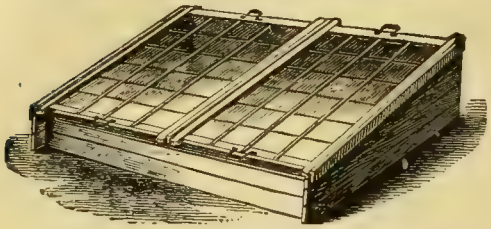
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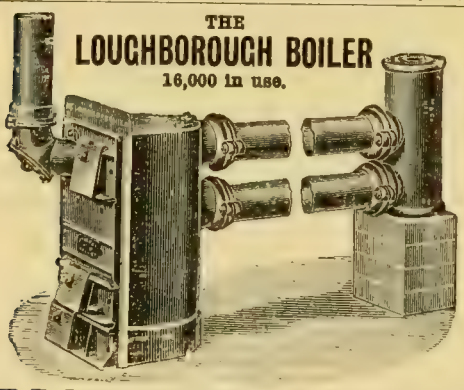
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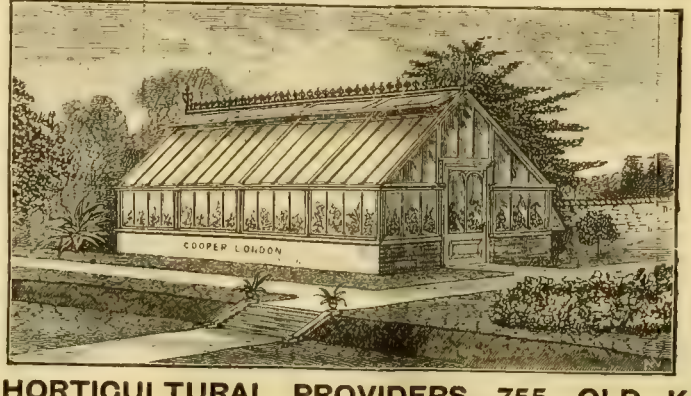
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THE

Gardeners' Chronicle.

SATURDAY, AUGUST 8, 1896.

HORTICULTURAL CONFERENCE AT CHESTER.

THE horticultural show and fête at Chester this week were inaugurated on Tuesday evening by a horticultural conference, held in the Town Hall. The Mayor of Chester (Mr. B. C. Roberts) presided in the absence, through indisposition, of the Duke of Westminster, and the following deputation attended from the Royal Horticultural Society of England:—Sir Trevor Lawrence, Bart. (President), Mr. Philip Crowley, F.L.S. (Treasurer), the Rev. W. Wilks, M.A. (Secretary), Messrs. Thomas Statter, Chas. Shea, George Bunyard, T. Francis Rivers, George Paul, Jas. McIndoe. A large attendance also included the Very Rev. S. Reynolds Hole (Dean of Rochester), Mr. F. W. Burbidge, M.A., F.L.S. (Trinity College, Dublin), the Sheriff of Chester (Mr. J. E. Holmes), Mr. George A. Dickson, Mr. E. J. Baillie (Chester), &c.

The Mayor, in offering a hearty welcome to the members of the Horticultural Society of England, expressed regret that the Duke of Westminster was unable to be there—what they hoped was only a temporary indisposition—to preside. He believed it had only fallen to the lot of one other provincial city to have a deputation of the Royal Horticultural Society among them, and on that account they undoubtedly appreciated their presence all the more, and gave them a hearty welcome to their ancient and historic city.

Sir TREVOR LAWRENCE, Bart., then read an interesting paper upon "The Royal Horticultural Society of England: its History and its Work." The inhabitants of Great Britain during the last half-century had grown so accustomed to be surrounded by flowers in town and country alike, that they had come to regard the present state of British horticulture as a matter of course; but no one who carried his mind back to the beginning of the century could fail to be struck by the extraordinary progress which gardeners and gardening had since made. During the century now near its end, trees and shrubs, annuals and perennials, flowers and fruits had been introduced from foreign countries in vast numbers, while the abilities of several generations of gardeners had found full scope for their exertions among a garden-loving people in improving the old, and raising new varieties of garden fruits. After describing the foundation of the society ninety-two years ago through the exertions of Thomas Andrew Knight, and its early history, including the granting of a Royal Charter in 1809, Sir Trevor said a valuable feature of the Society's work, and one which had had a great and enduring influence on British horticulture, lay in the steps taken in 1818 to get from various countries valuable shrubs, plants, and seeds.

The earliest arrivals came from China and from India through the East India Company, and in this way many valuable plants were introduced into Great Britain. The success of these efforts encouraged the Company to send out with great success collectors at their own cost.

Sir Trevor afterwards referred at some length to the vicissitudes through which the Society passed after the death of the Prince Consort, until at the end of 1887 a move was made which had the effect of entirely rehabilitating it in public opinion. As to the present position of the society, if it had done anything to repair the errors of the past, and inspire confidence in the future, it had been by sticking resolutely to its last, bearing constantly in mind that the function of a horticultural society was to cultivate horticulture, and with a fixed determination to clear off outstanding liabilities and to avoid debt. In reducing the minimum subscription to one guinea, the Society was actuated by a desire to enrol among its fellows as large a proportion as possible of the vast numbers of their fellow-subjects who were interested in gardens. The result of this and other changes had been, on the whole, eminently successful, the average annual net increase in the number of fellows being for several years 280, and the total number 3300, against a maximum, so far as could be ascertained, of 2500 in the old Chiswick show days. The *Journal* of the Society was published regularly, the committees included a large number of the principal horticultural experts in the kingdom, while the great shows of the Society, held now for several years in the gardens of the Inner Temple, by the continued kindness of the Benchers, had been, in many respects, the finest ever seen in Great Britain. The fortnightly shows were now largely attended, and attracted such a number and variety of exhibits as made it increasingly difficult to find room for them. The Society's fruit show at the Crystal Palace bade fair to become an important annual event. The Society had spent during the ninety-two years of its existence not less than £400,000. That it had made mistakes and wasted money, its best friends would not deny; but it might confidently be asserted that it had done and was doing good work which no other society could do—work of great value to the community.

Dean Hole on "Garden Craft."

Dean Hole followed with an address on "Garden Craft." He said when a benevolent florist remarked to him that he wished every man in England had a garden, and he replied "Heaven forbid," the florist looked at him with sorrowful surprise; "because," he (the Dean) continued, "in a very short time his gift would be abused. In a very short time a large number of his allotments would present the appearance of the garden which was covered with Groundsel, because the proprietor said he did not think it right to prejudice the soil in favour of Strawberries." Alas, for this toilsome, wearisome world, the real love of a garden was very very rare. If his friend had said, "I would that every man who loves a garden had a garden to love, then he would have assented to his proposal with a sevenfold amen; but it was not so, although the love of a garden was born in us either as a dim recollection of Paradise Lost, or as a bright prevision of Paradise Regained. There were few really enthusiastic gardeners. There were a lot of pretenders and shams; a large proportion of the community could not help seeing that a garden was a beautiful thing, and could not help admiring the glowing colours of Nature, and saying, "Well, it is the sort of thing a fellow must have, don't-you-know." If they would only confess their ignorance, one would be satisfied; but somehow or another they perhaps inherited a big conservatory or turned out a lot of bedding-out plants, and set up to be gardeners. They declared they were intensely fond of flowers, and would "give you anything in the world to see your garden." When one told them they could see it for nothing, they came and did not even look at the flowers, but began to talk about the Great Wheel at Earl's Court, or Charley's Aunt, or the Pope's Encyclical, or the Eton and Harrow match. There were a lot of people who called themselves gardeners but who only cared for a flower because it was scarce. There were a great number of persons who only cared for flowers as they cared for furniture, because they made the drawing-room pretty, or drove the neighbours green with jealousy. Let them ring out the false and ring in the true, and consider what the old gardeners could do to help the younger. What was garden-craft? Surely it meant getting the greatest possible enjoyment out of a garden. A garden ought to be a place of quiet rest and meditation, and at the same time of cheerful exercise; it ought to be a place of tender memories and immortal hope. What could they do to help the young gardeners to make it such? In the first place, he thought a garden should have adaptation to the scene around it. It should be like part of a picture, and the whole of the surroundings should be studied. There should be a union between horticulture and architecture; they should correspond with each other. He would have the house, at all events, partly covered with the most beautiful creepers. What they wanted in a garden must be expressed in two lines. It must be a place -

"Where order in variety we see,
And where, though all things differ, all agree."

He would strongly recommend the young gardener to begin by selecting some specialty, and give his attention to some particular class of flowers. In passing he could not refrain from offering to Mr. George Dickson, of Dicksons Limited, thanks for the wonderful popularity he had conferred upon Mrs. Reynolds Hole. It was Mr. Dickson who sent out the flower, and perhaps no Carnation had had so long a popularity. The young gardener might also take up some special collections, such as Japanese plants. He believed the time would come in this country when a great many gardeners who had thought these new Japanese introductions were not hardy, would feel very envious when they saw specimens of them in the gardens of those who had been more venturesome. Then there should be in some form or another a collection of alpine plants. He must express his surprise as a gardener that those plants had not been received more extensively in England, because he could not imagine anything more beautiful than these little gems appearing in the early spring. After dealing with bedding-out plants, Dean Hole said he believed every real, hearty, earnest gardener had the same amount of enjoyment. He verily believed a poor man had as much satisfaction in a window plant as his friend Sir Trevor Lawrence had in the most splendid Orchid. He would in conclusion, warn young gardeners not to be too anxious to improve Nature, lest in trying to embellish they should rather disfigure creation. He warned them not to have anything to do with clinkers or powdered bricks or bottle-ends. Let the young gardener also be abstemious in the use of statues; and let him beware of artificial water, flee from mud banks and stagnant pools. He was bound to say the most genial and sympathetic friends with whom he had met, were those who loved a garden.

The Literature of Horticulture and Garden Libraries.

Mr. F. W. Burbidge, M.A., F.L.S., remarked that though we had ample proof of the existence from the very earliest times of gardens, gardening literature was exceedingly scanty until we reached the middle of the thirteenth century, when the printing-press appeared. After the year 1500 all our records went to prove that the evolution of gardening and gardening literature went on side by side, each acting and reacting most beneficially on the other. After tracing the history of gardening literature down to the time of the great Charles Darwin in 1859, he said if they studied the list of books on gardening they would find a good deal more chaff than wheat. After printing became general they got a good book in ten years. Really great gardening books, however, were much more rare. After Gerarde's *Herbal* in 1597, there was no real great work until Miller's *Dictionary* appeared in 1731. Modern horticultural literature really dated from the beginning of the present century. Horticulture was greatly aided by the general poetry and literature of our country. Gower, Chaucer, Spenser, all the Elizabethan poets, including Shakspeare, alluded to flowers, and all the great story-tellers had, in one way or another, used the garden as a stage. A good many people had begun to feel that a good garden was another name for a beautiful book, written and printed by the finger of God.

The Sheriff of Chester (Mr. J. G. Holmes) proposed a hearty vote of thanks to the gentlemen who had read papers. He hoped the members of the deputation would find Chester not only a splendid agricultural centre, but a splendid horticultural centre also. The climate and soil of the district were well adapted to the cultivation of fruit and flowers, and although it was somewhat disappointing to see so many orchards neglected in that beautiful Vale Royal of England, he trusted that show might be the means of remedying the defect. He trusted they were inaugurating a show that evening which would be a successful and lasting institution in the future. He was very pleased to hear Dean Hole's remarks on window gardening. The streets and the architecture of Chester were well adapted for this kind of decoration, and it would add another charm to their quaint old city, and make its streets brighter, gayer, and more cheerful.

Mr. E. J. Baillie (Chester), seconded, and the vote was carried with acclamation.

The Rev. W. Wilks proposed a hearty vote of thanks to the Mayor for presiding. As a very humble specialist—a specialist in Poppies—he strongly supported the Dean of Rochester's advice to young gardeners to take up a specialty. It did not matter how humble the flower, fruit or vegetable might be; if they only devoted their energies to it as a specialty, they were absolutely certain to improve it for all generations to come. Bedding out, upon which Dean Hole had also touched, was not all bad. It was only so very bad because fifteen or twenty years ago, gardeners did nothing but bed out. To do nothing but bed out was pre-eminently bad; to neglect bedding out altogether was, to his mind, only a little less bad. What they wanted was the happy medium. They wanted their herbaceous borders, their regular old English gardens of quaint, sweet-smelling flowers. He did not think that they wanted very many of the great big scentless Roses, scentless Carnations, and scentless Begonias without any form. They wanted their old English flowers, and they could make plenty of room for bedding-out in its proper place as well. Let them try as gardeners not to run to one extreme or another, but to hit off the happy medium and utilise those wonderful advantages and resources which the great Creator of all had placed at the hands and disposition of gardeners.

The resolution was seconded by Mr. T. Statter, Stand Hall, Manchester, and carried; and the Mayor's reply brought the proceedings to a close.

The Rosary.

THE NEW RACE OF HYBRID TEA ROSES.

In his charming chat about Roses on pp. 90 and 91 in a recent number of the *Gardeners' Chronicle*, Dr David R. Williamson, in praising his new loves, by no means neglects or ignores the old. On the contrary, he places such established favourites as Duchess of Albany, Caroline Testout, and La France, at the top of the list, not only for growth, but fragrance and beauty, calling the latter, as it deserved to be, supreme, the queen of the garden in the present, and probably unsurpassed for form, fragrance, colour in the future. A good many attempts have been made to improve, alter, or change the colour, and no doubt, as we can hardly imagine it possible to have an excess of La France in our gardens and landscapes, the more we can have of La France character and style of Roses, the better. Hence, different, deeper, lighter shades of pink, crimson, yellow, orange, white La France would be

welcome. Hitherto, however, efforts to get La France Roses of different and distinct colours have not been very successful. The so-called whites have had a strong dash of pink, or a stain of orange or of yellow; the deepened pinks have dashes of dull carmine or purplish hues of the somewhat dull type of Cheshunt Hybrid; in fact, the colour is about the one great fault of this Rose, and I am rather surprised it was passed without comment by Dr. Williamson as one of the most meritorious of all the Hybrid Teas, and one of the finest companions to Gloire de Dijon. With a new and brighter colour—yes; but with its present purplish blend of colour—no. Better mate the Glory with the hybrid perpetuals—Salamander, Duke of Edinburgh, General Jacqueminot, or the much more brilliant Hybrid Tea, Reine Marie Henriette. But La France seems about as perfect in colour as in size, form, fragrance. The nearest approach to a white La France is found in Augustine Guinoisseau, and that is so inferior to the type that one can but be glad it was not a success. If we are to have a white or golden La France from seeds, or bud, or branch sports, let us hope that they will be equal, or if that be possible, superior to the type. The colour is so soft and charming, so delicately blended and shaded with silvern rosy-lilac, that we can hardly have too much of it in the garden.

And then we have darker rosy-pinks in Danmark and Duchess of Albany, a dash of salmon in the pink of Caroline Testout, a deeper dash of carmine-rose in La Fraicheur, with more of carmine-rose and vermilion in the newest hybrid Tea, Marquise Litta. Higher praise could hardly be given than that awarded by Dr. Williamson to the Gold Medal Rose, Mrs. W. G. Grant, shown at the National Rose Society, viz., that it unites the dignity of Lady Mary Fitzwilliam. I like this phrase, so far as I remember applied to a Rose for the first time, and admirably descriptive of Lady Mary at her best—unites the dignity of Lady Mary with the distinctive fragrance of La France. Surely more likely lines could hardly be followed to give us more or improved La France Roses, for yet we can make ample room for such. *Rosa.*

The National Rose Society at Ulverston.

In A. H. K. B.'s books of pleasant essays, there is one on the expression, "Under the circumstances," in which he shows how it does service in a great many instances, and softens the fall when things do not quite turn out according to anticipation. When the National accepted the invitation of the North Lonsdale Rose Society to hold their northern show for this year at Ulverston, some wanted to know where Ulverston was; those who were officially connected with the society knew very well that it was the headquarters of one of the affiliated societies which has always shown signs of a vigorous existence, that it had a good working executive, and a very indefatigable secretary in Mr. J. Mackrath; it was said, however, that as it involved a six hours' journey from London, and that as the weather was very warm, and the season very early, southern exhibitors would be out of the running, and that altogether a very indifferent show might be anticipated. Using the phrase "under the circumstances," it may safely be said that these gloomy anticipations were not realized, and that a much better exhibition was held than might have been expected. Opinions will always vary as to the comparative excellence or otherwise of exhibitions, and so very opposite opinions have been expressed with regard to this show by Rosarians. The judgment of the general public does not count for much, but it only shows how wide is the interest created by the National Society, and how loyally its members strive to support it, that so many exhibitors from the South put in an appearance. It is true, that in the nurserymen's classes we missed all the southern growers except Messrs. Prior of Colchester. Messrs. Mount, Mattock, and Burrell, the grand H.P.'s shown by the two firms of Cant at Colchester, and Paul of Cheshunt, were not to be seen, nor did Messrs. Prior exhibit any H.P.'s; while the falling off of the amateur exhibitors of Teas, was very remarkable. This is self-evident when we find that the names of Orpen, Berners, Page Roberts, Burnside, Foster-Melliar, and Hill-Gray, were not to be found, yet notwithstanding this, there were, according to Mr. Mawley, forty-two exhibits from south of the Trent. On the other hand, the midland and northern exhibitors had a good time of it, and this is as it should be, as it was for them that the Northern show was established, and while no one grudges the winner of the Trophy the double-first that he has taken this year, many would have been better pleased if it had been taken by a midland or northern exhibitor. To those who came from a distance the weather was also very trying: one exhibitor who brought up his Roses from the South, told us he had never experienced such a night since 1872, and that the railway vans were like ovens; another told us



Fig. 27.—Gooseberry Langley Beauty.

A cross between A, Railway; and B, Yellow Champagne.

that all the blooms that he had staged in his boxes were useless when he got to Ulverston, and that he had to rely entirely upon "spares"; one exhibitor who showed Teas very well, exhibited from a piece where the Roses had been planted in a low-lying position, where the earlier blooms had been cut off by the May frosts, and the Roses that he showed were from the shoots which had been produced after this misfortune (if misfortune it can be called), which turned out so favourably for him. As might have been expected, Messrs. Alex. Dickson & Sons came out very strong, especially in the matter of new Roses, in which indeed they were the only exhibitors; Mrs. W. J. Grant has never been shown so well as in the box which obtained for them the first prize for the best light Rose, twelve blooms. There is little doubt that this very distinct Rose will occupy a leading position when it is more widely distributed. Messrs. Dickson also obtained the Gold Medal for the best seedling or sport, Muriel Grahame, which has already been noticed in the report for the metropolitan show. It is a fine Tea, a sport from either Catherine Mermet or The Bride, and distinct in colour; they had also in their stand of new Roses a bloom of Alice Lindsell, which seems to be a promising flower. It is a beautiful cerise-pink, in the style of François Michelon, and we shall probably hear more of it another time. Maman Cochet was again to the front, and obtained a Medal for the best Tea in the nurseryman's class, and was won by Messrs. Merryweather. Beside the box of Mrs. W. J. Grant, there was a superb box of Caroline Testout, from Messrs. Croll of Dundee, and another of Mrs. John Laing, from Mr. Geo. Mount of Canterbury. The other medals for the best Rose were awarded to Messrs. Mack, for a bright bloom of Victor Hugo; and in the amateurs' class to Rev. J. H. Pemberton, for a fine bloom of Catherine Mermet; and Mr. J. T. Marden, for a good Her Majesty.

It was hardly to be expected that garden Roses could be shown in such good form as they were by Mr. Machin. Of course, single Roses were all over, but his stand, consisting mainly of Teas, Noisettes, and Polyantha effectively arranged, attracted much attention. A good deal of interest centred in the competition for special prizes, the Veitch Memorial Medal and £5 having been awarded to a southern grower—Mr. H. P. Landon, of Brentwood. The prizes offered by Mr. Victor Cavendish, President of the local society, consisting of three pieces of plate, were awarded to Mr. Whitton of Bedale, Mr. E. B. Lindsell of Hitchin, and Rev. J. H. Pemberton of Havering. Thus again do the southerners come in, although Mr. Whitton, a northerner, took the 1st prize. It is to be noticed, as has been done before, that there is a great scarcity of northern amateurs; it has been sometimes thought, and truly so, that the exhibitions encourage growers to come forward, but it has had comparatively little success in the north. Twice the society has been to Darlington, and fewer exhibitors come from that neighbourhood than formerly; once it has been to Edinburgh, and we doubt if exhibiting has been much improved in and about the Scottish capital. It is possible that Ulverston may be an exception, but there is an evident feeling amongst trade growers that the South is more favourable to them. Messrs. Harkness & Sons have opened their establishment at Hitchin, Mr. Burrell has come down from Darlington to Cambridge, and Messrs. Dickson & Sons have gone to Ledbury. On the whole, then, the exhibition at Ulverston, though not comparable with that of Derby last year, or the most of our northern exhibitions, was better both in numbers and quality than could have been expected. There were no sensational blooms, nor anything that will much linger in the rosarian's memory. The arrangements, as might have been expected, were admirably carried out, and reflected great credit on the committee and their excellent Secretary, Mr. Mackrath.

A NEW GOOSEBERRY.

A First-class Certificate was awarded by the Fruit Committee of the Royal Horticultural Society at the last meeting to a Gooseberry named Langley Beauty, exhibited by Messrs. Jas. Veitch & Sons, Royal Exotic Nurseries, Chelsea. This seedling variety was raised from a cross between Yellow Champagne and Railway, and is another remarkable instance in which the fruits produced by the seedling exceeds in size those upon either of the parents. To illustrate this, a single fruit from each parent is engraved upon fig. 27 above the representation of the seedling. It was intended to combine the larger berries of Railway with the upright habit of growth and greater flavour possessed by the latter. This has apparently been done; and, it may be added, the fruits of the seedling, beside being of first-rate flavour, are of a yellowish colour and handsome in appearance.

REMARKS ON THE FRUIT CROPS.

(*See Tables, pp.* 124 to 131.)

Our annual synopsis of the numerous reports as to the condition of the fruit crops was presented to our readers in our last issue. The returns then published embrace almost all of the counties in Great Britain and Ireland, also the Channel Islands.

From the reports we have been favoured with, it is obvious that but for the unusual drought, the season's fruit crop would have been an overflowing one. Under all circumstances, it is satisfactory to find that there are such average crops as were returned in the summary of last week. The tabular matter already published allows of little detail, and doubtless extracts from fuller remarks upon the subject will be interesting to the greater number of the readers of this journal. The matter that the courtesy of our correspondents has placed in our hands, however, is so voluminous, that only a proportion of it—mostly typical cases, and containing useful and specific data upon certain varieties—can be used.

0, SCOTLAND, N.

Morayshire.—The fruit crops in this district are looking exceptionally well, and promise to be early. Apples of nearly all sorts set well, excepting Lord Suffield, and since the heavy rains of last month, they are swelling away fast. Apricots (which were in full flower by the end of February) and Plums set an immense crop, and both have had to be severely thinned. Peaches are also a good crop; the foliage is clean and healthy, and promises well for another season. By the end of this week (second week in July) we shall be able to gather Waterloo and Early Beatrice from south wall. *R. C. Webster, Gordon Castle Gardens, Forhabers.*

Nairnshire.—This season's fruit crop in Nairnshire, and, as far as I can learn, all over the North, is the best that has been for a number of years. Apples are an exceptionally heavy crop, and they are swelling very well now, although rather stiff for some time. Pears on the whole are about an average crop, except in the case of Jargonelles, which are a much better crop than any of the other varieties. Damsons and Plums are very good. Green Gages are very heavy at Kilravock; the Victorias are, strange to say, the only failures. Cherries looked very well in the early season, but did not turn out well in stoning, and are only now an average crop. Small fruits are very fine, Strawberries being an enormous crop; Competitor seems to do very well here, some of the fruits being 4 oz. in weight. Gooseberries, Black Currants, and Raspberries are also far above the average crop. *Alexander Ross, Kilravock Castle.*

—— Fruits are a fair average crop, Gooseberries and Raspberries above the average; Gooseberries so much so, both in quantity and weight, that the branches are borne to the ground. Apples a good crop, especially Blenheims; old standard trees, which had no crop for years, are loaded. Pears are very lightly cropped. Standard Victoria Plums loaded; those on walls very thin. Cherries thin; dropped when stoning. *James Maitland, Cawdor Castle, Nairn.*

1. SCOTLAND, E.

Aberdeenshire.—Fruit trees in general had a very abundant blossom. Apples set well, but during the hot dry weather in May, some of them got over-run with fly and thrip, causing the fruit to drop off, so there is not such an abundant crop as was promised at one time. Pears did not blossom abundantly, but set well; they are a thin crop. Plums are extra, and have had all to be thinned. Small fruits are all a large crop, except Strawberries. *John Forrest, The Gardens, Haddo House, Aberdeen.*

Banffshire.—Fruit in general is a fair crop. Strawberries have been very deficient, and Pears are thin. Peaches in some situations are thin, but very early. I had Alexander Peaches in the first week of July on the open wall. July 19 was the earliest date I have hitherto picked from the same tree. Small fruit, with the exception of Black Currants, are very plentiful. *J. Fraser Smith, Cullen Gardens.*

Berwickshire.—The fruit crops in Berwickshire are on the whole exceedingly good this year. There is without exception an abundant crop of all kinds of fruit usually grown in this district. Perfect weather conditions prevailed down to the month of May, and fruit-trees under cultivation set their fruit in great abundance. We have had sufficient rain during the past six weeks to keep crops in a healthy growing condition, so that from a point of quantity, quality, size, and finish, the fruit is everything that could be desired. The fine dry autumn we had last year left the Apple, Pear, Plum, Cherry, Peach and Apricot trees in a good fruitful condition, and the absence of late spring frosts was all in favour of 1896 being a fruitful year. In districts like this, where the soil is of a light nature, lying on gravel, the want of snow and rain during the winter and spring months has been felt to some extent, and the lack of moisture in the ground has caused the above-named trees to drop their fruit in quantity, but still there is sufficient left to form an abundant crop. Strawberries, Raspberries, and other small bush-fruits, are decidedly above the average, and there is a good demand for them in the different markets about, while prices range very favourably to the grower. Garden and field Potatos promise to be a very heavy crop. They have a luxuriant appearance everywhere, and up to date there is not the slightest trace of disease. Early varieties are giving a return much above the average, and the size and quality are excellent. *John Mackinnon, Ayton Castle, Ayton, N.B., July* 15.

—— On the whole our fruit crops are above the average. There was a very full bloom and an absence of frost, consequently a thick set, but the dry weather that succeeded prevented many from swelling. The Plum crop was exceptionally heavy. Of the newer Plums, The Czar and Sultan we find most useful. Among Apples of less newer sorts, Bismarck, Sandringham, Lane's Prince Albert, Bramley's Seedling, Baumann's Red Reinette, and Pott's Seedling, are most useful and reliable. Our best Pears are Williams' Bon Chrétien, Beurré d'Amanlis, Beurré Superfin, Louis Bonne of Jersey, Marie Louise and Doyenné du Comice. *John Cairns, The Hirsel Gardens, Coldstream.*

East Lothian.—I have never seen Plums finer nor earlier, the first dish of Rivers' Early Prolific having been gathered on 13th July. A few Peaches were ready on the same day; and the earlier Fig on the 18th. The last-named is the finest crop we have ever had. Apples are clean, and if not large, will be well coloured. *R. P. Brotherston, Tyninghame.*

Fifeshire.—This is the second good fruit year in succession, an unusual circumstance for Fifeshire. There are partial failures among certain varieties, but they are due to the extra crop these varieties bore last year, illustrating again the necessity of thinning heavily-loaded trees. In the famous Pear locality (Newburgh), some of the varieties, such as Beurré d'Amanlis, are very scarce. The appearance of the fruit now indicates a difference of at least two weeks in the earliness of this season compared with last. *W. Williamson, Tarvit.*

Kincardineshire.—The fruit crop in this neighbourhood is the best I have seen during the last ten years. We had a fine spring, free from frosts, and we have not suffered very much from dry weather. At present all trees are very clean and healthy. *W. Knight, Fasque.*

Kinross-shire.—Although fruit blossom was very abundant this year, owing to the cold and rather wet season last year, I think the trees had not strength to set their fruit. *Jno. Fortune, Blairadam Gardens.*

Midlothian.—The weather since the end of August last year has been decidedly favourable in this district to the fruit crops. A dry and sunny autumn ripened wood and flower-buds thoroughly, and was followed by an extra dry mild winter, and a spring free from severe frost. Fruit trees consequently flowered well, and set fruits in great abundance. A rather dry period followed, which caused the young fruit to suffer a good deal from drought and insects; but the rain came early in June, and saved a good crop in most places. Some of the most regular-bearing Apples have failed, however, to a great extent this year, including most of the Codlin tribe; while varieties that do not always bear regularly in succession, such as Blenheim Pippin, Wellington, Alfriston, Beds Foundling, Tower of Glamis, Emperor Alexander, are heavily laden. Of the regular bearers, Ecklinville, Warner's King, Worcester Pearmain, Prince Albert, and King of the Pippins are among the best this season. Plums are a very fine crop, Jefferson, Kirke's, Victoria, Pond's Seedling, Early Transparent, Early Prolific, Czar, Belgian Purple, Denniston's Superb, Coe's Golden Drop, and many others, being heavily laden. Cherries are a good average, all the popular varieties bearing well; Early Rivers fully maintaining its high reputation as an early black variety. Peaches and Nectarines on the open walls are an extra good crop; and so are Apricots, all the varieties, but especially the earlier sorts, bearing full crops. Bush fruit is good all round. Superlative Raspberry is a grand cropper, and much the best red variety grown. Royal Sovereign promises to be a standard Strawberry here, where so few varieties do well on the light soil. *Malcolm Dunn, The Gardens, Dalkeith.*

Perthshire.—The season has been favourable throughout, and the crop of all kinds of fruit in this neighbourhood, generally, are above the average. Field cultivation of the Strawberry is largely practised here. The crop is heavy, but the prices are far from remunerative. Everything is about a fortnight earlier than usual. We commenced to gather Alexandra Peaches from the open wall on the 9th of July. *A. McKinnon, Scone Palace.*

—— Strawberries suffered from the drought very much; caterpillars on Apple-trees are also very bad, but Gooseberry bushes were quite free. Pear trees were very full of bloom, but in many cases few fruits set. Apples are large, early varieties have the heaviest crops. *Wm. Wright, Taymouth Castle Gardens.*

6. SCOTLAND, W.

Argyllshire.—The outdoor fruit crops are promising. Bush and wall trees are clean and healthy. Apples in general are carrying heavy crops of clean fruit; but Pears are much thinner than last year. Some varieties of Plums are scarce, but Victorias are good. Strawberries have been very abundant, and came in early. Morello Cherries are very plentiful. *D. S. Melville, Poltalloch, Lochgilphead.*

Dumbartonshire.—Apples never showed more blossom than this spring, but, unfortunately, a cold north-west wind destroyed the fruits from the side of the trees most exposed to it. Raspberries are excellent, and ten days earlier than usual. Strawberries are also excellent, particularly John Ruskin, which I was gathering on June 10. Red Currants are very plentiful. *D. Stewart, Knockderry Castle Gardens.*

Dumfriesshire.—All fruit most abundant and fine, except Apples and Pears, which are never very plentiful or fine in this climate, especially in this low-lying garden of cold soil. *D. Thomson, Drumlanrig.*

Stirlingshire.—The Apple-trees in this district are bearing an extra fine crop of fruit, and making vigorous healthy growth. Pear and Plum-trees were in blossom this year earlier—ten days earlier than usual. The spring frosts, early in April, destroyed many of the blossoms of Pears and Plums, and there is a very spare crop. *A. Crosbie, Buchanan Gardens.*

—— Strawberries have been a large crop generally, but several varieties which promised well at one time are to be discarded. Aberdeen Favourite and Rivers' Eliza were worthless, while President and Moffat's Duke of Edinburgh are first-rate. John Ruskin was ripe June 7. *M. Temple, Carron, N.B.*

Wigtonshire.—The season, so far, has been very favourable to the fruit crops. The recent heavy rains have cleansed the foliage of the later fruits from insect pests, which threatened earlier in the season to do much damage. Apples, Pears, and Plums, are bearing

good crops, and judging from appearances at this date, they should finish off fine fruits. Strawberries were abundant; bush fruits, with the exception of Gooseberries, very good. Peaches, Nectarines, Apricots, and Figs are good crops, and earlier than usual. *James Day, Galloway House, Wigtonshire.*

2. ENGLAND, N.E.

Durham.—During the thirty years that I have had charge of these large gardens, I have never known the fruit crops so fine throughout—Apples, Apricots, Gooseberries, an enormous crop; Strawberries also very abundant, measured one fruit, 6¼ inches round—so you will see they are also very fine. The season, though rather dry, has just suited this district. *J. Noble, Woodburn, Darlington.*

Northumberland.—Several varieties of Apples in the garden are a full crop; large trees in orchards are very light. Pears are an irregular crop. Plums on walls are fine, especially Victoria and Jefferson. Apricots and Peaches carry full crops. Of Cherries, the Morello has cast much of its fruit about the district. Small fruits are heavy crops, and of fine quality. The weather was too dry for Strawberries, yet there were some fine crops in this district; Royal Sovereign promises to do well. *George Harris, Castle Gardens, Alnwick.*

—— The fruit crops in this district present, on the whole, a promising appearance. Apples are a heavy crop on such varieties as Niton House, Domino, Hunthouse, Fullwood, Stirling Castle, Beauty of Moray, Lane's P. Albert, Prince of Wales, and Warner's King. Pears are good. Durondeau, Clapp's Favourite, and Hacon's Incomparable are always excellent here. Strawberries will be a short crop on some soils. In such phenomenally fine spring weather as we experienced, a heavy crop was expected, but April, May, and June, being so dry, Strawberry growers had much ground for anxiety; however, from Alnwick and district as much as 7 tons per day have been sent to market. The quality was, as a rule, good, and prices high. Black and Red Currants are excellent. Raspberry Superlative is again giving us an abundant crop. It is, without doubt, the best grown for either dessert or preserving. *David Inglis, Howick Hall, Lesbury, R.S.O.*

Yorkshire.—Apples and Pears did not set well owing to drought. Plums are an exceptionally heavy crop, especially Victorias, Green Gages, Mitchelson's, and Damsons. Apricots also set well, and had to be severely thinned. All bush-fruits have carried heavy crops, but Black Currants suffered from an attack of fly at the beginning of June, which reduced the berries. *J. Riddell, Castle Howard.*

—— The excessive drought in the spring and summer injured the Strawberry crops where good deep cultivation with abundance of water during the flowering period has not been given, the crop was very quickly over; the varieties that have done best are Keen's Seedling, President, Sir J. Paxton. Cherries abundant and excellent, varieties Black Circassian, Black Eagle, Royal Duke, May Duke, Early Bigarreau, Bigarreau Napoleon, and Elton. Trees that were planted many years ago against a west wall not giving satisfaction as trained trees, have been allowed to grow as they like, giving good result; they are covered with large nets to keep off birds, and the men can take steps or ladder and gather without trouble—this is the way to grow Cherries, and the pleasure of seeing them hang in their beautiful clusters. Three good varieties are Black Circassian, Royal Duke, and Bigarreau Napoleon. *B. Wadds, Birdsall, Yorks.*

—— The fruit crops in this neighbourhood, taken as a whole, are slightly under average. Apples showed an enormous amount of bloom, but set very irregularly. Pears trees bloomed but sparingly, with but few exceptions, which is not to be wondered at when we consider the two heavy crops in succession in 1894 and 1895. Apricots set a heavy crop. Plums bloomed well, but failed to set, excepting Victoria, the trees of which are heavily laden. "This is a bad Plum district." Small fruits plentiful, but rather small on account of the continual drought, with the exception of Black Currants, which are very thin. *John Easter, Nostell Priory Gardens, Wakefield.*

—— Early in the season fruits of all kinds showed a most wonderful promise, but the long drought caused a good deal to drop through the stoning period. Still, all round, we are much above the average, except Pears, which are small and scarce, especially the better kinds. Apples, where grown on the bush system, viz., Paradise stock, are very good and clean. *Frederick Kneller, Studley Royal Gardens, Ripon.*

—— Strawberries, heavy crop, chiefly V. H. du Thury and President, which do well on our strong clay land; Royal Sovereign promises to be the best early we have as yet tried, although this year Auguste Nicaise ran it very close for earliness. Gooseberries and red Currants are especially fine and clean; but the Raspberries are beginning to suffer from drought, although they have been good the first two or three gatherings. Apple trees suffered much damage from caterpillars, as well as some Oak trees and a Hornbeam hedge, which were completely riddled. *Thos Bonsall, Elmet Hall, Leeds.*

—— This is what might be termed a good general fruit season. Many kinds of Apples on bush and standard are a heavy crop, while not one is a total failure. The same, too, may be said of Pears; bushes which have not borne fruit for the last five years are carrying heavy crops. Many varieties of Plums, especially Victorias, are heavily cropped; but many of the trees are badly infested with aphis. Apricots are a good crop; so also are Cherries, both sweet and Morellos. Bush fruits of all kinds are plentiful and good for this district. Strawberries have been abundant and very fine—better than for the past five years. *J. Hughes, Wentworth Woodhouse Gardens.*

—— The fruit crop here, taken as a whole, is the best I have had during my service, which will soon reach twenty-six years. The fruits are very free from both cracking and black-fungus, which in wet seasons we suffer much from, especially Pears and Apples, to some extent, but not so bad as Pears. Red-spider, aphis, and caterpillar, have given much trouble, the former especially, but by frequent washings with garden-engine and cold water the pest has been kept fairly well down. The season in this district is quite a fortnight earlier than usual. Waterloo Peach ripe on open wall July 6. *Wm. Chuck, Brodsworth Hall Gardens, Doncaster.*

—— Fruit-trees of all kinds never looked more promising than they did in the early part of the season, and the weather has been all we could desire, except the short supply of rain, which amounts only to 8·44 inches for six months ending June 30, which is below the average since 1887, when it was 6·96 inches. Apples are dropping off, and all trees carrying fruit show signs of distress in places where artificial watering is out of the question, and fruit will be small unless rain comes soon; insects have been plentitul, and caused much labour in hand-picking, spraying, &c. About seven miles distant, in the neighbourhood of Beverley, the Codlin-moth is very troublesome this season. *John Allsop, The Gardens, Dalton Hall, near Hull.*

3. ENGLAND, E.

Cambridgeshire.—The fruit crop in this district is good on the whole. Lane's Prince Albert Apples being very good, also Cox's Orange Pippin, Duchess of Oldenberg, Frogmore Prolific, the Ecklinville Seedling being light. Caterpillars were very abundant; I find hellebore-powder clear them off successfully. *W. C. Smythe, Upwell House Gardens.*

Essex.—Apples, notwithstanding the drought, are a heavy crop; the trees are clean and healthy. Pears promise well; and Plums, but for the blight, would have been of very good quality. All small fruits are suffering from drought. The Cherries are clean and good. Morello Cherries a very heavy crop, but for want of water the fruit is small. *Jas. Douglas, Great Gearies, Ilford.*

—— The Apple crop, on the whole, is a good one; the Keswick Codlin is a very plentiful crop, and other sorts are very good. Of Pears, Williams' Bon Chrétien is a very heavy crop. The small fruit are breaking down with the weight of the crop. *E. Hill, Belmont Castle Gardens.*

—— We had very good prospects of having good fruit crop during the flowering period, but owing to the dry north-east winds and frost that prevailed at the time, the crops were considerably injured, more particularly Apples, Pears, and Plums on the standards. Strawberries soon over, through the dryness of the season. Rainfall only 0·28 for May. *James Vert, Audley End Gardens.*

Norfolk.—The very dry weather of May saved the fruit crops from three very sharp frosts, which occurred in the last week in May, when the trees were in bloom. After passing through a complete plague of insect pests in the early part of the season, it is quite surprising how well the trees look, after the nice rains of the 15 and 16th inst. The trees are now looking well. Plums and Apples are a heavy crop. I am glad to say the dry weather has thinned some of those that were the most heavily ladened. Trees have stood the drought well. *Wm. Allan, Ganton Park.*

Suffolk.—The Apple crop in this district is an average one, but the fruit will be poor in quality. Trees have been much blighted and infested with fly. Pears are healthy and clean, and above the average. Apricots are a heavy crop—Large Early, Shipley, Roman, and Kaisha, being particularly good. Of Plums, trained trees carry the best crops, but standards are not so good, though, on the whole, the crop is an average one. Strawberries on heavy soils are plentiful and good, but on light soils the crop suffered much from the long drought. Cherries, both dessert kinds and Morellos are thin. All small fruits are above the average, and the quality good. *H. Fisher, Flixton Hall Gardens, Bungay.*

—— In this district, in the spring, there was a great wealth of bloom on fruit trees generally, but the crops of Apples and Pears are very light. Plums and Cherries are more plentiful. Fruit trees have suffered much this season from the long-continued prevalence of easterly winds, and latterly for want of rain, also from attacks of insect pests. These unfavourable conditions have checked the growth of the trees in spite of light crops, or, in many cases, where there is no crop at all. Although bush fruits are put down as an average crop, the fruit is small in size, owing to the great heat and drought, which has also ended Strawberry picking earlier than usual. *John Wallis, Orwell Park, Ipswich.*

(To be continued.

FOREIGN CORRESPONDENCE.

NOTES ON AGAVES.

Although Agaves are grown extensively in the Riviera gardens, one rarely finds a good representative collection, and it may safely be stated that there are only two or three in the whole Riviera. The cause may be attributed in some cases to the plants (at and after their flowering period) not producing offsets, in which case the species is lost, unless obtained from seed, which is a long and tedious process. The chief cause arises from the lack of proprietors taking sufficient interest in the less showy species, those only which produce the greatest effect being utilised. Again, it must be taken into consideration that, owing to the gigantic dimensions which the large growing species attain, space is insufficient in the majority of gardens to accommodate a large collection. Respecting their nomenclature, it is very difficult to determine the species by descriptions given in different works, which are in most cases taken from plants cultivated under glass, and which are very different in character from the same species grown under natural conditions.

Amongst the variegated varieties I have seen as many as four distinctly marked offsets from the same plant, which may account for the numerous varieties to be found in cultivation.

The point of the flower-stem of the Agave when in

a state of rapid vegetation has a tendency (contrary to most plants) of turning in an opposite direction to the sun. I have recently proved by microscopical observations, that the cause for so doing is the heat of the sun's rays, which causes a greater development of the cellular tissue, and thereby produces a slight contraction on the shady side.

Viviparousness (production of bulbils instead of flowers) of Agaves is not only confined to A. vivipara (syn. A. contula), but occurs often amongst other species. A. Ixtlii usually produces hundreds of bulbils, and I had occasion last year to note a very curious freak in the case of A. polyacantha. The plant in question produced several small bulbils at the summit of the flower-spike, and at the base in the centre of the rosette of leaves five more were produced, which continued growing quite six months after the plant had flowered.

Manuring of succulent plants (which has already been discussed in these columns) is beneficial, and I have observed that in the case of Agaves it produces a greater development of the whole plant, and I have every reason also to state that it prolongs their lives for at least a year or two, for when allowed to suffer from drought they have a tendency to flower sooner, as is the case with most plants.

As a barrier-plant, which has already been noted by M. Naudin, there is only one point to add—that they should be planted in a double row, so that in the event of a plant flowering (which would leave a gap), the plant in the second row would keep the hedge intact.

The economic value of the Agave has been always neglected, but I am perfectly convinced that a large industry might be established in the Riviera for the production of fibre; and farmers who grow perfumery plants (many of which scarcely pay the labour) might find a greater remuneration in the culture of these plants. Their resistance of slight frost, and occasional snow (which are sometimes experienced here) has been already thoroughly tested, the great drawback being the lack of machinery for the manufacture of the fibre, and it would be well if the French Government turned their attention to this fact. *Riviera.*

ODONTOGLOSSUM GALEOTTIANUM AND MILTONIA SPECIES.

The illustrations (figs. 28, 29) represent a nice specimen of Odontoglossum Galeottianum, and an unnamed species of Miltonia, growing in the gardens at Brookhurst, Alderley Edge, Cheshire. The first-named is, as is well-known to lovers of Orchids, a Mexican species, allied to the better-known O. nebulosum, although in its manner of growth and form of pseudo-bulb it resembles O. Cervantesii, and it is still comparatively rare in gardens. The flowers are, as will be observed in the figure, produced on short racemes, white, with the exception of the petals, which are barred with brown at the base, and the lip, which has a few yellow-coloured streaks at the base. A coloured plate of this species is given in the *Orchid Album*, ix., 423.

METHODS OF PROPAGATION.

(*Continued from p. 97, July 25.*)

Budding.—Next in importance to grafting stands budding in the routine of nursery work, and it is so simple that all gardeners, many amateurs, and I may say all rosarians, know how to do it skilfully. It differs from grafting chiefly in one important particular, that in the grafting process, the piece of inserted wood (the scion) is really a part of the tree to be propagated, carrying two, three, or even more buds; whereas in the budding process, the single bud only is taken, attached to a very small portion of the bark, with no wood. This bud, with its shield, as it is appropriately called, is inserted under the bark of the stock, not on it, so that the cambium of both are in close contact, and become in the growth-process truly united. The great secret of success in this operation is lightness of touch and quickness of manipulation, thus avoiding any bruising of the bark of either stock or bud, and also the drying of the sap in either. It is not surprising, therefore, that many ladies are very successful budders of Roses, their needle-work, and perhaps piano-playing being just the gymnastics to train the fingers, and I should not be greatly surprised that some adept type-writer, wishing for a short holiday in the open air, might venture to answer an advertisement for a skilful budder in some Rose nursery, to be a great success, and eventually to marry the young proprietor. *Voilà!* another opening for women!

I have "in my mind's eye," two ladies particularly, whose husbands are successful Rose-growers, who do all the budding required, and have their reward in seeing their husbands' names at the top of the local prize-list, while they appropriate to themselves the chief honours in the class for basket, vase, or bouquet of Roses at the leading exhibitions of the "queen of flowers."

The universal stock is the wild Briar Rose, of which there are many varieties, the kind to be preferred being that which is almost thornless, clean-growing, about three years old, and well-ripened, but not too rough.

In almost every country town, at any rate in the south, there are skilled collectors of Briars, who, having permission from landowners, make a respectable living in the winter by hunting up copses, hedgerows, and woods for Briars, which they sell to local nurserymen, or consign to London and other firms. Unfortunately, there are men who take "French leave," and not only trespass, but are not above snaring a hare, or knocking down a pheasant should one be handy; while such have no regard for hedges, but break through anywhere, leave rough pieces of Briar littering the fields to hang up in the fleeces of poor sheep, and so cause a great amount of irritation if not trouble, and work for "the Bench." Such men should not be encouraged, though they, more often than not, get the best Briars. From October to Christmas is the best time to plant them, but the roots should be chopped off almost close in to the stem, as more often than not the so-called roots are nothing but clubby pieces of under-ground stems, with, at most, two or three fibres on them; whereas, if the Briar be chopped close, fresh rootlets are encouraged to form, which is more conducive to success as regards the Briar, but also, later on, for lifting, when a proper head is formed.

This, then, is the preliminary for standard Roses, but do not plant many tall stems, unless one or two of extra height, on which to work such kinds as Turner's grand multiflora Rose—Crimson Rambler, and the Improved Japanese Briars lately introduced to the trade by Paul and Waterer. These will make handsome pendulous trees for the middle or back of the rosary. For general purposes, anything from 2½ to 3 feet is tall enough, and the best results are obtained from 1½ to 2 feet Briars. Do not plant deep; 9 inches in light soils, and even 6 inches in clays and heavy loams being quite deep enough; tread firmly, and let the hoe be worked among them freely in dry weather to keep the cracks filled, and to expose the soil to the air; afterwards, with an occasional "tread-up," they will take care of themselves, and in the spring will break freely. Disbud, only allowing three laterals (at the most) to grow at the top of the Briar. Should the weather be warm and growing, some of the most forward Briars will be ready to receive a bud by the end of June, the general practice being to insert at that time all the buds of the new Roses of the year one can com-



Fig. 28.—Odontoglossum Galeottianum.
Grown by Gustav Kleinjung, at Brookhurst, Alderley Edge, Cheshire.

pass. Alas, how few of these come to stay! But it is as well to give all a fair trial on every kind of stock. Perchance we may entertain an angel unawares. The Briar in use should not be soft or sappy; on the other hand the bark should lift freely from the wood.

If you are budding from a new Rose, it will most probably be a pot-plant; therefore, take it bodily to your bed of stocks and begin. With your flat-handled budding-knife (Saynor's No. 204) begin in the angle formed by the shoot and the stock, and make a clean straight cut through the bark parallel with the sides of the shoot, and long enough to enable you to insert your bud easily; but do not make any cross cut. Then raise the bark tenderly on each side of the cut, and take your bud, being cautious that you do not drag out the heart of the bud when removing the wood from the shield, as the piece of bark carrying the bud is called. Now insert the bud under the bark of the Briar, pushing the base home as far as you can to the bottom of your cut; close the bark evenly, and then bind with budding-cotton, so as to exclude the air, and the operation is complete.

When the leaf-stalk of the bud comes away freely between finger and thumb, you may shorten back your laterals; but do not do this unless you want the buds to start, for best results appear when the inserted bud remains dormant throughout the winter. Should, however, the season be a growing one, and the Briar vigorous, a respectable head may be formed even the first summer—but patience is preferable. In a month's time, the cotton must be loosened, and if the bud has pushed and lengthened, put on a top-stick made of a split Briar or other stick thinned at the bottom, and secured tightly to the Briar. To this tie the growing bud with soft raffia, lest a sudden wind blow it out. It is not advisable to put in more than two buds on each stock, and if fine flowers for exhibition are sought, eventually only the lower bud should be left, and when the Briar is headed back 1 inch above this, let the cut portion be smeared over with grafting wax or cobbler's wax made more fluid by the addition of turps. The laterals that remain on the stock, when ripe, should be taken off to make Briar cuttings, this, in my experience, being the best form of dwarf stock in use, even the much-vaunted seedling Briar, which more often than not is too thin for any but skilled workmen to bud, while its tendency is to produce many suckers, as the adventitious growths from the crown are called. Besides this, we have the Italian or Manetti stock which I cannot recommend, La Grifferaie, and the Napoleon stock—more properly Rosa laxa. The first soon makes a strong dwarf bush, and so is very acceptable to nurserymen who wish to produce something showy and saleable in as short a time as possible; but these plants, under the best and most careful treatment, get feeble, and, on the other hand, throws up such a number of suckers that they at last kills the bud. Even should these be taken off as they appear, such a practice must in time weaken the stock and the Rose, eventually even killing it. In a word, the Manetti is not the stock for the amateur who wishes for success. The Grifferaie—properly, "multiflora de la Grifferaie"—is an exceedingly vigorous stock, often making shoots from the root 6 feet long, and is used for budding on the most vigorous Tea Roses such as Madame Berard, Tea hybrids as Cheshunt Hybrid, and some of the more rampant Noisettes, as Gloire de Dijon, Cloth of Gold, and Rêve d'Or. It is not so apt to "spawn up" as the Italian stock, and when it does, its large, deep green, glossy leaves are at once discerned by the least practised eye. Although it encourages strong growth, it does not induce a free-flowering habit.

The last-named stock, the Napoleon, is admirable for Tea Roses, causing the bud inserted in it to develop into a shapely pyramidal plant, very short-jointed and floriferous, some of the weaker Teas thriving better on it than even on the Briar, from seed or cutting. It is not yet common in our nurseries, but on the continent, among Rose growers, it is a great favourite. The process of budding for all these stocks is the same as for the Briar, but in the best nurseries the stocks are "opened out," as it is called, viz., a portion of the soil in which they are planted is taken out around them to the depth of about 6 inches, and the bud inserted below the ground level, waiting till the buds are started and have grown a foot or so, and then returning the soil. This protects the bud, prevents its blowing out, while in many cases it encourages the Rose to root into the soil, and so become eventually even independent of the stock.

All the above-named stocks are easily raised from cuttings, made of the young matured wood, avoiding such that is pithy, and bedded out in rows from 6 to 8 inches apart in late autumn or early winter. Thus treated they will root, and be generally ready to take a bud in the following July, or to lift and pot for grafting in January to March. *Experience.*



Fig. 29.—Miltonia species.

Grown by Gustav Kleinjung, at Brookhurst, Alderley Edge, Cheshire. (See p. 148.)

EARLY AND LATE VARIETIES OF CHERRIES.

It is rarely that a bad year as regards Cherries occurs at Syon, although the soil of the garden might not be supposed a very suitable one for the Cherry; and at the time I am writing—the middle of the month of July, the trees, unless frequently afforded water, would suffer greatly, especially those which are heavily cropped. Cherries seem to suffer worse than other stone fruit in a droughty summer like the present, the trees rooting near to the surface. It is not good practice to crop the border close up to the Cherry-trees as is often done, the roots being then compelled to go into what is perhaps a poorer soil, with the result that gumming and canker are set up, and the trees are soon spoilt. It is surprising how well a Cherry-tree will fruit if the roots can run beneath a hard path, doubtless obtaining moisture in such places. In a hard soil the roots become very fibrous and have many ramifications, and although they are near the surface, they do not become unduly dry. From trees in a poor, light, sandy soil the fruits are not so fine as those from a retentive, rich soil, and black-fly gives more trouble. Moreover, in light land a Cherry-tree is not long-lived if it be not well nourished; still, with proper attention to the needs of the tree, regular crops are obtained which ripen much earlier than is the case in retentive land. This season at Syon was the earliest of which we have a record, ripe fruits being gathered early in the month of June. The variety Early Rivers was the first to ripen. It is a very fine dessert fruit, black, handsome, and of fine quality; it is a seedling from the Early Purple Gem. The tree thrives exceedingly, never fails to fruit in quantity; but its season is short, and the stone, being small, there is more flesh than with varieties of the same size. The tree is not vigorous at Syon.

I recently saw some very fine fruits of the variety on a bush growing in an unheated house. Another variety not so well known as it deserves is Bigarreau de Schreken, a large, black, shining fruit of the highest quality, the tree an excellent one for planting on a south or west wall, and coming in, as it does, just after the Early Rivers (this year it was ripe at the same time), and being a dessert variety, it is a very welcome addition to early Cherries. I first saw this Bigarreau in the gardens of Gunnersbury House, Acton, Mr. Hudson having a very fine tree, which, for pot-culture, never fails to bear fine fruits. It is one of the best varieties, making good growth, and prolific. Another excellent Cherry is Black Tartarian, a large, fine Cherry, forcing well, but not always thriving in cold soils. With us it never fails to bear fruit; the trees are moderate growers. The fruit is of first quality, and it is in season in the third week in July, rather later when planted on an east wall, but its chief value is its earliness. As

late fruiters, there are Wender's Early Black, a fine wall Cherry, coming into use after those named, but coming in with Knight's Early Black, and Black Tartarian, I merely notice its good qualities in this garden. Among later black varieties there are many very fine fruits; indeed, with Cherries, both early and late, there is no lack of variety. The old Black Heart, a variety much grown on standards for market, brings much fine fruit when afforded a place on a wall. Black Eagle is a great cropper, but is not valuable on light land, as it is wanting in size. Both of the above are in season early in July. Bigarreau de Hadelfingen is a very fine black Cherry, which is in season at the end of that month, a heavy cropper, with fruits of the finest flavour, and of especially good quality when grown on a west wall.

One of the best late varieties here is St. Margaret, or Tradescant's Heart, a favourite late July fruit, which keeps well into the following month. I do not recommend the variety for cultivation as a pyramid or bush in light soil, but as a wall Cherry, as there it can be readily protected; and my experience with bush or pyramid trees is, that they require good soil and proper cultural attention to get fine fruits, and plenty of them; and unless protection can be afforded them, the birds devour the fruits wholesale, and large pyramids and bushes are difficult to protect from them.

In light red and yellow-fruited varieties there is a wide selection, including some of the finest grown. Frogmore Bigarreau is a large pale yellow fruit, marbled with red, and it is one of the richest-flavoured, and the tree good in any form. It is not the earliest Bigarreau, B. Jaboulay being earlier. This last is a grand variety for a tree against a wall. Empress Eugénie, an early variety, is one of the best of the Duke family, noted for size and good flavour. The fruit is of the May Duke type, and the tree is a fine wall Cherry. The Cherry most favoured among the lighter-coloured is Governor Wood, a large pale red fruit, and the tree a grand cropper; indeed, I have never known it to fail here, and on a west wall it is in season in the middle of June. The variety may be termed one of the best, though it failed with me on a wet clayey soil in a garden in the West of England, and I make a note of this failure to prevent disappointment. It is worth the trouble of making a special border for it by draining, and adding lighter soils, as well as mortar-rubble and charred earth. Those who admire large fruits would do well to grow Bigarreau Monstreuse de Mezel, whose fruit resembles that of Napoleon in colour, but it is a much finer fruit, with a very rich flavour. This is a Cherry which Mr. Rivers of Sawbridgeworth grows well in his cool Cherry-houses, and it is a fine variety for walls, and is in season in the middle of July. In my opinion it is one of the best of the type at Syon, although not bearing so freely as Napoleon. This last is prolific and good as a tree in any form; its season is the early part of August. Emperor Francis is a fine fruit, late, and well worthy of a space on a wall; it is less known than many others. Royal Duke is excellent on a wall or in a cool house, succeeding May Duke, and also coming of good size and flavour on a cool wall. Late Duke is one of the best late August varieties, large in fruit, and of a bright red in colour, in flavour somewhat acid, but this is a grateful quality to many palates. It is of much value for its lateness. The Windsor Cherry is very late; we have it in a small state, but though the fruit is large, it is less productive than the others I have named. It was introduced from America. Much depends in Cherries on soil and drainage as regards quality and keeping; and where Cherries can be grown in a cool-house they well repay the expense, and the season during which Cherries can then be obtained renders the fruit very valuable for the dessert. *G. Wythes.*

A CRICKET MATCH was played by Messrs. Low & Co.'s club, of Clapton, against Messrs. B. S. WILLIAMS & SON'S club, of Upper Holloway, on Bank Holiday, at Clapton, which resulted in the Holloway team winning.

TREES AND SHRUBS.

BETULA MAXIMOWICZIANA.

IN Professor Sargent's *Forest Flora of Japan*—a singularly interesting and valuable record of his travels in Japan a few years ago, and which has added immensely to our knowledge of the arboreal vegetation of that country—he states that this Birch is certainly one of the handsomest trees in Japan, and that its introduction to cultivation was alone worth the journey. He first saw it in Yezo, a "shapely tree, 80 to 90 feet high, with a trunk 2 to 3 feet in diameter, and covered with a pale orange-coloured bark." Several young trees, from 5 to 7 feet high, are now growing in the collection of Birches at Kew. Their health and vigour were not affected in the slightest degree by the trying February of 1895, so that there is every promise of their development into handsome trees, and that they will form a striking addition to English gardens. Professor Sargent remarks that the leaves are the most distinct feature of the tree, and the other day I measured leaves on one of the young trees at Kew which were 7 inches long, and over 5 inches wide—surely remarkable dimensions for the leaf of a Birch. They are cordate, of thin texture, and dark green in colour. "As they flutter on their long, slender stalks, they offer a spectacle which can be compared with that which is afforded by our silver-leaved Linden waving its branches before some Hemlock-covered hill of the southern Alleghany Mountains." (*Forest Flora of Japan*, p. 62.) *W. J. B.*

THE WEEK'S WORK.

THE KITCHEN GARDEN.

By C. HERRIN, *Gardener, Dropmore, Maidenhead*

WINTER LETTUCES.—It is of importance that a sowing of various Lettuces be made early in the present month for spring and early summer use, making one sowing forthwith, and another in about ten days later. A few days lost at this season may mean failure if the autumn should be wet and cool; it is best, therefore, not to err in being late, but to make an early sowing, followed by another, from one of which a stock of plants may be obtained that will survive the winter. My experience teaches that no variety is better for this purpose than the black-seeded brown or Bath Cos; and for a white Cos, if required, Hick's Hardy White. I rely upon these to the exclusion of Cabbage varieties, but if a Cabbage variety be grown, the hardiest is Hammersmith Hardy Green. The seeds should be sown in shallow drills drawn about 9 inches apart on a piece of land in an open situation, the greater number of the plants to be transplanted when sufficiently large to a south or other sheltered border. Early or quick-hearting varieties may still be sown for autumn use; and the small-headed Golden Queen Cabbage Lettuce is a good one for the purpose.

COLEWORTS.—Plants raised from the earliest sowing will be large enough for planting, and a piece of land in good heart should be planted with them. Any piece of ground that is in fair condition will grow useful heads of these small Cabbages. In planting, draw shallow drills 15 inches apart, and set out the plants at 12 inches apart.

CHOU DE BURGHLEY being a much-prized, delicately-flavoured Cabbage, any plants which may still remain in the seed or nursery beds should be set out if space can be found for them. They are excellent for spring consumption. Land which has been cleared of a Potato crop will suit them without further preparation beyond a levelling of the surface, and drawing drills before planting, so as to facilitate the watering of the plants now, and the earthing-up at a later date. This variety should be afforded more space than Coleworts, but those planted at this date will do well if put at 18 inches apart each way.

GLOBE ARTICHOKES.—The formation of flower-heads having ceased for this year, the stems which have borne them should be removed by cutting them off close to the ground, together with some of the old leaves, the soil stirred, and, failing heavy rains, one or two copious waterings should be afforded, and liquid-manure also if it can be obtained in sufficient quantity. The object should be to encourage new growth, which, later in the season, when they are sufficiently rooted, may be taken off for filling up vacancies in the older beds, or forming new beds. A few may also be potted and stood in a shady place, to be eventually removed to a cold frame.

TURNIPS.—We have had some showers of rain, and advantage has been taken of the softened state of the land to sow another good breadth with Turnip seed, and with further showers, the plants for this sowing will doubtless overtake in growth those from earlier sowings. These last have suffered much from the Turnip-flea, and frequent dusting with soot and wood-ashes has been necessary. Seeds of the yellow-fleshed Turnip, All the Year Round, should again be sown, together with Red Globe and Snowball, which are three trusty autumn varieties. The advantages of borders sheltered from the sun for growing Turnips, Spinach, &c., have been very apparent this season, and these kinds of vegetables are now in excellent order.

CORN SALAD OR LAMB'S LETTUCE, where appreciated as salading, should now be sown in moderate quantity on a warm and somewhat dry border to stand through the winter, and afford a supply of leaves in the spring. Sow the seeds thinly in drills 8 inches apart, and thin to 6 inches in the rows as soon as the seedlings are large enough to be handled easily.

VARIOUS.—With favourable weather take advantage to push on with the planting-out of late Broccolis, Savoys, Kales, &c. Celeriac, if planted on fairly rich land, and afforded proper attention in the matter of watering and applying liquid-manure, will yet have time to make useful roots for winter consumption. Make another sowing of Endive, and thin-out and transplant as far as may be necessary those which are fit; also sow a good breadth of Cabbage, and include in this sowing some of the red varieties.

PLANTS UNDER GLASS.

By JNO. MCINTYRE, *Gardener, Woodside, Darlington.*

GREENHOUSE RHODODENDRONS having completed their growth will be benefited if turned out-of-doors for the next two months. Place them in an open position, but one that is shaded from bright sunshine. They require abundance of water at the roots, and it should be rain-water, if possible.

KALOSANTHES.—This is a showy old greenhouse plant, and of most use when grown in small pots. The plant is best cultivated when propagated annually. When the plants have finished flowering, prepare 3-inch pots filled with a light sandy compost, and insert five cuttings in each of them. Place them on a shelf near the glass, and give shade until they are rooted, which will take about four weeks. When well rooted shift them into 5 or 6-inch pots, and nice plants may be had in bloom during May and June. The present is a suitable time to propagate the plant. If large plants are wanted, they must be grown on from year to year, cutting the shoots which have bloomed hard back soon after flowering. Keep them rather dry until they break, and afterwards shake the plants from their pots, and repot into others of same size; after this, be careful in watering until fresh roots have been made. Give all the light possible, and plenty of ventilation.

ERICAS in small pots may be put into open pits, where they should be plunged to the rim of the pots in sifted coal ashes; this will keep the fine roots of these plants in a healthy condition. No plants suffer more if their pots are exposed to hot sun than do Ericas. It is not desirable or beneficial to pot Ericas oftener than once in two or three years; and in the case of large specimens, they do not need to be shifted oftener than once in four years; but if a plant becomes unhealthy through any reason, it will require immediate attention, a remark that is equally applicable to all hard-wooded plants. The best time to repot Ericas is immediately they pass out of flower. The utmost pains should be taken to have all materials thoroughly clean; to use peat of a hard, gritty nature, adding to it one-third part of sharp silver-sand, and potting very firmly. Examine the roots thoroughly, remove all dead or decaying ones, but if they are fresh and healthy, disturb them as little as possible. When potted, apply water sparingly for some time until roots have pushed into the new soil. Ericas should at all times be supplied with rain-water, pond or river water, or that which has been exposed to the air for some days.

BOUGAINVILLEAS, whether in full flower or only showing flower, ought now to be removed to a cool airy structure, where the atmosphere is dry. Healthy plants may be greatly assisted by regular waterings with weak liquid natural manure, or a good fertiliser.

DIPLADENIAS.—If these have been trained upon strings on the roof, as previously recommended, the latest of them should now be so advanced in growth that they may be removed to balloons and they will gradually assume a natural appearance. Much care is necessary in removing them from the roof to the balloon trellises; and it is better that two persons should do the work. No plants repay careful cultivation better than do Dipladenias. It is sometimes considered difficult to grow and flower them well, but if the wants of the plants are studied, they may be grown with success. Give the specimens a position near the glass in a temperature of 75° to 80°, until the flowers are fully developed, then the plants may be removed to an intermediate house where a temperature of 60° is kept. Plants that have almost finished flowering should be gradually allowed to go to rest by withholding water from the roots by slow degrees. The propagation of Dipladenias may be effected now by taking cuttings from partially-matured shoots. Grow them on for three months, then ripen them off.

FRUITS UNDER GLASS.

By W. Pope, *Gardener, Highclere Castle, Newbury.*

PEACHES.—Afford late crops of Peaches in cool houses abundant supplies of water to the roots, more especially needful this season, it having been so unusually hot and dry. Attend to the thinning and regulating of the growths, bearing in mind that in the case of late fruiting Peach-trees the shoots should be less near to each other, and that all possible sunlight should be available for ripening and solidifying the buds and wood. Gross-growing shoots should be removed or stopped, as they will be unlikely to ripen satisfactorily. Look over daily any crops which are ripening, and remove those fruits which will part readily from the foot-stalk. If these be laid on wadding in a cool fruit room they will keep for some days in good condition. If plenty of air be admitted day and night it will greatly improve the quality of the fruit, but if birds find their way through the open ventilators, it will be necessary to hang a light net—such as is used for protecting Strawberry beds—over the openings until the fruits are gathered. Less water is needed at this stage, though the roots must not suffer from lack of moisture in the soil. If sufficient water is afforded and mulchings given, whilst the fruits are swelling, there is usually sufficient moisture left in the soil to last over the ripening period. See that trees which were forced early are not neglected in the matter of water, and regular syringings or washings with the garden-engine are necessary, so that the foliage be kept clean and healthy as long as possible. Even should the leaves be commencing to fall off, as they are likely to do from trees started in December, the border should be kept moist. Should there be any red-spider about the trees, let them be syringed with a good insecticide or a weak solution of soft soap. If the trees are growing weakly, the present time is a good one to remove the surface-soil carefully from above the roots, and apply a liberal top-dressing of fresh turfy loam to which a little crushed bone and one-twentieth part of wood-ashes has been added. Any that are growing too vigorously and fruiting shyly should be lifted, and the roots relaid in fresh soil, watering well in either case as soon as the operation is completed.

LATE VINES.—Continue to afford an ample supply of water at the roots till the Grapes are well advanced in colour, for most late Grapes require a long season to thoroughly finish; and their flavour and keeping qualities depend very much on the kind of treatment afforded during the period of ripening, as much as does also their colouring. If the atmosphere be close, they will not be likely to colour well, and they will be deficient in the firm flesh and sugary matter so essential to long keeping. Maintain, therefore, a free circulation of air constantly, afford artificial heat whenever the weather is dull and damp, and so prevent any damp stagnant atmosphere. Look over the vines frequently, and remove all superfluous lateral growths, and see that no insects are allowed to gain a footing.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

DENDROBIUMS.—Many of the deciduous species are about to complete their growth, which is shown by the terminal leaf at the extremity of the bulb becoming developed, and the quantity of water applied to the roots should be gradually diminished; but the plants must not be allowed to become too dry, or they will receive a check which would cause them to finish up prematurely, and soon afterwards to start into growth. Where numbers of these plants are grown, it is advisable to frequently select those that are made up and place them altogether on a side of the house where more light and air can be admitted, and there is less moisture. At this period the earlier-made roots are not only lengthening themselves, but they are sending out a quantity of lateral rootlets, which should be encouraged as much as possible. As stated above, water must be afforded with discretion while these young roots are in progress, and when they have a firm hold of the compost or the sides of the pot or basket, the plants may be removed to a cooler and drier atmosphere. They are perfectly safe if put into a vinery from which the Grapes have just been gathered, or an ordinary greenhouse, taking care to select positions free from draught, and where they will pass from moderate shade to clear sunshine. In such houses the plants quickly become hardened, the leaves soon turn yellow, but although unsightly, these should not on any account be cut off, but left until they fall. Careful judgment should be exercised in watering the plants when at rest, and especially when they are fully exposed to clear sunshine, as oftentimes the sphagnum on the surface of the compost appears to be quite crisp and dry, while underneath it is not so. Where several plants of any one species or hybrid are cultivated, it seldom happens that all of them are ready for removal at the same time, and it is necessary to maintain a hot, moist atmosphere for those that are growing, and to gradually expose them to more sunlight in the morning by pulling up the blinds before the usual time each afternoon. This gradual maturation will make it more safe to expose the plants to full sunshine later on. The majority of the long pseudo-bulb section, as D. fimbriatum, D. Dalhousieanum, D. dinanthum, D. moschatum, D. clavatum, D. calceolus, D. Paxtonii, D. bioculare, &c., are still growing freely, and will require every encouragement until growth is complete, when they too may with advantage be placed in a somewhat cooler temperature. Some of the evergreen section, as D. densiflorum, D. thyrsiflorum, D. suavissimum, D. chrysotoxum, D. Farmeri, D. Schrodeiri, D. Griffithianum, D. Guibertianum, and D. sulcatum will have finished their growth; but, as these species continue to make roots for a considerable time after the growths are made, do not subject them to a lower temperature for the present; but to prevent, if possible, any secondary growths starting, the plants may be placed in a light position in the Cattleya or intermediate-house, affording sufficient water to maintain root-activity. Plants in small pots of Dendrobium Phalænopsis that are thoroughly well rooted are now making strong vigorous growth, and requiring almost unlimited supplies of water at the root, with abundance of atmospheric moisture at closing time, and as much sun-heat as it is possible to afford. D. superbum (macrophyllum), and its varieties Huttoni and Burkei, D. primulinum, D. anosmum, D. Parishii, D. Treacherianum, D. sanguineum, D. lituiflorum, D. cretaceum, D. crepidatum, D. crystallinum, D. Boxalli, &c., should at this time be in a hot stove-like temperature, and have liberal treatment. D. infundibulum and D. Jamesianum do not require so much heat or sunshine as the evergreen or deciduous species, but they delight in copious waterings at the root now that growth is fairly started. The Odontoglossum-house will suit both until the beginning of winter.

THE FLOWER GARDEN.

By Hedley Warren, *Gardener, Aston Clinton, Tring.*

PROPAGATING.—If the preparations advised in a former Calendar have been made, the propagation of summer bedding-plants may now be commenced. Cuttings of Pelargoniums may be taken as soon as they are ready, beginning with the tri-coloured varieties. Insert these in sandy soil in pots or boxes, and place them in an open, fully-exposed position. Only as much water should be afforded at the first as will prevent the cuttings from flagging unduly, otherwise the formation of roots will be delayed. Ivy-leaved varieties may be given the protection of a cold frame, but plenty of air and full exposure to the sun must be afforded. They will require rather more water than the zonal varieties. Alternantheras, Coleus, Iresines, Heliotropes, Ageratums, Fuchsias, Tropæolums, Verbenas, &c., should be put into a sandy soil, and surfaced with clean, sharp sand. Dibble them in about 2 inches apart, and place them in gentle heat. If a little bottom-heat can be given root-formation will be hastened. Towards the end of the present month, cuttings of Antirrhinums, Pentstemons, Marguerites, &c., may be taken, and inserted in boxes placed in cold frames, or in a prepared bed of soil in a cold frame; this may be about 3 inches in depth, and rest on a hard coal-ash bottom. Surface the bed with sand, and insert the cuttings about 2 inches apart each way. When rooted, abundance of air should be given, and the plants remain undisturbed until they are transplanted or potted-up in the spring. In the case of Gazanias, 5-inch pots are more suitable. Use a compost of loam, leaf-mould, and sand, in about equal parts, and make it moderately firm in the pots, and cover with a layer of sand. Insert the cuttings prepared in the ordinary way, thoroughly water them in, and place in a cold frame. Keep the atmosphere close for a few days, and sprinkle overhead once or twice daily, and shade from bright sunshine.

SPRING BEDDING PLANTS.—Wallflowers, Pansies, Arabis, Alyssum, and others required for spring-bedding should be pricked off into beds or borders already prepared. Sowings of seeds of hardy annuals, such as Nemophila insignis, Saponaria calabrica, Virginian stocks, Silene pendula, &c., may now be made on a somewhat sheltered but unshaded border.

GENERAL WORK.—The recent rains have greatly improved the general appearance of lawns and pleasure-grounds, and mowing has again to be followed up. Where sufficient rain has fallen all gravel paths and drives should be well rolled. If weeds are making their appearance on the carriage-drives dress them with an approved weed-killer, or use the hoe—the former is preferable where it is safe to use it. Beds and borders should be frequently stirred, and all weeds removed. Climbers on walls, verandahs, pillars, arches, &c., will require to be kept tied in.

THE HARDY FRUIT GARDEN.

By G. Woodgate, *Gardener, Rolleston Hall, Burton-on-Trent.*

BLACKBERRIES.—Varieties of tall-growing habit should have the young growths which have been retained for fruiting next season tied loosely to their supports, and all other growths cut away. Old canes that are carrying heavy crops should be given copious applications of manure-water now that the fruit is swelling. The dwarf varieties, like Wilson Junior, do not usually require much support if they are grown in beds, but where planted in rows against iron hurdles, the young canes must be secured to the supports to save them from injury when the fruit is being gathered. The same attention in regard to removing surplus suckers and affording liquid-manure will be needed for these as for the taller varieties.

RASPBERRIES.—All the old canes from varieties which have finished fruiting should be removed, and in their place secure sufficient of the stoutest of the young canes to fruit next season. Remove all superfluous growths from the stools, and all suckers and weeds which may have appeared in the alleys. A portion of the dry, strawy part of the mulching may now be lightly raked off, which will give the plantation a tidier appearance.

STRAWBERRIES.—The present is a good time for the formation of new beds, and if the ground has been well trenched, and a good dressing of rich manure worked into it, as previously advised, it should be in good condition for planting. Before doing this, however, have the surface well worked, thoroughly breaking up the lumps, and levelling it. Then mark out the rows, dividing them into beds or not, as is most convenient. Select a sufficient number of each variety it is intended to plant, choosing those which are the best furnished with roots. Plant them with a trowel in preference to a dibber, and work the fine soil well round the roots, keeping the crowns just above the surface. Each plant should afterwards be thoroughly watered. If the soil is of a light nature, the surface should be evenly trodden over after planting, if it be in a moderately dry state. If the weather prove warm and dry the bed should be examined daily, watering those plants which are dry. To grow Strawberries well, the plants should be 2 feet apart, excepting a few weak growing kinds, such as Loxford Hall seedling, which may be planted at 15 inches apart. For the first season, if the rows are 2 feet apart, the plants in the rows may be put 1 foot apart, but every alternate plant in the rows must be removed after the first season's fruiting. By planting thus, thickly, a good crop may be taken the first year.

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY,	Aug. 11	Royal Horticultural Society's Committees; Weston-super-Mare Horticultural Show, Clay Cross, Malvern (West) Horticultural Show.
WEDNESDAY,	Aug. 12	Horticultural Shows at Cardiff (two days), Bishop's Stortford, Salisbury, and Sevenoaks.
THURSDAY,	Aug. 13	Horticultural Shows at Farringdon, Leighton Buzzard, Maidenhead, Rothesay, and Taunton.
FRIDAY,	Aug. 14	Horticultural Shows at Broughton Ferry, Alderley Edge, and Wilmslow (two days).
SATURDAY,	Aug. 15	Horticultural Shows at Dumfries and Bingley; Geneva Exhibition, temporary Show (ten days).

SALE.

FRIDAY,	August 14	Imported and Established Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK —62·7°.

The Chester Show and the R.H.S.

One great and long-standing grievance in the minds of some gardeners is that the Royal Horticultural Society is too exclusively a metropolitan society. To some extent this is true, and to some extent it is inevitable. Nevertheless, it must not be forgotten that the Society has often made great efforts to get into touch with the provincial Societies, and, indeed, it has done more for the provinces than the provinces have done for it. Where was their sympathy and support during all the dismal period at South Kensington? Where was the aid when the desperate efforts to right the old society were made, when a new home had to be found a few years ago, and a new, and, as it has turned out, a successful policy was inaugurated? On the other hand, very many of our readers must retain lively recollections of the strenuous efforts which were made by the Society to hold provincial shows. Horticulturally, those gatherings were all most successful, but the provincial support which should have made them financially profitable was wanting, and excellent as they were, they had to be abandoned. Now, a new departure has been made, a new attempt to interest the provincial horticulturists in the work of the Society has been inaugurated. At York, lately, an influential deputation was present from the parent Society; and, as we are writing, a similar committee is doing good work in the quaint and venerable City of Chester. The Society's representatives have been in both cases well and hospitably received, and we can but trust that the results will be satisfactory. The Conference held at Chester, of which we give a report in another column, bears welcome evidence that a flower show is not the be-all and end-all of horticulture, though we have little sympathy with the accessories which our friends at Chester have deemed it proper to tack on to their show. Flower shows are excellent things in their way, and the provinces, speaking generally, can organise as good exhibitions —in some particulars, better—than can the Metropolis. Shows require to be supplemented by other means, such as conferences, lectures, and reports, by means of which the knowledge of things horticultural may be diffused. At such gatherings as that at Chester, the Society gets to know what are the special requirements of the provincial societies, and the latter in their turn are encouraged to seek guidance and information from the large stores at the command of the parent Society.

The Conferences at Chiswick and elsewhere, —now unhappily, and let us hope temporarily, abandoned—were the means of bringing together a mass of information of the most useful character. They showed better than any other means that has been adopted what is the actual state of those branches of the art and of the science to which they referred; they showed where our deficiencies lay, and indicated the paths of progress for the future. The records of these several Conferences in the *Journal* of the Society confer great honour on it, and our provincial friends cannot do better than study them, and turn them to advantage.

Among its other duties, the deputation visited the show, and, quite independently of the awards of the judges, picked out for special honour groups or plants which they thought worthy of such a compliment. This reminds us to ask what has become of the Lindley Medal? It was established in honour of the greatest official the society ever had, and the man, of all others, who most powerfully promoted scientific horticulture. The medal has been awarded to a very few cultivators; among them, to the late Thomas Baines and to Mr. Anderson, but that was a long time ago; and for years past no such award has been made. Can it be that there has been, in all these years, no cultivator worthy of such distinction? We do not believe it, and we think the visit of the members of the Council of the Royal Horticultural Society to some provincial show might appropriately be signalized by the conferring of this honour on some deserving recipient. It is too late this year; but we throw out the suggestion as worthy of consideration on another occasion.

Another matter deserves consideration, and that is the necessity for bringing the resources of Chiswick more prominently before the provincial societies. Chiswick, with its experimental grounds, and its records of numberless trials, could and should furnish to the provincial societies abundance of information as to the best kinds of fruits, vegetables, &c., to be grown in particular districts, and for special purposes; and it might act as a distributing centre for new and approved varieties, without interfering with the larger operations of the trade. The Society might, for instance, offer specimens of some specially good variety, tested in its garden, as a prize to be competed for at some provincial show. It could and should also render important help in all questions of nomenclature. But it would require a long article to point out the various ways in which the Royal Horticultural Society, and Chiswick in particular, could be made to subserve the interests of horticulture in the provinces. Let us hope that the visit of the Council to the provincial shows will result in the closer union of the metropolitan and provincial societies for the purpose of the advancement of horticulture, and to the benefit of all sections of horticulturists.

Orchid-house at Oak Alyn, Wrexham.—The illustration found on the opposite page is one of many which have appeared in these pages illustrative of diverse satisfactory arrangements of plants. Much of a gardener's efforts in the disposition of his plants in glasshouses, is necessarily directed towards hiding, to some extent, the artificial character of their surroundings, and the more he succeeds in effecting this the more generally pleasing is the effect. Here we have a heavy plant-stage, whose end is masked by a group of miscellaneous subjects—Ferns Dracænas, Codiæums, tiny Palms, and other plants those at the sides being added probably by the photographer, so as to connect the main group with the plants on the side stages. The stages seem very well filled, and the central one being of considerable width, is very properly stepped, thus enabling air and light to reach the plants which stand in the inner rows. Everything about the plants betokens the vigour and floriferousness which result from intelligent cultivation. We are indebted to the kindness of E. Stanley, Esq., Oak Alyn, Wrexham, for the photograph from which our view was taken.

Royal Horticultural Society.—A meeting of the Fruit and Vegetable Committee was held at Chiswick on July 31. Present, P. Crowley, Esq., Chairman; the Rev. W. Wilks, Secretary, and Messrs. Wythes, J. Wright, Willard, Bates, Fyfe, Cheal, Barron, Glen, Sage, and A. Dean. Some of the earliest of the large number of Potatos on trial were first seen. These ran rather small owing to the drought, but it was noticed that one variety showed much disease of the skin. A few were selected for cooking, and of these Famous (Ross), a nice white flattish kidney was the only one granted an Award of Merit. The now well-known White Beauty of Hebron was found in excellent condition cooked, but it has previously been certificated. Wythes' seedling, also cooked, was fair, but hardly ripe enough. It will be tried later with the late varieties. A considerable number of Dwarf French Beans were then examined, and of these, several that seemed to be good croppers were also cooked. The best flavoured was Benary's Swabian Forcing, which was very good, but the pods were a little hard. It was resolved that this variety be tested next spring in a house-trial of forcing Dwarf French Beans. Amongst others cooked (but the dry weather had adversely affected the texture of the pods, all being boiled whole) were White Waxgate, Gloire de Lyon and Dwarf Flageolet Wax, all from Erfurt, and Syon Prolific sent by Mr. Wythes, a greatly improved Mohawk. The very extensive trial of Tomatos in pots under glass was next seen. There were of these about one hundred varieties all capitally grown, the chief characteristic of which seems to be their likeness to each other with few exceptions. Tasted for flavour, Golden Nugget was undoubtedly the best. Of more marketable varieties the few selected for awards of merit were Young's Eclipse, Nield's Seedling, both of the Perfection type, but dwarf, short jointed, and very free croppers; and Chiswick Dessert, red in colour and of nice flavour, and very free fruiting. This is dissimilar to Sutton's Red Dessert, also seen in capital form. A large collection was also examined growing on a south border outdoors, but no award was made. The committee advised that as no useful purpose could at present be served by continuing these annual Tomato trials, the new varieties being almost entirely reproductions of older ones, and that a few years be allowed to elapse ere another be undertaken. Exception, however, may be made in favour of anything that may seem specially novel if ordered by the committee at the Drill Hall. It is not improbable, that in relation to the Potato, tests applied to culture and general treatment as well as of production, may next year be adopted in preference to the present trial of old and new varieties, as really no marked improvement in the Potato seems to be presented. There is yet a large trial of Beets to be seen as well as of late Potatos.

—— The next Fruit and Floral Meeting of the Royal Horticultural Society will be held on Tuesday August 11 in the Drill Hall, James Street, Westminster, 1 to 5 p.m. At 3 o'clock a Lecture on "Fern Generation, Normal and Abnormal," will be given by Mr. C. T. Druery, F.L.S.

A Viola Trial at Chiswick.—It may be interesting to the members of the Viola Society, which holds a Conference to-day in the Royal Botanic Gardens, Regent's Park, to learn that the Council of the Royal Horticultural Society are contemplating having a trial of them at Chiswick next year. The Council were invited to undertake this during last winter, but the change of superintendence then

taking place rendered the adjournment of the trial necessary. The long border on the North side of the hedge of cordon Pears has been selected for the purpose, and a better position could not well be found. It is, we learn, proposed to invite from growers six plants each, of not more than twenty varieties from any one grower. The chief desire is to secure those varieties that are specially suitable for massing or giving good bedding effects. It is hoped when the invitation is issued that it will be largely responded to, and in good time, to enable the plants to be got out not later than October. All who have had experience of Violas in the South know how much more satisfactory are] established autumn plants over those planted out in the spring, where drought prevails, and water cannot be liberally furnished.

Sir William Grove.—The death of this eminent man of science is announced. Sir William was a lawyer and a judge, but it is not on this account that his name will be handed down to posterity, so much as for the fruitful principle he enunciated some fifteen years before the Darwinian theory of evolution was promulgated. So long ago as 1842 Mr. Grove, as he was then, showed that heat, light, electricity and magnetism were all mutually convertible—a given amount of heat will develop a definitely proportionate degree of electrical force, and so on, thus all the manifestations of force are reducible to one, and progressive changes in the inorganic world, in the successive formations of animals and plants from the most remote times, are the result of modification and variation. Continuity on the one hand, variation and adaptation on the other, go far to explain the phenomena of Nature.

Oregon Apple Canker.—We have received from Mr. Hedrick, of the Oregon State Experiment Station, pieces of Apple branches, about an inch in thickness, the back of which is attacked by some fungoid disease, which it is desired to determine. The information sent is to the effect that "about the beginning of our wet season (September or October) there appear on the trunks or branches of our Apple trees small reddish sunken spots. During the winter months these spots enlarge, attaining oftentimes a much greater size than those in the specimens sent (2 to 3 inches long). About the middle of June the small perithecia begin to appear. At the beginning of the next rainy season the bark sloughs off, leaving a rough, unsightly wound." The specimens sent belong to the June period, when the cuticle is elevated by the innate perithecia, mostly fissured at the apex. In external appearance these resemble a Macrophonia or Sphæropsis, but the walls of the perithecia are clearly immature. At this stage there is an abundance of delicate threads, but no evidence of fructification, so that it is quite impossible to determine the genus to which the parasite belongs. Suffice it to say, that there is no evidence of its being any form of the disease which is known here as "canker," and which is associated with Nectria ditissima. Nor would it appear to be Dothiorella pyrenophora, in which the perithecia form erumpent clusters, since all the perithecia are solitary in themselves, but gregarious. It is essential to have the fungus in its mature condition, when the perithecia are fully formed, and the sporules are developed. It is not stated whether the perithecia are exposed when the sloughing takes place, or whether they fall away with the fragments of the cuticle. This peculiar form of disease, in so far as we can judge from immature specimens, has not been recognised in this country, but its life history should be traced further on, and especially the fructification determined. *M. C. C.*



Fig. 30.—Orchid-house in the gardens of E. Stanley, Esq., Oak Alyn, Wrexham. (see p. 162.)

Dutch Horticultural and Botanical Society: Floral Committee.—On the occasion of the meeting on June 13, 1896, the committee awarded First-class Certificates to Mr. C. G. van Tubergen, Jun., of Haarlem, for Iris parvar (paradoxa × variegata), Calochortus venustus sanguineus; to Mr. Jac. Smits, of Naarden, for Tea Rosa Madame Emilie Charrin, R. T. Mrs. W. J. Grant, R. T. Kaiserin Augusta Victoria, R. polyantha Thalia (White Rambler), R. damascena Duke of York. Certificates of Merit to Mr. C. G. van Tubergen, Jun., of Haarlem, for Gladiolus crispiflorus Herb. var. major Hort. Tub., Lilium pardalinum Kell. var. minor. Meeting of

July 11, 1896. First-class Certificates to Messrs. E. H. Krelage & Son, of Haarlem, for Calochortus Plummeræ, C. venustus concolor, C. Weedii, Hemerocallis aurantiaca major ; to Mr. C. Vrij Az., of Nieuwenhoorn, for Cratægus oxacantha fol. argenteo marginatis ; to Messrs. Jac. Jurrissen & Son, of Naarden, for Quercus rubra Alberti, Rosa polyantha Turner's Crimson Rambler; to Mr. Jac. Smits, of Naarden, for Rosa polyantha Turner's Crimson Rambler, R. indica fragrans Madame Cochet, R. Thea hybrida Madame Joseph Combet ; to Mr. P. A. van der Bom, of Oudenbosch, for Platanus occidentalis Suttnerii. Certificates of Merit to Mr. Egb. Kloosterhuis, of Veendham, for Cytisus schipkaensis ; to Messrs. E. H. Krelage & Son, of Haarlem, for Gloxinera Brilliant ; to Messrs. Jac. Jurrissen & Son, of Naarden, for Rhus Cotinus purpureus ; to Messrs. Gratama Bros., of Hoogeveen, for Rosa Thea Madame Jules Siegfried ; to Mr. Jac. Smits, of Naarden, for Rosa indica fragrans Princess Alice de Monaco, R. Thea hybrida Madame Caroline Testout, R. hybrida bifera Marchioness of Londonderry ; to Mr. P. A. van der Bom, of Oudenbosch, for Ulmus glabra lutescens. A Botanical Certificate to Mr. J. H. Schober, of Putten, for Cymbidium tigrinum. Votes of Thanks to Messrs. D. J. Tas & Son, of Aalsmeer, for Begonia Scharffiana hybr. Jhr. W. de Beaufort ; to Mr. W. van Veen, of Leyden, for Centaurea moschata suaveolens. *The General Secretary*, H. C. Zwart.

"Botanical Magazine."—The August part contains figures of the following plants :—

Sanseviera Rorburghiana, Schultes, t. 7487. — A Burmese species with narrow-pointed, green leaves, transversely barred with white, and with long terminal, erect panicles of greenish-yellow flowers.

Cyrtanthus Huttoni, of Baker, t. 7488, is a species with recurved strap-shaped leaves produced with the flowers. The latter are borne at the top of the scape in close fascicles, each flower is about 1½ inch long, funnel-shaped, curved with a reddish-yellow tube, and short oblong-acute spreading lobes. Native of Cape Colony.

Sarcochilus Hainanensis, of Sir Joseph Hooker, t. 7489. It is a trailing species with linear-oblong leaves, and flattened racemes bearing elongated flowers about 1½ inch long, with very narrow curved, yellow, perianth segments, and a minute lip with a short conical spur.

Adonis amurensis, of Regal and Radde, t. 7490, very similar to A. vernalis in habit. The apparent leaves are really, according to Franchet, abortive axes bearing two or three leaves, of which the petioles resemble the divisions of a single petiole, and were mistaken for them. "The so-called leaf is therefore a branch inserted in the axis [axil] of a leafless or almost leafless sheath." It would be very desirable to watch the germination and development of this species.

Solanum cernuum, of Vellozo, t. 7491. A remarkable South Brazilian species with oblong-acuminate leaves, the petioles being like the stems, densely covered with coarse brown hairs ; flowers white, in pendulous clusters.

"The Pansy."—Mr. Alexander Lister, of Rothesay, has recently published a useful little treatise on the cultivation of this popular flower. He begins with the propagation of the plant by seed and by cuttings, and having raised his plants by one or other method, he proceeds to tell the reader how to grow them and how to show them. The advice given is, as might have been expected from so excellent a practitioner, thoroughly trustworthy, and conveyed in simple language without unnecessary verbiage. To the extent that exhibitions encourage good cultivation they do good, but when they foster one particular form, and that an unnatural one, to the exclusion of others, they do harm. Who that knows the natural configuration of a Viola and what its significance is, could tolerate (except as a curiosity) a Pansy with a perfectly circular outline? However, that is a matter of taste. All that we plead is that so far as possible all tastes should be catered for, and that if a certain standard of properties be insisted on, it should be a rational one, not an arbitrary one. Mr. Lister adds to his remarks on Pansies similar observations on the culture of Asters, Carnations, Dahlias, and other flowers, as well as on the treatment of Beetroot, Celery, Leeks, Parsnips, and Parsley. All this is done in 109 small-sized pages, so that not many words are wasted.

Export of Potatos from St. Helier's, Season 1896.—The appended table gives the quantity exported in packages and in bulk, the average weekly price per ton at the St. Helier's States' weighbridges, and a comparative statement for the last fourteen years, including the year 1896 :—

Date. Weekly Shipments.	Packages and in bulk.	Tons.	Average Weekly price per ton of 52 cwts.	Weekly Totals.
			£ s. d.	£ s. d.
April 3 to April 18 ...	996	20	32 0 0	640 0 0
April 20 to April 25 ...	835	26	22 0 0	572 0 0
April 27 to May 2 ...	10,213	360	16 18 0	6,084 0 0
May 4 to May 9	41,970	1,890	11 11 10	21,008 5 0
May 11 to May 16 ...	86,208	4,310	8 13 4	37,353 6 8
May 18 to May 23 ...	106,375	5,790	8 2 6	47,043 15 0
May 25 to May 30 ...	154,667	8,470	7 16 0	66,066 0 0
June 1 to June 6 ...	160,951	10,465	7 7 4	77,092 3 4
June 8 to June 13 ...	165,083	10,722	6 10 0	70,397 10 0
" 15 to June 20 ...	In bulk.	90		
	152,192	9,880	6	57,018 0 0
June 22 to June 27	In bulk.	440	5 10 6	
	115,171	8,070		
	In bulk.	322	4 13 2	39,092 14 8
June 29 to July 4 ...	40,362	2,586		
	In bulk.	100	3 7 2	9,576 11 2
July 6 to July 11	10,731	750		
	In bulk.	40	2 14 2	2,167 11 8
Total	1,044,399	64,583		435,102 0 6

Comparative Statement.

Year.	Tons.	Value.
		£ s. d.
1883	36,468	262,472 3 4
1884	53,655	375,841 18 0
1885	48,524	319,401 3 4
1886	64,820	309,155 6 11
1887	50,073	423,888 18 10
1888	60,988	282,109 11 8
1889	52,700	261,161 15 0
1890	54,100	293,681 9 2
1891	66,810	487,642 1 8
1892	66,382	376,585 15 10
1893	57,762	327,366 13 4
1894	60,005	462,885 10 5
1895	54,200	350,889 4 6
1896	64,583	435,102 0 6

Swanley Horticultural College.—Sir William Hart Dyke, M.P., presided at the annual distribution of prizes in connection with the Swanley Horticultural College on the 30th ult. In his opening address he remarked that the Institution was unique in our educational system, as being the only college where young men and women were instructed in practical as well as theoretical horticulture. It was instituted in the same year in which he had the pleasure of passing the Technical Instruction Act. The governing body had laid down their educational lines in a common-sense and practical manner. He held the opinion, generally admitted now, that education was of too bookish a nature. Books might lay a sound foundation for a commercial training, but practice was needed to equip students for the battle of life. Leading statesmen and politicians were now giving this subject earnest consideration. Foreign countries spared no pains to perfect their educational system. The Germans, especially, had long ago foreseen the great struggle there would be. Their technical schools were admirably devised, and the students were taught how to produce an article which would be suitable for the markets of the world and compete favourably in price and quality with the productions of other countries. The question was seriously engaging the attention of our statesmen, and such institutions as that College would do much to bring about the desired result. Lady Emily Hart Dyke then presented the prizes, and a vote of thanks to her and Sir William Hart Dyke was heartily carried on the motion of Mr. A. J. Waring, seconded by Miss Goodrich Freere.

The East Anglian Horticultural Club on Thursday afternoon last journeyed to "The Clyffe, Corton, Lowestoft, the picturesque marine residence of J. J. Colman, Esq., who had very kindly given the members permission to visit these charming grounds. The party numbering fifty left Norwich by the 1.42 train, and on reaching Lowestoft Station proceeded by brakes to Corton, where they were received by the Misses Colman, who, with the head gardener, Mr. Read, conducted them over the grounds. Specially attractive were the numerous and beautiful specimens of Rosa rugosa, Escallonia macrantha, large flowering Privet, &c. ; also the fine collection of Carnations. The houses containing Bananas in fruit, and also Peach and Fig trees, occupied considerable attention ; Allamanda grandiflora is rarely seen to better advantage than at this establishment. Tea was served at "The Anchor Café," Corton, after which the party returned by brakes to "lovely, lazy, Lowestoft." The arrangements were under the charge of the hon. secretary, Mr. W. Wilkes, and were satisfactorily carried out.

"Plants and Flowers about the Home."—This is a little manual intended for the instruction of amateurs. It is written by Mr. James Graham, and may be had from Messrs. T. & J. W. Graham, Wishaw. It deals with the cultivation of plants in rooms and window-boxes, in the simplest, most elementary fashion. The author, however, too often sacrifices accuracy in the names of plants. These are, doubtless, uncouth enough, but when misspelt they become worse than they need be. The use of the word Geranium for Pelargonium is an error that we fear will never be corrected—even the Pelargonium Society could not effect that reform.

Death from use of Dynamite.—Colonel Alfred Capel Cure, of Badger Hall, Shifnal, Salop, was killed on July 29 by the accidental explosion of dynamite while he was engaged in blasting the roots of trees in his park.

Sandringham Horticultural Show.—The annual exhibition of the Sandringham Horticultural Society was held on Wednesday, July 29, in the Park, and was attended by several thousand visitors. The show was visited by Prince and Princess Charles, who were much interested in the various exhibits, particularly some needlework by children from the various schools in the district.

The Farnham Royal and East Burnham Horticultural Society held their annual exhibition in the beautiful grounds of Harry J. Veitch, Esq., East Burnham Park, on July 29.

Flower Drawings.—Lady Augusta Llanover bequeathed to the trustees of the British Museum, the cabinet and stand at Llanover, with ten large volumes containing the unique collection of plants and flowers from Nature by Mary Granville (Mrs. Delany), which it was the express wish of King George III. should be preserved in the British Museum as a standard work of Art unparalleled for accuracy of drawing, form, and perspective, as well as for colouring and truth of outline, and close resemblance to nature. She also directed that these volumes are to be placed with the collections of rare prints and drawings, and not with those of botanic specimens. On inquiry at the Museum we learn that no official intelligence has yet reached the authorities concerning these drawings.

"Ros Rosarum."—A second edition of this delightful work by "E. V. B." has lately been issued by Elliot Stock, 62, Paternoster Row. The work consists of quotations from writers of all nations and all times relating to the Rose. References of this kind are often terribly worn and hackneyed—at

least, they are so to those who have to read many books and much writing about Roses; but here is a pure source, full of the most delightful and the most apposite thoughts relating to the Rose, and to the average reader the majority of them will be new. The book is quaint in appearance, but paper and print are excellent. We cannot say so much for the illustrations.

Presentation to Mr. Geo. Schneider.—A short time ago the French Government announced its intention of conferring the Cross of the Order of the Mérite Agricole upon Mr. G. Schneider, the President of the French Horticultural Society of London. Thereupon the committee of the Society in Paris opened a subscription-list, with the object of raising a fund to celebrate Mr. Schneider's appointment, and to present him with a testimonial in recognition of his labours in promoting good-feeling amongst the horticulturists of this country and those on the Continent. On Wednesday week the presentation was made at a banquet specially convened in Mr. Schneider's honour. It was held at the Restaurant Ledoyen, Champs Elysées, Paris, M. H. Martinet of *Le Jardin* being in the chair. About thirty members and friends of the Society were present, some of whom had travelled long distances. The company included Mr. Foukouba, Director of the Imperial Gardens, Tokio, Japan; MM. Duval, Sallier, Truffaut Fils, Fatzer, &c. In the course of the Chairman's address he pointed out the great services Mr. Schneider had rendered to his country as a patriot, as a horticulturist, and as President of the French Horticultural Society, and on behalf of the subscribers to the fund was pleased to hand to Mr. Schneider the Cross of the Mérite Agricole set in diamonds, an Art bronze representing a 1789 volunteer, and a handsome address, bearing upon it the names of all the subscribers. Mr. Schneider responded, and was most enthusiastically applauded. Letters and telegrams were read from many English and French friends who were prevented from attending. We are sure that many of our readers, but especially those who are personally acquainted with the genial President of the French Horticultural Society of London, will join with us in offering him our congratulations.

Horticultural Club.—The annual excursion took place on the 30th ult., and was probably the most successful one that the Club has ever had. A courteous invitation had been conveyed to the members through Mr. Harry J. Veitch to visit Ascott, the seat of Mr. Leopold de Rothschild, and Halton, the seat of Mr. Alfred de Rothschild. The party, which numbered forty-four, included the following members and their friends:—Messrs. Herbst, G. Monro, T. F. Rivers, P. Kay, The Rev. W. Wilks, Messrs. Selfe-Leonard, P. Crowley, A. H. Pearson, C. E. Pearson, H. J. Pearson, J. Sweet, J. Rochford, E. Mawley, G. Bunyard, A. Watkins, W. J. Grant, G. Paul, J. Laing, J. E. Cockett, H. Turner, H. J. Veitch, and J. H. Veitch. The party were first conveyed from Bletchley Station to Ascott, where, having inspected the grounds, they partook of luncheon in the cricket pavilion, to which they had been invited by Mr. Leopold de Rothschild; they then drove across Buckinghamshire to Halton, the seat of Mr. Alfred de Rothschild, the beautiful grounds of which were much enjoyed, and after partaking of refreshment the whole party returned to town. The weather was perfect, and owing to the excellent arrangements made by Mr. Harry J. Veitch, who kindly undertook all the trouble, and to the liberal hospitality of the owners of Ascott and Halton, everything was of the most agreeable character, so that everyone returned to town delighted with their excursion.

Royal Botanical Society.—At the Annual Meeting to be held on Monday next, the 10th inst., a resolution will be submitted in favour of inviting the existing horticultural and floricultural societies to hold their exhibitions in the Regent's Park Gardens, and of electing, on the Council, representatives of the leading societies. A motion will also be brought forward recommending the society to give, next season, musical promenades to be open to the public on Mondays, Wednesdays, and Saturdays, the charge for admission being fixed at 2*s.* 6*d.*, 1*s.*, and 6*d.*, respectively. The meeting will be held in the society's gardens on Monday next, at 1 p.m. *J. S. Rubinstein, Hon. Auditor, R. B. S.*, 56, *West Cromwell Road, S.W. August 5th*, 1896.

Orchid Notes and Gleanings.

DOUBLE-FLOWERED PHAIUS GRANDIFOLIUS.

I am led to make a few remarks upon this superb species, in order to draw attention to a form now (October) blooming in the bush-house at Bowen Park. Mr. W. Soutter tells me that he found the plant on Stradbroke Island some years ago, at which time it was bearing what are termed double flowers. These abnormal growths occur less frequently in Orchideous genera than in genera of other orders [? Ed.]; and while this malformation gives a fulness to the blooms, it cannot be said to add to the beauty of the flowers so distorted. This Orchid is recorded in European works as producing similar flowers in other countries; but I cannot find any notice of its being peculiar to certain individual plants, as has been proved by Mr. Soutter, who now has the plant he first found bearing, amongst blooms of the normal form, several of the so-called double flowers. These are of the same colouring as the normal form, and the segments are of the usual form and size. The change takes place in the wings of the column; these are greatly enlarged, and overlap each other on the face of the labellum, and end in a kind of spur at the base. The outer margin is very wavy, and thus resembles the labellum, and the resemblance is the more obvious as the colouring is the same. The attachment of these abnormal wings seems to be somewhat irregular; in the flower I dissected, on the one side the wing was attached only for about half the length of the column, the other was attached from the bottom to the top of the column. The column, like that of the yellow-flowering variety (Phaius grandifolius, var. Bernaysii), shows a tendency to become triandrous.

The lesson we learn from Mr. Soutter's plant is, that these malformations are, as regards plants of Phaius, persistent, and may be perpetuated, and the number of plants increased in the usual way if considered desirable. *F. M. Bailey, in "Contributions to the Queensland Flora, Botany Bulletin," xiii.*, 1896.

The Relative Value of some varieties of Odontoglossum crispum.

The *Journal des Orchidées* for July 1 contains further notes on the value of genuine Odontoglossum crispum, and of its possible extermination in certain localities. We read that:—"One of our collectors, lately returned from Pacho, and to whom the article in the *Gardeners' Chronicle* was read (see p. 674 in the last volume), agreed with every statement there made as being absolutely correct. He himself had often seen despatch to England enormous quantities of Odontoglossums, the crates containing which had been passed through Pacho only that they might there be stamped. He added that the famous mountainous region about Pacho is being cleared with extraordinary rapidity, to make room for plantations of Coffee and Tobacco. It seems that the Tobacco is remarkable in quality, and that the cigars quite surpass the best from Havana. There are localities which are especially famous. Formerly Odontoglossums brought the region into repute; they are disappearing in smoke, being replaced by Pacho cigars. One of the most astonishing things to my father, who it is known discovered O. crispum, is the great number of these plants which have been imported. "I could never have believed," he has often told me, "that there were so many there." Everything comes to an end. I believe to-day that there is more O. crispum, of the finer varieties be it understood, in Europe than in America. I advise those who possess it to guard it carefully. I believe that in two years there will be no more to import.

Another Orchid becoming extremely rare is the true Cattleya aurea from the Antioquia district, which must not be confused with C. Dowiana from Costa Rica. The plants are much alike, but whereas the true Cattleya aurea is slow in growing, it may live long. I know of a plant dating from our first importation in 1873. Cattleya Dowiana thrives easily, then, exhausted with its first growths, fades away, and in Europe generally sustains only an ephemeral existence of two or three years.

It is very interesting to notice with what difficulty Orchids from certain regions are acclimatised in Europe. Almost all from Costa Rica and neighbouring countries, Mexico especially, show this. The only exceptions are for such among them as Lycaste Skinneri, Lælia anceps and superbiens. There must be some reason for this: I think I have discovered it, and will refer to it another time." *L. L., Journal des Orchidées, July* 1, 1896.

Cattleya Eldorado alba.

In E. J. Sidebottom, Esq.'s choice collection of Orchids at Erlsdene, Bowdon (Mr. G. Shine, gr.), is to be seen the finest and largest-flowered variety of the Wallisii section of Eldorado that I have met with. It is out of an importation, and the plants of which there are several, are doing admirably. The one in question has larger, and more coriaceous leaves than the normal form, and from one sheath have sprung three extra fine flowers, which stand well above the foliage, and like all albino Cattleyas, arrest attention. The sepals and petals are of the normal form, but large, and white as snow, beggaring by comparison the French white Cattleya Rex. The lip is in proportion to the sepals, roundly ovate, with the centre having a large solid blotch of lemon-yellow, as in a good Cattleya Mossiæ Wagneri. There is a broad margin of white surrounding the lemon-yellow patch, with a rosy stripe hidden under the column—altogether an unique flower of great substance. *J. A.*

Home Correspondence.

An old Cherry-tree.—While walking through Admiral Parkin's garden (at Lyminster, near Arundel, Sussex) with his head-gardener, my attention was directed to a fine specimen of the Morello Cherry, which had a magnificent crop of the fruit, but on examining the trunk I was surprised to find that the woody portion was all gone and only the bark left, which, with the slightest pressure, broke through, it being very brittle. We examined it minutely and found that there was no signs of any sap-wood left. *Francis Frew.* [The living portion of all trees is that just within the outer bark, so that there is little unusual in the case mentioned. Ed.]

Strawberry beds.—Notwithstanding the severe drought, Strawberries, generally speaking, were very good in this district (Maidstone). At Mereworth gardens the fruits were very fine in size, colour, and firmness of flesh, particularly Sir C. Napier. Laxton's Noble was the first that was fit to gather outside, and as an early variety, I find it very useful, the flavour being passable in dry weather. I layer this variety early, and plant a few hundreds on a snug border for affording some dishes at an early part of the season, and following the pot-grown plants, and for this purpose Noble is not to be despised. If dry weather should continue, Strawberry beds will still require attention, or failures will be heard of next year. If not already done, the runners, old fruit stalks, and some of the lower leaves should be removed, afterwards slightly pricking up the soil, and affording a heavy mulch of rich, decayed manure, especially if the land be light, finishing with a copious watering. To fruit well next year, crowns should develop early and strong, and be matured by the end of September. *H. Markham, Mereworth Castle, Maidstone.*

Garden fete at Revesby Abbey, Boston.—This, the beautiful home of the Hon. Mrs. Edw. Stanhope, on Wednesday and Thursday, July 22nd and 23rd inst., presented an animated scene. Having many applications from all parts of the country to view the abbey and grounds, &c., Mrs. Stanhope thought

that by opening the park gardens at a small charge she would be conferring pleasure on the public and at the same time assisting the neighbouring parish of Stickney, whose rector (Rev. G. H. Hales), has been making efforts for some years to have the church tower rebuilt. This Stickney parish church is a beautiful edifice, dating from the fourteenth, or beginning of the fifteenth, century. So to help on this good work, Mrs. Stanhope, assisted by her tenants and *employés*, worked with a will to make the *fête* a success, with the result that the two days' takings amounted to nearly £90, a very good sum, considering that we live in such a quiet part of the country, and at a considerable distance from any town or railway station. It is to be hoped, now the gardens have been used in this way, that we may have an annual *fête* day for the good of some charitable object, and among the first we hope to help some of those which are intended for the benefit of gardeners. We may say for the information of those who may be inclined to open their grounds to the public, but are deterred by the fear of having their trees, shrubs, and plants injured, that during the two days of our *fête* we had not a single twig or anything in any way damaged. *J. A.*

RED-SPIDER AND XL-ALL VAPORISER. — Last year I resolved to use the XL-All vaporiser on some frames of Princess of Wales Violets, containing 160 cubic feet of space, very badly infested with red-spider, and I started with the prescribed quantity, fumigating the frames ten nights in succession, and affording a stronger dose each night; the last night I had both small cups full of the liquid. It did no harm to the growth of the plants, and only checked the red-spider, not killing it. On Vines, the action of the fumes should be much more effective than on Violets in frames, but I have been unable to make the trial. This year I am using Vermorel's Eclair Knapsack Spraying Pump, using XL-All Liquid Insecticide with good results on Rose-bushes infested with green-fly and caterpillars; and of double strength for red-spider on Violets out-of-doors, but I am unable as yet to speak of its effect on the latter. Like your correspondent in a recent issue of the *Gardeners' Chronicle*, I am a firm believer in the efficacy of the XL-All Vaporiser, and find it to be one-half cheaper than some other insecticides, and as easily applied. *R. Dunlop, Trabboch, Ayrshire, N.B.*

HYBRID TEA ROSES.—In the issue of the *Gard. Chron.* for July 25, in the third sentence, "more" is printed by mistake instead of "most;" while the fourth paragraph should read as follows, where the error which it embodies (for which I may possibly be responsible) has been corrected for the benefit of my readers:—"Sometimes the law of variation is in favour of a Rose. Souvenir d'un Ami, for example, is surpassed by Souvenir de S. A. Prince, though the former is one of the finest of the older Teas; and in the adjoining department of hybrid Tea Roses, White Lady similarly eclipses, unless indeed in fulness, her august parent, Lady Mary Fitzwilliam." Last year an almost pure white variation from an Irish Tea Rose, Mrs. James Wilson, originated in my garden. I have named this beautiful new variety Marguerite, to commemorate the heroines of Goethe, Gounod, and Matthew Arnold. *David R. Williamson.*

RED PANSIES.—If the bright red fancy Pansies Messrs. Dobbie & Co., of Rothesay and Orpington, have selected, and out of which they think they have secured a valuable bedding variety, prove of good and durable constitution, persistent in blooming, and do not seed too freely, then they are likely to become formidable rivals to the Violas for bedding purposes, as the colour is bright, and highly attractive. It is very much a question of persistency and non-seeding. When a plant begins to bear seed somewhat freely, it is always at the expense of blossom production. The capacity on the part of the fancy Pansy for standing heat and drought has been demonstrated in several places this season, and conspicuously on the promenade at Eastbourne. On one of the hottest and driest days of the present year (about the middle of June), these Pansies were delightful, and showed no sign of giving out. Many of the Violas prove very persistent, largely because they produce but few seed-pods; and there are a few varieties which go down quickly before heat and drought. *R. D.*

EARLY PEARS.—Some writers in the gardening press are raising the cry that more varieties of summer Pears are demanded by the public. I should say that this is simply nonsense. The consumer may want more Pears on the market and in the garden, but not better ones than we have already. A summer Pear is like a summer Strawberry, a fruit for the season, not for storing or keeping. And we are not so very fastidious, after all, about high flavour, but we do like juiciness, sweetness, tenderness of flesh, and good appearance, and these very desirable points are present in all or most of our common early Pears. In addition to those named in a previous note, I might name Bon Chrétien, Clapp's Favourite, Souvenir du Congrès, and others of Mr. Rivers' raising. *Beurré Hardy.*

EARLY PEACHES.—On the last day of June we commenced gathering ripe fruits of the Alexander Peach from a large tree on a south-west wall, and close to two ranges of hothouses, fruits of Waterloo being ripe a few days later on a tree a few yards distant on the same aspect. Excellent fruits have been gathered three times a week for the London house from trees of Alexander on south and south-east walls, Amsden June on a south wall, and Hale's Early (on a south-east wall). This supply of ripe Peaches that are of fine flavour, highly coloured and of good size, can be secured throughout the month of July, during a summer like the present, and by planting Crawford's Early, Dr. Hogg, Early Grosse Mignonne, Dymond, Crimson Galande, Noblesse, Royal George, Violette Hâtive, Walburton Admirable, and Sea Eagle, the latter yielding a fine crop, fruits may be obtained well into the month of October, that is as late as Peaches from outdoors are good eating. If several houses were planted with trees of Alexander, Waterloo, Amsden June, and Hale's Early, no difficulty would be experienced under skilful management in maintaining a good supply of Peaches from the beginning or middle of April on to the middle or end of October. Trees of Early Rivers and Lord Napier Nectarines planted each in a house by itself or together, would furnish early fruits, the latter succeeding the former, which is, I consider, the earliest and the best and handsomest Nectarine in cultivation. *H. W. Ward, Longford Castle, Salisbury.*

PRUNUS PISSARDI.—We have a large hedge of this purple Plum, which is bearing a crop of Plums ripe now (July 27), and the fruit is only moderately good in flavour, but for cooking it is good; moreover, it is much the earliest we have. We are 600 feet above sea-level, and 6 miles west of Birmingham, not therefore in an early locality. In the blooming season the hedge was quite a mass of white blossom, and the young shoots of a red colour just peeping out of the mass, gave life to it, and made it a veritable fairy scene. I know of no fruit tree to equal in beauty this Plum when in bloom. The hedge is about 18 feet high, and it has never flowered so profusely as this year. When one considers the value of the foliage for decorative work, its beauty among shrubs, its adaptability to shearing or pruning, and lastly its economic usefulness in exposed situations, the plant is a most desirable one to the nurseryman, gardener, or amateur. *J. Pope.*

PHLOXES AND THE DROUGHT.—Few plants show the effects of the drought sooner than shrubby Phloxes when the soil gets dry. They are just now in flower, and as they are valuable decorative agents in the flower garden, some effort should be made to heighten and prolong their beauty while the dry weather lasts. Mr. E. Beckett has lines of them in his mixed borders at Aldenham House, and he has taken the precaution of mulching them with strong manure, and well waters the plants also; consequently, despite the dry atmosphere, they are producing fine heads of bloom. Anything in the way of a mulch would be helpful, but there is nothing like some good moist manure. *R. D.*

SPRING-FLOWERING VIOLAS AND PANSIES.—There is urgent need of a group of Violas which will bloom with the Aubrietia and Primrose. Bulbs are not so largely employed for the decoration of the flower-garden in the spring, and especially so in our London parks; and good early blooming carpet-plants are greatly needed. The Viola, when as a dwarf, compact, somewhat creeping, free-branching habit, is well adapted for this work, but it needs to be early-flowering also. Probably our earliest Viola to flower in spring is the yellow Bullion, and it may be taken as a type of what is required, but it needs adding to of such as white, lavender, blue, rose, crimson, &c., with any combinations of colours which can be made effective. If anyone would set themselves to work to develop a race of early spring-flowering Violas, they would be doing good service to gardeners. What is required is, that they be well in bloom by the time the bulbs are in flower, and then take up the floral succession until the time for planting the summer occupants come round; they would also be useful for forming beds by themselves. Violas will move at almost any season of the year, and they can be taken up with the bulbs, and planted out in a nursery-bed; and if the young side-growths, which had put forth roots, were taken off and planted out in prepared ground, to grow into sizes, they would be found highly serviceable for carpet-work, being planted out in October with the bulbs. The plants should not be allowed to flower during the summer, but encouraged to make a tufted growth of flowering shoots. Cuttings rooted in April and May, if planted out in the same manner, and similarly treated, would be equally useful. Hardihood, and a capacity to stand rough winters, are needed, and a close, compact growth would not lend much obstruction to the country winds, which frequently snap off the shoots of varieties of more spreading growth. But precocity in flowering is, of all things, most essential, and should be encouraged in every possible way. An autumn and winter trial of Violas would be found instructive, as showing the earliest to bloom of those in cultivation. The plants should be planted where they are to flower not later than October, should be allowed a deep root-run in good soil, and be planted firmly in it. *R. D.*

A HORTICULTURAL TOUR.

I have lately visited Metz, Nancy, and Luxembourg, and taken some notes at these various places which may be thought of interest. The Botanic Garden of Metz is at Montigny, and under the directorship of M. Varmont, who also has charge of the plantations in the town. These all give evidence of his ability and skill.

At Plantières, near Metz, the brothers Simon-Louis have large excellently-managed nurseries, under the care of M. Jouin and his two sons, and M. Martin. I noted here a Populus Eugenei planted in 1834, the birth-year of M. Léon Simon, the present proprietor; Halimodendron (Caragana) in bloom; grafted Oaks, Quercus pedunculata filicifolia, foliis argenteo-marginatis, and foliis atro-purpureis. Spiræa lævigata much resembles a Bupleurum, with flowers in panicles at the tip of the branches. I admired the fine foliage of Rhamnus Frangula var. asplenifolia. Acer circinatum vars. lutescens, pulverulentum, platanoides, cucullatum, laciniatum, and Reitenbachii, Pseudo-platanus foliis atro-purpureis, and Simon-Louis Frères (with variegated leaves), and Woorlei were beautiful. Genista sibirica flore pleno is a dwarf shrub, with abundant yellow flowers in clusters.

I saw also numerous seedling Tulip-trees; Calophaca Wolgarica, a small shrub, with trailing branches covered with clusters of yellow flowers; Betula pendula nana; Caragana Gerardiana, with yellow blooms, and C. jubata, with white blossoms. Carrière's original Clematis nana was flowering here; the curious Prunus tomentosa; Staphylea hybrida columbieri (?), flowering on the young wood; Lespedeza bicolor, a pretty hardy shrub, with rosy and red flowers; Potentilla davurica, white flowered; Ribes alpinum, yellow; R. nigrum foliis argenteo-variegatis, with leaves variegated with white; and R. nigrum foliis aureis, with yellow leaves. Other plants were Chamæcerasus (Lonicera) Alberti; altaica, Ledebourii, nummulariifolia, Standishii, and tatarica; Diervilla canadensis and splendens; Sarothamnus scoparius fol. var.; Nuttallia cerasiformis, Prunus californica, with hermaphrodite flowers and numerous fruits; masses of Tilia euchlora; Acer platanoides Reitenbachii, with leaves green above and purple below; A. dasycarpum lutescens, pulverulentum, platanoides cucullatum, laciniata, Reichsgraf von Puckler, Pseudo-platanus foliis atro-purpureis, Simon-Louis Frères, with spotted leaves; Ulmus vegeta, Fraxinus alba, foliis argenteo-marginatis, aucubæfolia nova, excelsior aurea, excelsior simplicifolia, juglandifolia, mandschurica, novæ anglicæ, sambucifolia crispa, serratifolia, and Veltheimi.

M. Simon's nursery is divided into two parts by the road from Metz to Strasbourg. In the second division I noted Chestnuts, purple Beeches, Ameri-

can Oaks, Ulmus campestris umbraculifera, and the well-known U. campestris Berardi; a good collection of Salix, including S. cerisia pendula (?); Æsculus pyramidalis, and Italian Poplars. There were also choice representatives of many other species, which space will not permit me to enumerate.

When at Luxembourg, I visited the very large grounds occupied by MM. Soupert and Notting. Standard Roses are here a special feature, and much good work is done in the houses, which are numerous and extensive. At Limpertsberg attention is given to the cultivation of new varieties grafted, and to those which do not thrive in the open air, being not hardy, but valuable for their colouring and beauty.

Mention should also be made of Roses, here extensively cultivated, and including varieties notable for beauty, strength, and novelty. *Ch. De Bosschère.*

HAWARDEN FLOWER SHOW.

On the occasion of this show, held in the park at Hawarden, near Chester (see fig. 31), on Bank Holiday, Mr. Gladstone made some remarks on the utility of flower shows, from which we extract the following:—"It is a good thing for us that such institutions should subsist. In the first place they bring us altogether upon a common and friendly footing; in the second place, such institutions are an encouragement to industry, and to a description of industry which is not burdensome, but attended with much pleasure, interest, and satisfaction. In the third place, you know we hear from time to time, and we hear too truly, that while the populations of our towns increase rapidly with our general trade and industry, the population of the country—that is to say, of the rural districts—does rapidly, and in some parts of the country tend to diminish. Well, I am greatly opposed to artificial interference by law with the natural course of things, and I believe it is a good general rule to allow each person to judge for himself what their pursuits should be, and whether he shall follow them. At the same time, I earnestly desire the maintenance and increase of the rural population of this country, and I rejoice in all pursuits that tend towards that increase. Evidently these pursuits tend to maintain and increase the rural population of the country. I have read, even in the course of the last year, a very interesting work showing how many things there are that can be advantageously done in the country, and I rejoice in the extensive discoveries of the kind; for, after all, while we are delighted to think how many advantages the inhabitants of towns enjoy now that they did not enjoy in former times, through the action of railways and from other causes, yet it is a blessed thing to live in the eye of Nature and in the clear light of day. I have been a townsman most of my life, but I am a rural man—one of the countryfolk—now, and it is a great enjoyment to be free from the foul rivers and the masses of smoke and the darkness that overhang many of our great towns, and to enjoy the scenery that is around us, the light and the air God as given us, just in the way He gave them. It will be all the better for this country the more we can maintain and increase the rural population of the land."



Fig. 31.—Hawarden Castle, Flintshire, the seat of the Right Hon. W. E. Gladstone.

MANCHESTER ROYAL BOTANIC GARDEN NOTES.

The Victoria regia has done uncommonly this season in the tank in which it is growing—far too limited in size to give a chance to the enormous circular tray-like leaves, which are deeper in the rims than we ever recollect to have seen them. It began flowering on June 11, and has kept up a continuation since. It is really a noble botanic garden plant, and has for its associate the large and beautiful Nymphæa devoniana, with two of its pink-cupped flowers expanding at once. The house is kept open, and the visitor has not "to do" the sweltering climate which the Royal Lily is invariably subjected to.

Alpinia nutans.

This fine ornamental flowering plant is grown in one of the intermediate-houses, and to some purpose. Its great spikes tower up above the foliage to about 7 feet from the pot, and it has yielded twelve of those spikes during the season. It was figured in the *Gardeners' Chronicle* some months ago.

VANDA SUAVIS.

There is a fine lot of this sweet-scented Orchid in flower, some of the spikes having fourteen flowers, and scenting the atmosphere around. One named V. suavis Ainsworthii is remarkable for its yellowish ground, with a profusion of sienna spots, having more the outline of V. tricolor insignis, but makes a charming comparison to the white ground and multitudinously-spotted suavis. They are growing much cooler than usual, and the change has operated immensely in their favour.

HÆMANTHUS MAGNIFICUS.

This is the largest and best of the Hæmanthus with which we are acquainted, forming an umbel about a foot across, and more brilliant in its crowd of stamens than any of the puniceus order. It was imported direct from South Africa, and is a valuable decorative bulbous plant. *J. A.*

PEACHES AS OUT-DOOR STANDARDS.

NOT so many years ago it was the opinion of many persons that out-door Peach culture, even against south walls, could not be successfully practised in this country, except in a few highly-favoured localities in the extreme south. This idea was no doubt partly due to a cycle of somewhat cold and wet summers, and to the fact that cheap glasshouses had been responsible for their extended cultivation under glass. Nevertheless, in many gardens during this period of time, Peaches were cultivated outside very successfully, one notable instance being at Ditton Park, near Slough, where for many years, under the late Mr. Lindsay's management, the cultivation of out-door Peaches had been, for the least a quarter of a century, most successfully practised. This was in the valley of the Thames, where the atmosphere is unusually moist.* My object, however, in penning this note is to advocate the planting of Peaches and Nectarines as standard trees in the open air, as I firmly believe that success is quite certain in all midland and southern counties of England. Since the introduction of the early ripening American Peaches, of which Alexander and Waterloo are notable examples, Peach-growing has been, so to speak, revolutionized, as both the varieties mentioned, ripen at least six weeks before Royal George, an old standard variety, at one time considered an early Peach, this was before the advent of Mr. Rivers' Early Louise and some others that never seemed quite hardy enough for general cultivation outdoors. During the past few weeks visitors to the Royal Nursery, Slough, might have seen numbers of standard Peach trees in the open ground of the nursery adjoining the Great Western Railway loaded with ripe fruits. On a tree of moderate size I counted over three dozen, and from the various trees consisting chiefly of Alexander, Waterloo and Hale's Early, some hundreds had previously been gathered, well-coloured, juicy, and good-flavoured fruits, such as would find a ready sale, and form no mean addition to the dessert. Gathering commenced from these standard trees, Mr. Turner informed me, about the middle of July, and when I saw them on the 23rd, many of the trees were cleared of fruits; a chance one taken as an average for size measured just upon 8 inches in circumference, and this in a dry season and without any artificial watering or mulching whatever. This is not an exceptional year at Slough, as fruits have been gathered from these trees for the past three years at the least, and if in a good year as regards summer temperature, standard Peaches will ripen in July, surely in any ordinary summer they may be relied upon to ripen in August or September. Another point which may be in favour of these American Peaches is their somewhat backwardness in flowering. Taking Royal George as a standard, they are about ten days later when grown together than this variety in coming into bloom; but between the setting and ripening they make a clear gain of about six weeks. A great part of the covering-up afforded to Peach-trees on walls during flowering-time is useless, and in some instances I think it does more harm than good.

Standard Peach-trees might also be utilised for planting in the pleasure-ground and shrubbery borders, where the soil is fairly good and retentive, being very ornamental while in bloom, the large flowering varieties equalling in this respect the Almond, and they would form a succession to these. A tree standing in a shrubbery, and carrying a good crop of highly-coloured fruits, would certainly be both ornamental and useful. A start may be made in planting, without incurring much expense, as maidens, dwarfs and standards may be purchased at a small cost, and these in a year or two form good heads. As for cultural details, little would be required beyond some disbudding, and getting the tree into shape during the earlier years of growth, and afterwards keeping the branches sufficiently open and thin, to admit sun and air.

Of varieties, Waterloo, Alexander, and Hale's Early may be relied upon to perfect fruits grown in this way in an ordinary season; while Dymond and Crimson Galande, and Lord Napier Nectarine, may be given a trial as a means of forming a succession. *C. H.*

* This Peach-wall was figured in the *Gardeners' Chronicle*, December 1, 1883, p. 685.

HOLLAND.

THE STATE HORTICULTURAL SCHOOL.

MR. PLEMPER VAN BALEN, Curator of the University Botanic Garden at Amsterdam, and Mr. A. C. Ide, Director of the Fredericksoord Horticultural School, have been appointed teachers at the new State Horticultural School at Wageningen, under the direction of Dr. Cattie. Their successors are not yet nominated.

UNIVERSITY BOTANIC GARDENS.

In consequence of the resignation of Professor Oudemans and of Professor Rauwenhoff, there will be a few changes in the management of the Dutch Botanic Gardens, which henceforward will be conducted as follows:—

Amsterdam.—Director, Professor Hugo de Vries.

Leiden.—Director, Professor Suringar; Curator, H. Witte.

Groningen.—Director, Professor Moll; Curator, A. Fiet.

Utrecht.—Director, Professor Went; Curator, J. K. Budde.

"FLORILEGIUM HARLEMENSE."

The first fascicle of this standard work now being ready, a few notes on it may be welcome. Reference to the publication has already been made in the *Gardeners' Chronicle*. The plates, which exclusively represent bulbous plants from the Haarlem nurseries, were selected by the growers themselves by a majority of votes, the voters being members of the Royal Bulb Cultivation Society of Haarlem. The results of this *plebiscite* have been recently published in this paper. The first fascicle contains coloured plates and descriptions of Hyacinth La Grandesse (single white), single early Tulips Keizerskroon, Pottebakker, white Proserpine and Vermilion Brilliant, and single trumpet Daffodils maximus, John Horsfield, and Silver-trumpet. The plates are accurately drawn and painted in water-colours, and well reproduced by Mr. Goffart (successor to Mr. Severeyns) of Brussels. The descriptions are in Dutch, English, German, and French, and the history of each variety is given as far as is possible. Many of the Dutch bulbs are very old, and unfortunately little is known about their origin and earliest history. The notes given on Narcissus maximus and the Silver-trumpet (Moschatus albicans), are very interesting and complete. The plates give a good idea of the varieties figured, especially of the Hyacinth and Daffodils. These are shown at their best, without the least exaggeration. *Correspondent.*

"KNOWLEDGE."—The August number contains, among other articles, papers on Hygroscopic seeds, and the Lime-tree, in which the principal facts are set forth simply and clearly. The article on Seals makes one shudder. The anti-vivisectionists would do well to turn their attention to the wholesale atrocities perpetrated by the sealers.

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

JULY 28.—*Present:* Dr. M. T. Masters (in the Chair).

Primula with Myxogastres.—The following report was received from Kew with reference to the specimen exhibited at the last meeting:—"The organism is one of the Myxogastres (Physarum gyrosum, *Rost*). It is not a parasite, and will do no injury unless it occurs in immense quantity, when it might be washed away by spreading. The early or plasmodium condition developes in darkness, and finally creeps up anything, organic or inorganic, for the purpose of forming its spores in a position where they may be readily diffused at maturity by wind and rain."

Pelargoniums Treated with Salts.—Notes were compared as to the conditions of the three sets of white Pelargoniums under experiment. Mr. Henslow said that in his case all the plants treated with the salts, though perfectly vigorous, had failed up to the present time to develop any flowers, the trusses perishing when about half an inch long, but that they were now beginning to form well. On the other hand, the two plants not treated with salts had flowered well the whole time. Mr. Wilks and Dr. Russell, both alike, had all the plants flowering; but up to the present time there had been no offset upon the blossoms.

Deodar with Cones.—Mr. Henslow recorded the somewhat unusual fact that one tree out of four, planted about forty years ago in his garden at Drayton House, Ealing, had six cones upon it at the present time.

Tomato, Diseased.—Mr. Hillier, of Bariton, near Petersfield, forwarded some Tomatos which failed to colour properly at the base. They were forwarded to Kew for examination, whence the following report has been received:—"The fruit has ripened unevenly, due probably to a disturbance in some part of the plant, presumably the root, which, however, is not forthcoming for examination."

Grapes, Blighted. Mr. Messenger, of Woolverstone Gardens, Ipswich, sent a bunch showing some affection to the stalk and leaves. It was sent to Chiswick for investigation.

CHESTERFIELD FLORAL AND HORTICULTURAL.

JULY 29.—Affiliated with the National Rose Society, and run in connection with the Technical Education Committee of the Chesterfield Town Council, which authority practically makes all the arrangements, this show is becoming one of the most important in the Peak district of Derbyshire, notwithstanding the eminence obtained by Clay Cross and Tibshelf before it was instituted. The exhibition on Wednesday in the pretty Queen's Park, which is at all times a credit to the florists of the metropolis of the Derbyshire coal-field for the mass of bloom and foliage banking the many walks, was a highly creditable one, no fewer than three large marquees being required for the exhibits, which were all round superior to last year. It was regretable though that a little hitch took place with the judges over the groups, which were equal to anything seen in the county for effect, even if the plants were not all equally valuable. It occurred in the open class for groups covering 150 feet, in which Mr. T. J. NELSON, of Ashgate, was awarded premier honours for a charmingly-arranged collection of flowering and foliage plants, every one of which was in its place, and assisting in a harmonious whole. [There appears to have been considerable feeling displayed, but into that or the merits of the case we cannot enter. ED.]

Groups to cover 80 feet produced a capital competition, Mr. S. Polkinghorne, gr. to MRS. EDMUND BARNES, of Ashgate, was placed at the top. In the centre he had a nice specimen of a Phœnix, and the surrounding Crotons and Ferns were prettily arranged, the finish being tasteful and striking. Mr. H. Horsnall, gr. to Mr. J. E. CLAYTON, of Thornfield Hall, Chesterfield, was awarded 2nd. Mr. D. MONEY, gr. at Rose Hill, and Mr. H. MOTTERSHAW, gr. at Tapton Hall, Derbyshire, were respectively 3rd and 4th.

The Ferns were a superb lot, Mr. S. POLKINGHORNE, Mr. T. J. NELSON, and Mr. W. HASLAM, dividing the honours.

Roses were quite a feature, and the blooms remarkably good, especially those of the prize-winners. Messrs. MERRYWEATHER & SONS, Southwell, secured the 1st prizes for forty-eight distinct varieties, for the twenty-four varieties, and the twenty-four Teas or Noisettes; Messrs. MACK & SON of Catterick, Yorkshire, were 2nd for forty-eight varieties and twenty-four varieties; and Mr. H. V. MACHIN, of Gatesford Hill, Worksop, 3rd for forty-eight varieties and twenty-four varieties; and 2nd for twenty-four Teas or Noisettes; Messrs. PROCTOR & SONS, of Chesterfield, being 4th for forty-eight.

In the local Rose-class for nine varieties, Mr. F. VICKERS of Wingerworth, was 1st; Mr. W. HASLAM, of Hardstoft, 2nd; and Mr. E. JENKINSON, of Stubbin Court, 3rd. This was a highly creditable class.

Messrs. PROCTOR & SON easily maintained the lead for bridal bouquets.

The ball-room bouquets were handsome, Messrs. JOHNSON & WHEELER here taking the lead.

The cut flowers were excellent, considering the dryness of

the season; and in the hardy and half-hardy, Messrs. Proctor & Son produced an interesting specimen which is somewhat unique.

The fruits, consisting of Nectarines, Peaches, and Tomatos, were a very fine lot, and in the last named the competition was very keen.

There were two other sections for amateurs and cottagers, and much improvement to the earlier shows under the society was witnessed. The entries were more than trebled, but this is not to be wondered at, considering the allotment and other gardens which have been laid out in large numbers in the district during the past two years. Nowhere is floriculture and horticulture more encouraged, the Mayor (Councillor A. C. Locke being a great enthusiast. The judges for these sections were Mr. Luckhurst, lecturer to the Derbyshire County Council; Mr. W. M. Hewitt, Chesterfield; Mr. Horsnall, gr. at Thornfield House; and Mr. S. Polkinghorne, gr. to Mrs. E. Barnes.

It should be mentioned that Messrs. Proctor & Sons were awarded a Certificate for some lovely varieties of Carnations.

BRIDGWATER HORTICULTURAL.

July 30. After having been discontinued for several years, a flower show was held on Thursday at Bridgwater, under the auspices of a newly-formed horticultural society, of which Mr. E. J. Stanley, M.P., accepted the presidency. The Mayor (Alderman H. W. Pollard) was the vice-president, and Mr. John Gray, manager of the Wilts and Dorset Bank, proved an indefatigable hon. secretary. A large number of entries were obtained, and the show proved an excellent one, and was well patronised. It was held in the grounds of Mr. Walters, adjoining the Taunton road, and a special attraction was the engagement of the Royal Marine band from Plymouth.

The chief prize winners were: for plants in pots—Miss Sanderson, Otterhampton and Mr. S. H. Bailey, Glastonbury; Ferns—Mr. F. L. Carslake, Bridgewater; zonal Pelargoniums—Mr. F. J. Parsons; Begonias Mr S. Lovibond, Bridgewater; Cut Flowers—Mr. H. Corder and Messrs. Jarman & Co., Chard; Tea Roses—Mr. S. P. Budd, Bath; Zinnias—Mr. H. Corder; Phloxes—Mr W. Perryman; and Sweet Peas Messrs. Jarman & Co.; Groups—Mr F. L. Carslake; Herbaceous Perennials Lieut.-Colonel Buhm, Bridgewater.

FRUIT.

The best collection was shown by Lieut.-Colonel E. C. A. Sandford, Colonel Mount Batten had the best black and white Grapes; Lieut.-Colonel Sandford had the finest Peaches, and Colonel Mount Batten the finest Nectarines and Plums; Dessert Apples were well shown by Lieut.-Colonel Sandford and Mr. Corder. Vegetables and Roots were excellent for the season, and Cottagers' productions praiseworthy.

NEWPORT AND COUNTY HORTICULTURAL.

July 30. After a lapse of ten years, a show, which happily proved to be a very good one, was held at Newport by the above society, for which the county have to thank an energetic secretary and committee. Excellent arrangements were made for the exhibits in large tents, placed in King's Hill Fields. The day was fine, and everything connected with the exhibition was successfully carried out. J. R. Richards, Esq., the Mayor of Newport, accompanied with the Mayoress, formally opened the show.

PLANTS OPEN CLASSES.

Twelve stove and greenhouse Plants in bloom:—1st, Mr. Cypher, Cheltenham, with grand specimens of Erica Austiniana, Phœnocoma prolifera Barnesii, Ixora salicifolia, Allamanda Hendersoni, Statice Gilberti, Stephanotis floribunda, Kalosanthes coccinea, and Clerodendron Balfouriana, the last-named being slightly past its best. 2nd, J. C. Hanbury, Esq., Pontypool Park (gr., Mr. Lockyer), who ran the 1st close with Bougainvillea glabra, Anthurium Scherzerianum, Eucharis amazonica, Gloriosa superba, Statice profusa, Clerodendron Balfouri, Allamanda Chelsoni, and A. nobilis.

Six ornamental foliage plants.—1st, Mr. Cypher, with good Crotons, Palms, &c.; 2nd, W. S. Ogden, Esq., Hetherleigh (gr., Mr. Stevens).

Six Achimenes.—1st, C. A. Bailey, Esq., Bassalleg (gr., Mr S. Sharratt), with good pans of A. grandiflora, A. longiflora, A. major, A. Mauve Queen, A. Magnet, A. Admiration, and A. coccinea. 2nd, Col. Wallis, Newport (gr., Mr. D. Powell). There were four entries in this class.

Six exotic Ferns.—1st, Col. Wallis, who showed Davallia Mooreana, Adiantum trapeziforme, Lomaria gibba, &c. 2nd, C. H. Bailey, Esq., Newport.

Four Selaginellas.—1st, H. J. Davis, Esq., Newport (gr., Mr. J. Degler), with fine pans of S. Wildenovii, S. Martensii variegata, S. cæsia, and S. apoda. 2nd, Col. Wallis. This was a good class, and the plants were well grown, although the pans employed in most cases were unnecessarily deep.

Four Caladiums.—There were five entries in this class. 1st, J. C. Hanbury, Esq., with well-grown and brightly-coloured plants of C. Madame Marjoline Schaeffer, C. bicolor splendens, C. Luddemanni, and C. candidum; 2nd, C. H. Bailey, Esq.

Three exotic Heaths. 1st, Mr. Cypher, with well-flowered plants of E. Weltoniensis, E. ampullacea, E. Barnesii, and E. æmula. In this section Fuchsias and zonal Pelgargoniums were well shown.

The classes for groups of Orchids, Ferns, and other plants, arranged for effect, were not remarkably good. Another year an improvement may be looked for in these classes.

CUT FLOWERS (OPEN CLASSES).

Roses, twenty-four Hybrid Perpetual, distinct.—1st, Mr. R. Crossling, Penarth Nursery, Cardiff, amongst whose best blooms we noted Horace Vernet, Duke of Wellington, Duchess of Bedford, Prince Arthur, Dupuy Jamain, A. K. Williams, Victor Hugo, and Fisher Holmes. 2nd, Mr. Stephen Treseder, Cardiff, who had good blooms of Alfred Colomb, Madame Hausmann, Louis Van Houtte, &c. There were eight entries in this class.

Roses, twelve Tea, scented, distinct.—Here Mr. Stephen Treseder was placed 1st with a good stand, Mr. Crossling being a near 2nd amongst six competitors.

Dahlias, double flowered, twenty-four distinct.—1st, Mr. William Treseder, Cardiff, having amongst his best blooms Mathew Campbell, R. T. Rawlings, William Keith, Richard Dean, The Ameer, Mr. F. Foreman, Goldfinder, &c. 2nd, Mr. Pitt, Abergavenny.

Cactus Dahlias.—Twelve bunches, distinct, three blooms in a bunch. These were well put up, making an attractive and pretty display. 1st, Mr William Treseder, who had the new variety, Mrs. Wilson Noble—a lovely pinkish salmon. The good old Bertha Mawley, Purple Prince, Mrs. Barnes, Earl of Pembroke, good; Countess of Radnor, Countess of Gosford, Mary Hillier, good; Gloriosa, Miss Violet Morgan, Matchless, and Cannell's Gem, good. 2nd, Mr. Basham, Newport, who also had a remarkably good lot.

Twelve bunches of Cut Flowers, distinct.—There were seven entries for this prize. Mr. Lockyer, Pontypool Park Gardens, being a good 1st with Cypripedium Stonei, Statice profusa, Ixora Williamsii, Lapageria alba and rosea, Pancratium fragrans, Allamanda Chelsoni, &c. 2nd, Louis Gueret, (gr., Mr. W. Chatfield); 3rd, Mr. Pitt, Esq.

Mr. William Treseder was first in the classes for both Wreaths and Crosses. Mr. Price, also of Cardiff, being 2nd in each class. It has been previously noticed that Cardiff exhibitors are always strong in these classes.

FRUIT.

In the classes for fruit there was nothing of particularly good quality, apart from black Grapes and a few dishes of Peaches and Nectarines, although Apples were fine for the time of the year.

For a collection of six kinds of fruit, Mr. Pitt was 1st with Muscat Grapes, which were however in an unripe state, fair black Hamburgh Grapes, a small Queen Pine-apple, Royal George Peaches, Lord Napier Nectarines, and Read's scarlet flesh Melon. 2nd, Louise Gueret, Esq., who had very good black Hamburgh Grapes and Barrington Peaches.

Black Grapes, any variety, three bunches. 1st, L. Gueret, Esq., with very good black Hamburghs, although not perfect in colour. 2nd, P. S. Phillips, Esq., Whitfield, Hereford (gr., Mr. Grindrod), who had very good Gros Maroc.

Grapes, white, 1st, L. Gueret, Esq., with Foster's Seedling. 2nd, S. Dean, Esq., Newport (gr., Mr. Giddins), with Buckland Sweetwater.

Peaches, one dish. 1st, Mr. Grindrod, with Royal George. 2nd, S. Dean, Esq., with pale large Barringtons.

Nectarines, one dish.—1st, Mr. Pitt, with very good Pine-apple, but unnamed; 2nd, Mr. Grindrod, with good Elruge. Melons, two: 1st, Mr. Pitt. Cherries, one dish: 1st, Mr. Pitt; 2nd, R. Thomas, Esq., Newport. Apples, six varieties of Dessert: 1st, Mr. Basham, Bassalleg; 2nd, Mr. Garaway, Bath. Apples, Culinary, six varieties: 1st, Mr. Basham; 2nd, Mr. Garaway; 3rd, Mr. Pitt.

Vegetables were particularly good for the season. For a collection of nine kinds, Mr. Garaway was placed 1st with good dishes of Rochford's Cucumber; Onion, Golden Rocca; Pea, The Duchess; Sutton's Seedling Potato, Early London Cauliflower, Masterpiece Tomato, Grove White Celery, Pen-y-Byd Vegetable Marrow, and Scarlet Runner Beans; 2nd, Mrs. Parkinson. Tomatos, one dish.—1st, Mrs. Parkinson; 2nd, Mr. Garaway; 3rd, W. S. Ogden, Esq. There were numerous miscellaneous noncompetitive exhibits of considerable merit, including one of Plants, Cut Flowers, &c., from Messrs. Clibran & Son, of Manchester, and one also from Mr. Basham of Bassalleg.—*A Correspondent.*

THE NATIONAL CARNATION AND PICOTEE.

(Northern Division.)

August 1.—The annual show of the above Society took place in the Royal Botanical Gardens, Manchester, on the above date. It was timed to take place a week later, but what with the advanced character of the season, and the Chester show, the Committee decided to antedate it. There was the usual brisk competition for Carnations and Picotees, and the flowers generally were above the average.

Mr. T. Lord, Todmorden, took 1st prize for twelve Carnations, all dissimilar, having a very even stand of the following blooms: Robt. Houlgrave, Thaddeus, Crista Galli, Bruce Findlay, a good scarlet bizarre seedling; Admiral Curzon, J. D. Hextall, Mrs. Muir, Gordon Lewis, extra fine; George and Edith, Annie. Mrs. Jas. Edwards, Mostyn, J. W. Bentley, Stakehill, J. Brocklehurst, Geo. Thornley, and Henry Geggie followed; the best blooms among them were Sarah Pryne, Ellis Henwood, and Evan Edwards.

For twelve Picotees, all dissimilar, Mr. Wm. Kenyon, Bury, was 1st with Zerlina, Nellie, Little Phil, Ethel, Esther, Mrs. Gorton, Mrs. Wilson, and Henry Kenyon. Messrs. T. Lord, F. Shaw, Mostyn, Edwards, H. Geggie, and C. F. Thurston followed; the best blooms among the lot were Muriel, Morna, Lady Louisa, and Thos. Williams.

For six Carnations, dissimilar, 1st, Mr. T. Berwick, Middleton, who had, among others, excellent blooms of Sportsman and Dolly Varden. Messrs. Shaw, Chorley, Whittaker, and Thurston also had good stands.

For six Picotees, dissimilar, Mr. C. Hebden was 1st with very good Esther, Mrs. Payne, Nellie, Lady Louisa, and Mrs. Williams. Mr. Ed. Kenyon had Little Phil and Zerlina, very good; and Mr. Beswick had Mrs. Gorton, fair.

For twelve selfs, there was a fine competition, and the flowers were large and well-grown and showy. Mr. T. Lord had Germania, Scarlet Queen, Ruby, the white Mrs. Muir, Uncle Tom, and a bright scarlet seedling. Messrs. Edwards, Wm. Kenyon, and J. W. Bentley had all good stands of flowers.

For six selfs, Mr. Brockhurst took 1st, chiefly with seedlings and Germania. E. Shaw, Edward Kenyon, and D. Walker, Kilmarnock, followed.

For twelve fancy Carnations and Picotees, Mr. T. Lord had particularly good Romulus, Auriel Rose, Mrs. Scott Banks, and Soudan. Messrs. Edwards and C. F. Thurston followed. Mr. D. Walker, Kilmarnock, had a very good six.

For the best crimson bizarre, Mr. Lord was 1st with Master Fred, among scores of other competitors; the same grower being 1st for a scarlet bizarre with Robt. Houlgrave, and also for a pink and purple bizarre with Bruce Findlay. Mr. H. Geggie, Bury, was 1st with a scarlet flake, Tom Lord. Mr. J. Beswick was 1st for rose flake with Dolly Varden, and Mr. Lord for purple flake with Gordon Lewis.

For the best heavy-edged Picotee, Mr. Lord was 1st with Morna, light-edged with Mrs. Gorton, also for heavy-edged purple with Amy Robsart; also for light-edged purple with Esther; also for heavy-edged scarlet or rose with Edith Dombrain. For light-edged rose, Mr. Kenyon was 1st with Favourite.

For the premier Carnation in the show, Mr. Lord was 1st with Gordon Lewis, a beautiful bloom; and for the premier Picotee, Mr. Edward Kenyon was 1st with Harry Kenyon with fine petals slightly pink-edged.

First-class Certificates were awarded to scarlet bizarre Evan Edwards, one of the best in exhibit, only rather small, from Mr. Edwards; also to the same grower for Picotee Eveline, a finely built white ground with a soft pink edging. Mr. Brocklehurst, Mostyn, secured a First-class Certificate for Etna, a deep maroon shaded scarlet after the way of Mancunian. Mr. H. Geggie, Bury, secured a similar award for a white border Carnation named Mrs. Howard.

FROME.

August 3.—Under the auspices of the Lord Lieutenant of the County (the Earl of Cork) and the Marquis of Bath, the Committee of the Frome flower-show held a most successful exhibition of plants, cut flowers, fruits, and vegetables on the above-mentioned date.

Groups of miscellaneous plants, arranged for effect, were tastefully set up. Mr. Phillips, gr. to J. Baily, Esq. Frome, being a good 1st; Mr. S. White, gr. to J. D. Knight, Esq. had the best half dozen specimen Fuchsias out of three good lots shown. Mr. Paynam, gr. to Mrs. Goldsmith, Trowbridge, had the best six stove and greenhouse foliage plants. And Mr. George Tucker, gr. to Major Clark, was 1st for twelve exotic Ferns, distinct, with a nice, fresh, even lot. Mr. E. Hall, Bath, had the best single specimen foliage plant, in a nice fresh piece of Cycas revoluta. Two large groups of capitally-grown and well-arranged decorative plants, not for competition, were put up by Mr. Trollope, gr. to the Marquis of Bath, Longleat, and Mr. Young, gr. to the Earl of Cork, Marston; and an interesting collection of Cacti, not for competition, was exhibited by Mr. E. R. M. Chapman.

Fruit was shown fairly well. Mr. Struggnell, Roode Ashton, Trowbridge, had the best collection of six kinds, showing nice brightly coloured pieces of Muscat of Alexandria, good Black Hamburgh, Brown Turkey Figs, Dymond Peach, Stanwick Nectarine, and Sutton's Al Melon. Mr. R. J. Phillips had the best two bunches of Black Grapes, showing medium-sized bunches of Madresfield Court and Black Hamburgh, beautifully coloured; Mr. Struggnell was a good 1st in the corresponding class for two Whites, with well-coloured Muscat of Alexandria. Mr. Pymm was 1st for Peaches, showing a nice dish of Royal George; and a good dish of Lord Napier Nectarine secured a like honour for the same exhibitor.

VEGETABLES

Were shown well for the season. Mr. James Hall was successful in securing 1st prize (Messrs. Sutton & Sons') in the class for six kinds, with excellent produce, well set up; Mr. G. Garaway taking Messrs. Webb & Sons' 1st prize for a like number of kinds, fine in every respect. Cucumbers, Tomatos, &c. were also shown well.

ROYAL SCOTTISH ARBORICULTURAL.

August 5.—This society held a general meeting on the above date at 2 o'clock p.m., in the Lecture Hall at the Royal Botanic Garden, Edinburgh, permission having been obtained from the Regius Keeper. Mr. R. C. Munro Ferguson, M.P., President, who had intended to be present

wrote apologising for his absence, he having been detained in the House of Commons in connection with the Rating Bill. Mr. D. F. MACKENZIE, Mortonhall, occupied the chair. The council meeting was held at 1 o'clock, and five life members and twenty-nine annual subscribers were elected.

The number of essays sent in were this year in excess of 1895. Thirteen having this year to be judged by the council, as against six of last year. Silver medals were gained by the following:—Messrs. JAMES HARDIE, Mortonhall Gardens, Edinburgh; ALEXANDER MURRAY, Forester, Murthly; R. STEWART M'DOUGALL, Royal Botanic Gardens, Edinburgh; ANDREW SLATER, Peebles; G. CADDELL, late of Her Majesty's Indian Forestry Department; and ALEX. MACRAE, Assistant Forester, Market Drayton. Bronze medals were awarded to Messrs. J. GILLESPIE, Lockton Lodge, Perthshire; and J. F. INGLIS, Forester, Kelly Estate, Wemyss Bay. A Motion that the following offices be created in the society, and that the members undermentioned be elected for the year, was brought forward:—Consulting Botanist Professor, J. B. BALFOUR, F.R.S.; Consulting Chemist, Dr. A. P. AITKEN; Consulting Entomologist, R. STEWART MACDOUGALL, Esq., B.Sc.; Consulting Geologist, Dr. AFFLECK; Consulting Meteorologist, Mr. MOSSMAN; and Dr. SOMERVILLE as Consulting Cryptogamist.

A Motion was also brought forward and remitted to the council to arrange for the 1897 excursion, being to Ireland. The papers read before the society consisted of one from Dr. ADAM SCHWAPPACH, Professor of Forestry, Eberswalde, Prussia, on "The Importance of Density in Sylviculture," which gave many valuable hints and rules to those engaged in forestry. Mr. A. C. FORBES, Wood Manager, Bowood, Wilts, also gave a paper, entitled "Is British Forestry Progressive?"

ST. NEOT'S HORTICULTURAL.

AUGUST 3.—This was the thirty-second exhibition of this popular Society, and it is something to its credit that, in a purely agricultural district, an exhibition should be maintained so long; but it wisely caters for the country people, by including in its schedule of prizes all kinds of agricultural produce, while there is a section for market gardeners, also poultry, pigeons, rabbits, caged birds, and other subjects. The show took place, as usual, in Priory Park, the residence of G. FYDELL ROWLEY, Esq. Another circumstance worthy of mention is, that this exhibition celebrated the twenty-first year of service, as working secretary, of Mr. WILLIAM RATCHELOUS, the manager of Messrs. Wood & Ingram's branch nursery at St. Neot's, to whose exertions so much of the success of the Society is due. Owing to the recent death of one of the principal exhibitors, the show was deprived of several collections of plants, the presence of which has always added material interest to the show; but though, owing to this and other causes, the classes were not so well filled as usual, there was a manifest advance in quality. The most successful exhibitor was Mr. T. Lockie, gr. to A. J. THORNHILL, Esq., Diddington Hall, and formerly of Windsor.

A few classes are open to all comers, but on this occasion they brought only two exhibits, Messrs. WOOD & INGRAM, nurserymen, Huntingdon, being 1st with twenty-four Roses. They were also placed 1st with twenty-four fine bunches of cut, hardy, herbaceous and bulbous flowers.

In the classes from which nurserymen are excluded, Mr. T. LOCKIE had the best twelve cut Roses. Mr. W. Gascoigne, gr. to G. O. NEWTON, Esq., was 2nd. Mr. R. BURGIN, St. Neot's, had the best twelve Dahlias, Mr. LOCKIE taking the 2nd prize. Mr. LOCKIE was 1st with twelve Zinnia elegans—excellent for the season; also with twelve bunches of stove and greenhouse cut flowers, staging in capital condition. Allamanda, Gloxinias, Globe Amaranthus, Streptocarpus, Cleroden ron fallax, Ixora, &c. Trusses of zonal Pelargoniums were very good, Mr. LOCKIE again taking the 1st prize; Dr. E. J. Cross, St. Neot's, being a close 2nd. Mr. W. Last, gr. to F. DAY, Esq., St. Neot's, was 1st with twelve bunches of hardy plants.

Some capital specimen Fuchsias gained the 1st prizes for Mr. LOCKIE, chief among them, Rose of Castille Improved, a very fine exhibition and decorative variety. Mr. A. WATKINSON had the best six plants in bloom, they included a fine piece of Nerium Oleander, and Plumbago capensis, &c. Coleus were shown in finely-grown and coloured plants, Mr. LOCKIE taking the 1st prize, Mr. Last being a close 2nd. Mr. LOCKIE was also 1st with half a dozen finely grown and bloomed zonal Pelargoniums; he had the best specimen flowering plant in an excellent piece of Statice profusa, and he was also 1st with a specimen foliaged plant, having a well-developed example of Alocasia cuprea (metallica). Mr. SURTEES-WILKINSON was 2nd with a green-leaved Dracæna.

Tuberous-rooted Begonias were represented by admirably grown and bloomed plants from Mr. LOCKIE; Mr. A. W. ATKINSON was 2nd. The former was the only exhibitor of a group arranged for effect, having a very pleasing one indeed. Stove and greenhouse Ferns and plants for table decoration were both good features.

There was a small but select display of fruit, the best collection of eight dishes coming from Mr. Carter, gr. to Capt. W. H. DUNCOMBE, Wansley Park, Sandy.

Mr. LOCKIE took the 1st prize for ten dishes of vegetables, putting up a perfect collection.

A group of excellent Cannas from Messrs. WOOD & INGRAM were highly commended.

NORTHAMPTON HORTICULTURAL.

AUG. 3, 4.—This society held its annual exhibition and fête on the above dates. The competition was keen and the productions very good. Considering the season, cut flowers were shown very satisfactorily. Plants were very fine, and groups also. The arrangements of the show were in the hands of Mr. W. B. TROUP and an efficient committee, who discharged their duties in an exemplary manner.

PLANTS.

In the class for twelve specimen plants, Mr. J. CYPHER, Queen's Nurseries, Cheltenham, was placed 1st. He had splendid specimens of Kentia Belmoreana, Cycas revoluta, Kentia Forsteriana, Croton angustifolius (extra), Phœnocoma prolifera, Dipladenia hybrida, Croton Queen Victoria, Statice profusa, Allamanda grandiflora, Ixora salicifolia, and Croton Sunset, which was beautifully coloured. Mr. FINCH, Coventry, was a fairly good 2nd, and included good specimen Crotons, Erica Lindleyana, Statice profusa, &c. Mr. VAUSE, Leamington, was 3rd.

For six stove or greenhouse plants, three in bloom and three out of bloom, Sir H. WAKE (gr., Mr. Knightley), was 1st. Stephanotis, Ivy-leaved Pelargonium, Souvenir de Charles Turner, Croton angustifolius, and Latania borbonica were included. Mr. Copson, gr. to Mrs. P. PHIPPS, Collington Grange, was 2nd, and he had a very good plant of Ixora Williamsii. Mr. Innes, gr. to Mr. W. H. FOSTER, of Spratton Grange, was 3rd.

Some splendid Ferns were exhibited, and the 1st prize went to Mr. Pearce, gr. to L. LODER, Esq., Hove House. Mr. COPSON, Collington, was a good 2nd.

Coleuses were very fine, Mr. COPSON being 1st, and Mr. Dorey, gr. to Mr. SIMPSON, Broom Hill, Spratton, 2nd. For six Double Begonias Mr. KNIGHTLEY was 1st, and showed some capital seedlings; Mr. HOLLAND, 2nd. Mr KNIGHTLEY was again 1st for Single Begonias, Mr. COULSON 2nd. Fuchsias from Mr. KNIGHTLEY were good. Mr. BEARD and Mr. LODER were 2nd and 3rd respectively. Some good zonal Pelargoniums were staged by Mr. DOREY and Mr. COPSON.

For Table Plants, Mr. PEARCE, Mr. COLE, and Mrs. HAYES were the successful exhibitors.

Cockscombs were not very good; the best came from Mr. PEARCE; followed by Mr. COPSON and Mr. Kempshall, gr. to Sir C. E. ISHAM, Bt., Lamport Hall.

GROUPS.

For a group to cover a space 20 feet by 12 feet, Mr. CYPHER was again placed 1st, with a beautifully arranged group with a centrepiece of Kentia Belmoreana, and smaller groups arranged around it of splendidly coloured Crotons, Cannas, Bambusas, Humea elegans, Tuberoses, Dracænas, Asparagus plumosus and deflexus, and the corners and crevices filled with small plants of Caladium argyrites, &c., and Moss. Altogether the group was a credit to the firm. Mr. VAUSE, Leamington, was 2nd. The chief feature of his group was arches covered with Cork and Moss. In the centre of the arches was a plant of Phœnix rupicola, and around the arches and in the corners were flowering and foliage plants of Cocos, Liliums, Crotons, Hydrangeas, Ixoras, Eulalias, Orchids, &c. Mr. FINCH, Coventry, was 3rd.

ROSES (OPEN).

Considering the very dry season this popular flower was shown fairly well. In the open class Mr. JOHN PERKINS was 1st for twenty-four blooms, which included some good blooms of François Michelon and Ulrich Brunner; but the whole exhibit was very even in character. Messrs. THOMAS PERKINS, of Northampton, were 2nd with a fairly good exhibit; and Mr. W. Eyden, gr. to SAMUEL BERGER, Esq., 3rd.

OTHER CUT FLOWERS.

For twenty-four Dahlias, Messrs. T. PEARKINS were 1st, and they had a very strong collection.

For twelve Dahlias, single blooms, Mr. BEARD was placed 1st.

Twelve bunches of Cactus Dahlias brought only one competitor in Mr. PEARSON, who was placed 1st.

FRUIT.

In open class for a collection of eight varieties, Mr. COLE, gr., Althorpe, was 1st with Queen Pine, Muscat of Alexandria and Madresfield Court Grapes, Prince of Wales Peach, brown Turkey Fig, Countess Melon, Lord Napier Nectarines, Doyenné d'Été Pears. Mr. Hayes, gr. to MARQUIS OF NORTHAMPTON was 3rd with good Muscat of Alexandria, which were not quite ripe, and beautiful Nectarines (Stanwick Elruge); other dishes were Peaches, Melon, Apricots, and Figs.

For three bunches of black Grapes, Mr. ADNITT, Northampton, was 1st, with three bunches of black Hamburgh.

For three bunches of white Grapes, Mr. L. Jordan, gr. to Lord ANNALY, Holdenby, won with three good bunches of Muscat of Alexandria, very fine.

VEGETABLES

were staged in considerable quantity, and the quality was very good. Mr. COLE was 1st for a collection with Veitch's Autumn Giant Cauliflower, Veitch's Selected Carrot, Chelsea Giant Runner Bean, Pragnell's Exhibition Beet, Paris Green Artichoke, Sutton's Perfection Cucumber, Perfection Tomatos, Dobbie's White Turnip, Ailsa Craig Onion (very good), Cole's Favourite Potato, Autocrat Pea, and Major Clarke Celery; Mr. DYMOCK being 2nd, and Mr. COPSON 3rd.

In the county class for nine varieties, Mr. F. DOUGLAS was 1st.

Exhibits of single dishes of Vegetables were good, especially Onions, Tomatos, and Potatos.

There were some good exhibits in the Cottager's Classes, and the competition was keen in the majority of the classes.

The Judges were Mr. J. Smith, Mentmore Gardens; Mr. W. Coomber, gr. to Lord Lilford; Mr. Cole, gr. to Earl Spencer; Mr. L. Jordan, gr. to Lord Annaly; Mr. J. Knightley, gr. to Sir Herewald Wake, Bart.; and Mr. J. Shaw.

CHESTER.

AUGUST 5, 6.—Favoured with fine weather, the committee of the Chester Horticultural Show and Fête held its first exhibition of plants, cut-flowers, fruits, and vegetables, in the Roodee, on Wednesday and Thursday, and the committee and Mr. J. WYNNE FOULKES (Hon. Secretary) are to be congratulated upon the success of their efforts to make the show a thoroughly representative one. The competition was keen in most of the classes, and the exhibits generally were of a high degree of excellence. The number of entries in the open to all classes was large. Groups of plants arranged for effect on a space occupying not more than 300 square feet, comprised four groups of Orchids, each occupying a space of 150 square feet. There were forty-three entries in the plant classes; fifty-four in the cut-flower classes; ninety in the fruit classes; and 403 in the vegetable classes—making in all 590 entries. Adding to these figures 1,196 entries in the cottagers' classes, a grand total of 1,791 is made. Thus it will be seen that keen competition prevailed in all the classes, and that the gentlemen who promoted this successful and promising horticultural exhibition have succeeded in moving the inhabitants of Chester and surrounding district in the right direction.

PLANTS.

In the class for twelve stove and greenhouse plants in bloom, Mr. J. CYPHER, Cheltenham, was a good 1st, staging good-sized fresh plants of Erica Austiniana, Statice Gilberti, Ixora salicifolia, Allamanda nobilis, Bougainvillea Sanderiana, fine in size and flower; Ixora Prince of Wales, Erica Aitoniana, Allamanda grandiflora, Statice profusa, Erica Thompsoni, Ixora Williamsii, Phœnocoma prolifera Barnesii—an all round good lot of well-flowered plants. Four other lots of plants were shown in this class.

In the class for six flowering plants Mr. Joseph Roderick, gr. to T. H. SYKES, Esq., Cheadle, was 1st with a good lot of plants, including well-flowered examples of Stephanotis floribunda and Ixora Williamsii. With four specimens of Crotons Mr. B. Cromwell, gr. to T. S. TIMMIS, Esq., Liverpool, was a good 1st, staging large brightly-coloured plants; Mr. CYPHER being a good 2nd.

Specimen plants.—Mr. CYPHER was 1st in the class for greenhouse plants, with a fine piece of Phœnocoma prolifera Barnesii, and in the corresponding class Mr. RODERICK secured the premier position with a well-flowered plant of Dipladenia amabilis.

Groups were, as is usual at big shows, quite a feature. Mr. Edmonds, gr. to the DUKE OF ST. ALBANS, Bestwood Lodge, Notts, was 1st with a very pleasing arrangement, consisting of small groups with central plants, showing well above the groundwork of Crotons, Palms, Humea elegans, &c., intermixed with Dendrobium Schroderianum, Lilium in variety, Françoas &c.; Mr John McIntyre, gr. to Mrs. PEASE, was 2nd, with a good arrangement; and Mr. RODERICK was a creditable 3rd.

ORCHIDS.

Three groups of Orchids were tastefully set up, Mr. CYPHER being an easy 1st. His group consisted of many good types of Cattleya Mossiæ and Sanderiana, Oncidium Jonesianum flavens, O. papilio, Oncidium Kramerii, &c. Mr. JOHN ROBSON was 2nd.

Messrs. HUGH LOW & Co., Upper Clapton, London, put up a nice collection of Orchids, including a good plant of the curious Swan Orchid (Cycnoches Chlorocheilon), Cattleya Sanderiana, C. imperialis, Odontoglossum Roezlii, Oncidium Krameri, Cattleya velutina, C. speciosissima, Dendrobium Phalænopsis, D. Schroderianum, Cypripedium Dayanum, and Cattleya granulosa.

Messrs. LAING & MATHER, Kelso, contributed a nice bank of Carnations with Palms at the back of the group, and Maidenhair Fern intermixed with the Carnations, and placed also in front of the arrangement.

CUT FLOWERS.

Messrs. JONES & SONS, Shrewsbury, were 1st for a collection of cut flowers, arranged on a space of 12 feet by 5 feet, the flowers employed chiefly consisting of Orchids, Pancratiums, Liliums, Carnations, Sweet Peas, &c., intermixed with Maidenhair Fern, Asparagus plumosus and a variety of Grasses, were made the most of. Messrs. JENKINSON & SON, Newcastle, were a good 2nd.

Two other collections in the form of devices were arranged with good effect; and the various collections of Carnations made a good show. Mr. CAMPBELL, Blantyre, N.B., secured premier position with a grand lot of Carnation blooms, fine in size, form, and colour; and Messrs. LAING & MATHER, Kelso, were a good 2nd. Two other good collections were shown.

ROSES.

In the class for twenty-four Roses, distinct varieties, Messrs. J. COCKER & SONS, Aberdeen, were 1st, with a good

even lot of solid, fresh-looking blooms; Messrs. Harkness, Bedale, being a good 2nd. There were three exhibits in this class. In the classes set apart for Tea Roses, Messrs. Cocker & Sons were again to the front, Messrs. D. & W. Croll, Dundee, being 2nd.

Mr. W. Stubbs, Nantwich, had the best stand of twelve, showing good, solid, fresh-looking blooms.

GLADIOLUS.

Messrs. Harkness & Sons were the only exhibitors of thirty-six spikes of Gladioli in not fewer than twenty varieties, and they were very properly awarded the 1st prize.

BALL AND BRIDAL BOUQUETS.

Messrs. Jenkinson & Sons were 1st with a good arrangement, being followed by Mr. R. J. Allen, Aigburth, and Mrs. Dimond Hogg.

FRUIT.

Fruit on the whole was shown well, exhibits generally being of a high order. In the chief class for collections of eighteen dishes of ripe fruit, the prizes were £15, £10, and £5.

Mr. Goodacre secured first honours with a beautiful collection, consisting of splendid Muscat of Alexandria, Madresfield Court, and Black Hamburgh, Foster's Seedling, Read's Scarlet-flesh, and the Countess Melon; Barrington and Royal George Peaches; Victoria and Lord Napier Nectarines; Kirk's and Jefferson's Plums; Brown Turkey Fig; Souvenir du Congrès Pears; a fine dish of Lady Sudeley Apple, and La Grosse Sucrée Strawberry. Mr. McIndoe was 2nd, in his exhibit there were two fine bunches of Golden Champion Grapes; two large, but rather badly coloured bunches of Madresfield Court Grape; Scarlet Model, and Shrewsbury Melons; Souvenir du Congrès, and Clapp's Favourite Pear, Prince Englebert Plums; Bigarreau Cherries; Alexandra, Noblesse, and Magdalen Peaches; Dryden and Spenser Nectarines. There were only two entries in this class, Mr. Goodacre's collection being nicely arranged with Carnations, Eucharis, Fern-Grass, &c.

In the class for six kinds (Pines excluded), Lady H. Somerset was a good 1st out of four exhibits, showing Muscat Grapes, a seedling Melon, Lord Napier Nectarine, Stirling Castle, Peaches, Brown Turkey Fig, and Bigarreau Napoleon Cherries. The Earl of Carlisle, Castle Howard, was 2nd (Mr. J. Riddell, gr.), showing Hamburgh Grapes, Bellgarde Peaches, Brown Turkey Fig, Moor Park Apricot, Jefferson Plum, and William's Bon Chretien Pear. Lord Bagot (gr., Mr. Bannerman) was 3rd with Hamburgh Grapes, Late Admirable Peaches, Moor Park Apricot, Pine-apple, Nectarine, and Greengage Plum.

For a collection of hardy fruits, not exceeding twelve kinds, Mr. McIndoe, gr. to Sir J. Pease, was 1st, showing Marguerite Marrita (new) and Brockworth Park Pears, early Julien Apples, Czar Plum, Emperor Francis Cherries, white Transparent and Defiance Currants, Transparent Gage Plum, and large early Apricots. Viscount Combermere (gr., Mr. Severn) was a good 2nd; his Apricots and Cherries were exceptionally good. Mrs. Bloomfield (gr., Mr. Worker) was 3rd.

Mr. Riddell was 1st for a Pine-apple, showing a good Queen; Mr. Goodacre was 2nd also with a fruit of the same variety; Mr. McIndoe was 3rd, with a good fruit of smooth Cayenne.

For six bunches of Grapes, three black and three white, W. Richard, Esq. (gr., Mr. Crisp), 1st, showing Muscats and black Alicantes, his Muscat being very good; Mr. Goodacre, 2nd, showing Hamburghs, Madresfield Court, Muscats, and Foster's Seedlings; F. A. Bracé, Esq., 3rd, with Gros Maroc and Muscats.

Mr. Goodacre was a good 1st for three bunches of Black Hamburghs, these being beautifully coloured.

In the class for three bunches, any other black, J. C. Waterhouse, Esq., was 1st, with beautiful Madresfield Court; C. Wigg, Esq., 2nd (gr., Mr. Edge), with Madresfield; H. Chandos-Pole Gell, Esq., was 3rd.

For three bunches of Muscats, Mr. Coates (gr. to W. H. Verdin, Esq.), was 1st, with large and beautifully coloured bunches; A. F. Bracé, Esq., 2nd, with large bunches, but not so well coloured as the former; E. S. Clarke, Esq. (gr., Mr. Edwards), was 3rd.

For three bunches any other white Grape, J. C. Waterhouse, Esq., was 1st with a grand bunch of Foster seedling; Mr. Goodacre being 2nd, and F. A. Bracé, Esq. 3rd, both showing Foster's Seedling.

For a single dish of Peaches, M. H. Verdin, Esq., was 1st, showing splendid specimens of Royal George; Mr. Harris, gr. to Lady H. Somerset, Eastnor Castle, was 2nd with Bellegarde; and J. Tomkinson, Esq., 3rd with Dr. Hogg.

Dish of Nectarine, R. Wilbraham, Esq. (gr. Mr. Thompson), was 1st; Mr. J. Milne, Ville Royal, 2nd; and Mr. S. T. Chadwick 3rd, all showing Pineapple.

For a Melon, M. H. Verdin was 1st with Dicksons Hero of Chester, Mr. McIndoe 2nd with Scarlet Model, and Mrs. Watkins 3rd.

Dish of Figs.—Lady H. Somerset was 1st, with Brown Turkey; Sir J. Pease 2nd, with Negro Largo; Lord Harrington 3rd, with Brown Turkey.

Dish of Cherries.—Lady H. Somerset was first here also with Bigarreau Napoleon; Viscount Combermere 2nd, Mrs. Bloomfield 3rd, both having Morello.

For the best 12 Fruits of Red Tomatos.—Mr. Coll, Liverpool, 1st, with Duke of York; G. M. Brookes, Esq., 2nd.

For the best 12 Yellow Tomatos.—Duke of St. Albans 1st; and J. B. Claek, Esq., 2nd.

For a dish of Apricots.—Lady H. Somerset was 1st with fine fruits of large Early Roman; the Earl of Carlisle, 2nd; R. W. Wilbraham, Esq., 3rd.

A dish of Pears.—Sir J. Pease 1st with Clapp's Favourite; Earl of Carlisle 2nd, with Williams' Bon Chrétien.

A dish of dessert Apples.—Mrs. McCorquodale 1st with Beauty of Bath; and Lady H. Somerset 2nd with Lady Sudeley.

A dish of culinary Apples.—Mr. Garraway 1st with Peasgood Nonsuch; Lady H. Somerset 2nd with Ecklinville; C. Wigg, Esq., 3rd with the same variety.

A dish of Plums. Hon. Cecil Parker 1st with Transparent Gage; Earl of Carlisle 2nd with Jefferson; Viscount Combermere 3rd.

A dish of culinary Plums. Mrs. Bloomfield 1st with Pond's Seedling; Mrs. Logan 2nd; Hugh Smythe, Esq., 3rd; the last two mentioned showing Victorias.

VEGETABLES.

In the class for collections of twelve kinds, seventeen lots were staged. Mr. Pope, gr. to the Earl of Carnarvon, Highclere Castle, Newbury, took 1st prize with an admirable lot of produce. This consisted of Sutton's Prizetaker Leek, good Cauliflowers, Celery, Sutton's Perfection Tomatos, Beets, Intermediate Carrot, Satisfaction Potatos, Ailsa Craig Onions, Snowball Turnips, Duke of Albany Peas, and good Cucumbers. The whole was tastefully set up. Mr. Wilkins, Inwood House, was a capital 2nd, and Mr. Waite was a good 3rd. The last named exhibitor was 1st for six Onions; Mr. Wilkins being 2nd.

Potatos were shown in large quantities, the tubers being of good size, even, and clean. Mr. C. Foster had the best dish of kidneys, showing Sutton's Supreme; the same exhibitor also taking 1st in the class for round varieties, with the variety Satisfaction. Mr. Charle Foster had the best dish of coloured variety, with excellent Reading Russett.

Mr. Roderick was 1st for Cauliflowers, showing good solid heads of Veitch's Autumn Giant.

TRADE EXHIBITS.

The contributions sent by several of the leading nurserymen made a fine exhibition in themselves. The celebrated Chester firm Dicksons had a grand lot of miscellaneous plants, including Tree-Ferns, Cannas in great variety, double and single flowered tuberous-rooted Begonias, Gloxinias, Caladiums, Crotons, Dracænas, Liliums, Chrysanthemum Gonnetwald dwarf-habited plants, finely flowered; Tuberoses; vegetables in great variety; fruiting Grape-vines in pots; bouquets of Tea and other Roses; herbaceous flowers in various designs, as well as a great length of stagings; embellished with bundles of herbaceous flowers in great variety, together with two groups of Conifers in variety, the only Gold Medal which was awarded to a Chester or local firm, and which was a well deserved recognition of the excellence and usefulness of this class of plants.

Messrs. J. Veitch & Sons, Royal Exotic Nursery, Chelsea, had a fine exhibition of Nepenthes, Caladiums, &c., as also had Messrs. Cutbush & Sons, Highgate, London.

Messrs. H. Cannell & Sons, Swanley, Kent, had an attractive group of Cactus Dahlias in variety, Cannas, and Cockscombs, the latter of dwarf habit, with very fine combs of bright and pleasing colours.

Messrs. R. P. Ker & Sons, Liverpool, had a good length of staging of Caladiums, in variety, and bright-coloured Crotons.

Mr. Richard Hartland, Cork, had a grand lot of cut blooms of named tuberous-rooted Begonias, the individual blooms (doubles) being of fine size and substance, uniform and fresh looking.

Mr. Henry Eckford, Wem, staged 50 bunches of his renowned varieties of Sweet Peas, including Dorothy Tennant, H. M. Stanley (dark), Lady Penzance (pink), Emily Eckford (mauve), Lady Nina Balfour (pale mauve), Senator (variegated), Mrs. Sankey (white), and Salopian (deep pink).

Messrs. Dickson & Robinson, Manchester, also contributed to the general floral effect.

Awards

The following Certificates and Medals have been awarded, but at the time our despatch left, it was not possible to say which of the medals were awarded by the deputation of the Royal Horticultural, and which by the Chester Society. The Flora Knightian and Banksian medals are obviously awarded by the Royal Horticultural Society.

First-class Certificates. Erica Fascination, Sarracenia Sanderiana, from Messrs. Sander & Co.; Watsonia, iridifolia variety, Messrs. Wallace & Co., Colchester.

Award of Merit. Oncidium Jonesianum variety, Mr. Cypher, Cheltenham; Begonia Queen Victoria, Messrs. F. Sander & Co.; Lilium speciosum album novum, Messrs. Wallace; Caladium Lady Mosley and Begonia Princess Charles of Denmark, Messrs. Jas. Veitch & Sons. Begonia Beauty, and Begonia Miss Emily Childs, Mr. T. S. Ware, Tottenham; Rondeletia Brilliant and Tomato Royal Windsor, Messrs. Dicksons, Ltd.

Gold Medal to Messrs. Dicksons, Ltd., for a collection of plants, flowers, and fruit; to Messrs. Jas. Veitch & Sons, Chelsea, for Nepenthes and Caladiums; to Messrs. F. Sander & Co. for Orchids.

Silver-gilt Flora Medal.—Mr. Cypher, Cheltenham, for group of plants, Orchids, &c.; Duke of St. Albans, for a group of plants; and to Mr. T. S. Ware for Begonias.

Silver Knightian Medals to Sir Jos. Pease, Bart., Hutton Hall, Guisborough (gr., Mr. McIndoe), for a collection of fruit; and to the Earl of Carnarvon, Highclere Castle, Newbury (gr., Mr. Pope), for a collection of vegetables.

Silver Flora Medals to Mr. Baylor Hartland, Cork, for cut Begonia flowers; Messrs. Ker, Liverpool, for Crotons. Messrs. Sander & Co., St. Albans, for Orchids and other plants; T. H. Sykes, Esq., Orchids; Mrs. Gurney Pease, groups of plants; F. S. Sibray, groups of hardy and foliage plants; Messrs. H. Cannell & Co., Swanley, cut flowers; Messrs. J. Peed & Sons, Upper Norwood, Caladiums; Messrs. W. & J. Birkenhead, Sale, Ferns; Mr. H. Brownhill, Begonias; Mr. H. Cypher, Cheltenham, specimen stove and greenhouse plants; Messrs. W. Cowan & Co., Liverpool, group of Tea Roses.

Silver Banksian Medals.—To Mr. M. Campbell, Blantyre, for group of Carnations; to Mr. H. Eckford, Wem, for Sweet Peas; to Messrs. H. Low & Co., Clapton, for Orchids; to Mr. C. Parker, Waverton, for collection of vegetables.

Highly Commended. Mr. T. S. Timmins, Allerton, Liverpool, for Crotons; Lady Theodora Guest, Henstridge (gr., Mr. Williams), for collection of vegetables; Mr. Alex. McLean, Chester, for ditto.

Cultural Commendations.—To Wm. Pritchard, Esq., Chester (gr., Mr. Jno. Thompson), for Muscat of Alexandria Grapes; and to Lady H. Somerset, Eastnor, for Bigarreau Napoleon Cherries.

Obituary.

James Whitton.—We regret to announce the death of Mr. James Whitton, nurseryman, which took place at Sunnybank Nurseries, near Falkirk, on Sunday, July 19. The deceased was sixty nine years of age, and had been for some time in failing health. Mr. Whitton was a native of Alyth, Perthshire, was head gardener at Lauder Castle, Berwickshire, for thirty years, and served four Earls of Lauder. His talents as a gardener were widely known; and his genial disposition gained him many friends. He began business at Sunnybank fourteen years ago, and is survived by a widow.

The Weather.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts	Temperature. Accumulated. Above (+) or below (−) the Mean for the week ending August 1.	Above 42° for the Week.	Below 42° for the Week.	Above 42°, difference from Mean since December 29, 1895.	Below 42°, difference from Mean since December 29, 1895.	Rainfall. More (+) or less (−) than Mean for the Week.	No. of Rainy Days since Dec. 29, 1895	Total Fall since Jan. 1, 1896	Percentage of possible Duration for the Week.	Bright Sun. Percentage of possible Duration since Dec. 29, 1895
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch		Ins.		
0	1 −	87	0	+ 258	− 318	5	143	30·9	52	24
1	2	92	0	+ 262	− 241	6	111	13·7	32	32
2	1	111	0	+ 307	− 222	1 −	89	9·5	31	32
3	1 −	126	0	+ 264	− 229	3 −	91	10·2	47	38
4	1	118	0	+ 303	− 247	2 −	89	10·2	30	34
5	0 aver	134	0	+ 321	− 240	2 ·	81	8·7	50	39
6	1 −	99	0	+ 286	− 228	1 +	119	24·7	40	33
7	1 ·	110	0	+ 378	− 258	5 −	104	16·6	34	35
8	1 −	119	0	+ 401	− 206	4 −	87	12·2	42	43
9	1	102	0	+ 317	− 233	3	123	21·5	52	29
10	1	113	0	+ 391	− 210	3	103	17·7	40	34
*	1 +	141	0	+ 498	− 109	2	96	9·0	59	48

The districts indicated by number in the first column are the following:—

0, Scotland N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

The Past Week.

The following summary record of the weather throughout the British Islands for the week ending August 1, is furnished from the Meteorological Office:—

"The *weather*, at the commencement of the week, was changeable over the whole kingdom, with thunderstorms and heavy rain in many parts of England. Later on a decided improvement took place, but on the night of July 28 rain set in over our western districts, the unsettled weather

subsequently spreading to most other parts of the country. Towards the close of the period, however, the conditions again improved, and became fair and dry generally.

"The *temperature* was a little below the mean in all districts excepting 'England, S.,' and the 'Channel Islands," where the normal was equalled or slightly exceeded. Highest readings occurred in the northern and eastern parts of the United Kingdom on July 26, and in the south between July 28 and 30; but in the west they were observed mainly towards the end of the week. As a rule, the thermometer did not rise much above 70°, but in 'Ireland, N.,' it reached 76°, while in 'England, E.,' and 'England, S.W.,' it touched 77°. Lowest readings occurred on July 28 or 29, when the sheltered thermometer fell to 40° or less in many parts of the United Kingdom, and to 37° in 'Scotland, W.' At Oxford, the thermometer on the grass fell on the night of July 28 to a minimum of 36°.

"The *rainfall* was less than the mean in all districts excepting 'Scotland, W.,' the deficit being large in the north and east of Scotland, and also in the western parts of England.

"The *bright sunshine* exceeded the mean in most districts, but was just equal to the normal in 'England, N.E. and N.W.,' and slightly below it in the 'Midland Counties.' The percentage of the possible duration ranged from 59 in the 'Channel Islands' and 50 in 'England, S.' to 31 in 'England, N.E.,' and 30 in the 'Midland Counties.'"

MARKETS.

COVENT GARDEN, AUGUST 6.

We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Adiantum, per doz.	4 0–12 0	Ficus elastica, each	1 0– 7 6
Aspidistra, per doz.	12 0–30 0	Foliage plants, doz.	12 0–36 0
— specimen, each	5 0–15 0	Heliotrope, per doz.	4 0– 6 0
Asters, doz pots	4 6– 6 0	Hydrangea, various per doz.	6 0–12 0
Balsams, per doz.	3 0– 6 0	Ivy Geraniums per dozen	3 0– 4 0
Campanula, p. doz.	4 0– 9 0	Lilium Harrisii, pr. dozen pots	9 0–18 0
Chrysanthemum, do.	4 0– 9 0	Marguerites, p. doz.	6 0–10 0
Cock's combs, doz.	3 0– 4 0	Mignonette, p. doz.	4 0– 6 0
Coleus, per doz.	2 0– 4 0	Palms, various, ea.	2 0–10 0
Dracæna, each	1 0– 7 6	— specimens, ea.	10 6–84 0
— various, p. doz.	12 0–24 0	Pelargoniums, doz.	6 0– 9 0
Evergreen Shrubs, in variety, doz.	6 0–24 0	— Scarlets, p. doz.	2 0– 4 0
Ferns, small, doz.	1 0– 2 0		
Ferns, various, doz.	5 0–12 0		

Bedding Plants in variety.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Arums, p. 12 blooms	2 0– 4 0	Orchids:—	
Asters, French, bun.	1 0– 1 3	Cattleya, 12 blms.	6 0–12 0
— English, dozen bunches	3 0– 6 0	Odontoglossum crispum, 12 bm.	2 0– 6 0
Bouvardias, per bn.	0 6– 0 9	Pansies, doz. bun.	1 0– 2 0
Carnations, 12 bun.	4 0– 6 0	Pelargoniums, scarlet, per 12 bun.	2 0– 4 0
— 12 blooms	0 6– 2 0	— per 12 sprays	4 0– 6 0
Eucharis, per dozen	1 6– 2 0	Pyrethrums, 12 bu.	2 0– 4 0
Forget-me-nots, p. doz. bunches	1 6– 3 0	Roses, Tea, per doz.	0 9– 1 6
Gardenias, per doz.	1 0– 3 0	— coloured, doz.	0 9– 1 6
Gladiolus, coloured, per doz. sprays	1 0– 1 6	— yellow (Maréchal), per doz.	2 0– 4 0
Lavender, doz. bun.	6 0– 9 0	— red, per dozen	0 6– 1 0
Lilium Harrisii, per doz. bunches	2 0– 4 0	— red, doz. bun.	4 0– 6 0
Maidenhair Fern, per 12 bunches	4 0– 8 0	— Gloire, doz. bn.	4 0– 6 0
Marguerites, per 12 bunches	1 0– 2 0	— Safrano, p. doz.	1 0– 2 0
Mignonette, p. doz.	2 0– 4 0	Stephanotis, 12 sps.	1 6– 2 0
		Stocks, p. doz. bun	2 0– 4 0
		Sweet Peas, 12 bun.	1 6– 3 0
		Tuberoses, 12 blms.	0 2– 0 4

ORCHID-BLOOM in variety.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, Suffields, per sieve	5 0–	Grapes, Gros Maroc, per lb.	1 9– 2 6
— Quarrendens, ½ sieve	4 0– 4 6	Figs, per doz.	2 6– 3 0
Apricots, per doz.	1 0– 2 0	Melons, each	1 6– 2 0
Cherries, Morello, half-sieve	4 0– 5 0	Nectarines, 1st size per doz.	6 0– 8 0
Grapes, Alicante, 1st quality, per lb.	1 6– 2 0	— 2nd do., p. doz.	3 0– 4 0
— Hamburgh, 1st quality, per lb.	1 6– 2 6	Nuts, Cob, per lb.	0 8– 0 9
— Alicante, 2nd quality, per lb.	1 0– 1 3	— Filberts, do.	0 6
— Hamburgh, 2nd quality, per lb.	0 9– 1 0	Peaches, 1st size, per doz.	6 0– 8 0
— Gros Colmar, per lb.	1 9– 2 0	— 2nd do., doz.	3 0– 4 0
— Muscats, English, per lb.	2 6– 3 0	— 3rd do., doz.	1 6– 2 0
— Muscat, Channel Islands, per lb.	1 0– 2 0	Pears, Williams, p. half-sieve	4 0– 5 0
		Pine-apples, St. Michael, each	7 6–10 0
		Plums, Early Rivers, per ½ sieve	4 6– 5 0
		— Orleans, ½-sieve	5 6– 6 0
		— Green Gage, p. ½-sieve	5 6
		— do. French, ½-do.	5 0– 6 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Beans, Scarlet Runner, p. sieve	3 0– 4 0	Mushrooms, (Indoor) per lb.	0 6
Cucumbers, home-grown, per dz.	1 6– 2 6	— (Outdoor), per half-sieve	3 0
— Ridge, per pad (about 10 doz.)	5 0	Peas, per sieve	4 0– 4 6
— Dutch, per doz.	1 0– 1 3	Tomatos, home-grown, smooth, per doz. lb.	4 6– 5 0
Marrows, Vegetable, per 5 doz. tally	7 0–10 0	— ord. kinds, do.	3 0– 4 0

POTATOS.

Best samples do not come to hand quite as freely as last week, and prices for such have a tendency to rise. Inferior samples are still plentiful at last week's prices. *J. B. Thomas.*

SEEDS.

LONDON: *August* 5.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report to-day's market as presenting quite a holiday character. Trifolium, with an increasing demand and diminishing supplies, is dearer. Mustard also tends upwards. New Rape-seed comes cheap and good. Italian Ryegrass offers on low terms. Winter Tares point downwards. Fine seed Rye is most moderate. Canary seed is steady. Clover and Trefoil seeds are firmly held. Peas unchanged.

FRUIT AND VEGETABLES.

BOROUGH: *August* 4.—Quotations:—Cabbages, 1*s.* 6*d.* to 3*s.* per tally; Spinach, 1*s.* 9*d.* to 2*s.* 3*d.* per bushel; English Onions, 6*s.* to 7*s.* per tally; Carrots and Turnips, 2*s.* 9*d.* to 3*s.* per dozen bunches; Marrows, 1*s.* 6*d.* to 2*s.* per dozen; English Cucumbers, 2*s.* to 3*s.* do.; Dutch do., 1*s.* 6*d.* to 2*s.* do.; Lettuces, 2*d.* to 9*d.* per score; Jersey Grapes, 1*s.* to 1*s.* 6*d.* per lb.; do., Belgian, 9*d.* to 1*s.* 3*d.* do.; Tomatos, English, 4*d.* to 6*d.* per lb.; do., Jersey, 3½*d.* to 4*d.* do.; Currants, Red, 1*s.* to 5*s.* 6*d.* half-sieve; do., Black, 5*s.* to 5*s.* 6*d.*; Gooseberries, 1*s.* 6*d.* to 3*s.*; Cherries (English), 4*s.* 9*d.* to 6*s.* 9*d.* per half-sieve; do., foreign, 1*s.* 6*d.* to 2*s.* per basket; Raspberries, 18*s.* to 20*s.* per cwt.; Pine-apples, 2*s.* to 3*s.* each; Mushrooms, 8*d.* to 9*d.* per lb.; Peaches and Apricots, 8*d.* per box.

SPITALFIELDS: *August* 4.—Quotations:—Cabbage, 4*s.* to 5*s.* 6*d.* per tally; Scarlet Beans, 4*s.* to 6*s.* per bushel; Broad Beans, 2*s.* 6*d.* to 3*s.* 6*d.* per bag; Turnips, 3*s.* to 3*s.* 6*d.* per dozen bunches; Carrots, 5*s.* to 5*s.* 6*d.* per sack; Beetroots, 2*s.* per dozen; Onions, English, 5*s.* to 5*s.* 6*d.* per cwt.; Marrows, 6*s.* to 8*s.* per tally; Cucumbers, 2*s.* 6*d.* to 3*s.* per dozen.

STRATFORD: *August* 5.—Quotations:—Trade has been good and brisk throughout the week. Mangolds are much in demand. Cabbages, 2*s.* to 3*s.* 6*d.* per tally; Cauliflowers, 9*d.* to 1*s.* per dozen; Beetroot, 3*s.* to 4*s.* per dozen; Parsley, 1*s.* 6*d.* to 2*s.* per dozen; framed Cucumbers, 1*s.* 6*d.* to 2*s.* 6*d.* do.; Beans, Scarlet, 8*s.* to 9*s.* per bushel; Peas, Green, 3*s.* to 5*s.* per bag; Marrows, 5*s.* to 7*s.* 6*d.* per tally; Gooseberries, 2*s.* to 2*s.* 6*d.* per half-sieve; Currants, Black, 6*s.* to 6*s.* 6*d.* per half-sieve; Currants, Red, 3*s.* to 3*s.* 6*d.* per half-sieve; Tomatos, Guernsey, 3*d.* to 3½ per lb.; do., English, 3*s.* to 4*s.* per dozen lb.; Pears, English, 3*s.* to 5*s.* 6*d.* per sieve; do., 2*s.* 6*d.* to 3*s.* per half-sieve; Plums, 2*s.* 9*d.* to 4*s.* do.; Turnips, 60*s.* to 80*s.* per ton; Carrots, household, 2*s.* to 2*s.* 6*d.* per dozen bunches; Mangels, old, 1*s.* 6*d.* to 2*s.* 6*d.* per dozen; Onions, Portuguese, 5*s.* 7*d.* to 7*s.* per case; do., Valencia, 5*s.* to 6*s.* per bag; do., Egyptian, 3*s.* 6*d.* to 4*s.* do.; Apples, English, 3*s.* to 5*s.* 6*d.* per bushel.

FARRINGDON: *Aug.* 6.—Quotations:—Cabbages, 5*s.* per tally; Beans, Runners, 5*s.* per bushel; Peas, 8*s.* per bag; Carrots, 2*s.* 6*d.* per dozen bunches; Turnips, 6*s.* do.; Marrows, 7*s.* per tally; Mint and Parsley, 4*s.* per dozen bunches; Lettuce, 2*s.* per score; Sage, 3*s.* 6*d.* do.; Tomatos, English, 4*s.* 6*d.* per dozen pounds; Grapes, English, 1*s.* 3*d.* to 1*s.* 6*d.* per pound; Plums, Orleans, 5*s.* 6*d.* per half-bushel; Gisborne Plums, 3*s.* 6*d.* do.; do., Blue, 4*s.* 6*d.* do.; Pears, Windsor, 4*s.* per half-bushel; Apples, Suffield, 2*s.* 6*d.* per half-bushel, 5*s* per bushel.

HAY.

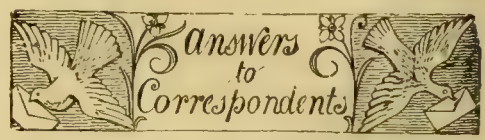
Averages.—The following are the averages of the prices at the metropolitan markets during the past week:—Clover, prime, 65*s.* to 90*s.*; do., inferior, 38*s.* to 60*s.*; Hay, best, 60*s.* to 87*s.*; do., inferior, 30*s.* to 55*s.*; Mixture, 60*s.* to 84*s.*; and Straw, 26*s.* to 38*s.* per load.

ENQUIRIES.

"He that questioneth much shall learn much."—BACON.

ASPARAGUS.—In his directions for growing Asparagus, Cato (*de re rustica*, c. 141) advises using sheep's-dung only, for every other sort produces weeds. Is that borne out by our experience of English sheep? Columella recommends the use of ashes.

FORMALDEHYDE.—Has any reader of the *Gardeners' Chronicle* experience of the use of Formaldehyde as a preservative of botanical specimens, either fresh or dry? *Alnus.*



BANKSIAN ROSES: *Pomona.* Layer the long shoots at intervals of 1 foot, securing the shoots with strong wooden pegs and slightly covering with soil at those points.

BEGONIAS DISEASED: *W. C.* The rust-like appearance in your Begonias is due to a small white mite, a species of Tarsonymus. The mite is so small and active that it is very difficult to observe it with the naked eye. Mr. Massee has stated in our columns that injury from this mite is very quickly followed by the presence of saprophytic fungi, hence this effect is often mistaken to be the cause. Kill the mites by spraying with tobacco solution, or fumigate the plants moderately upon several successive occasions.

BLACKTHORN AS STOCK: *Pomona.* You might work on it other Thorns, Bullaces, Damsons, and Medlars, but it is not a good sort of stock, growth being very slow.

BOOKS: *A. T. My Gardener*, by H. W. Ward, published by Eyre & Spottiswoode, contains much information about the cultivation of the commoner species of bulbous plants.

CLEMATIS: *Pomona.* Almost any of the strong-growing species would make stocks on which to graft Clematis varieties.

FLORIST BUSINESS IN AN AUSTRALIAN COLONY: *T. W. B.* If you will send your postal address, we can put you into communication with a person who has been in business as nurseryman, &c., at Sydney, and is willing to impart some useful hints.

GESNERA: *G. B.* Send better specimen.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to be so good as to consult the following number.—Henderson & Sons.* Cassinia fulvida.—*J. B.* We cannot undertake to name varieties of florists' flowers.—*W.* 1, Erigeron speciosus; 2, Mentha piperita var.; 3, Veronica spicata; 4, Tritonia crocosmiflora; 5, Tanacetum vulgare; 6, Gaillardia aristata.—*J. V* The double Pomegranate.—*S. S.* 1, Inula dysenterica; 2, Galium verum; 3, Mentha arvensis; 4, Crepis biennis; 5, Stachys Betonica; 6, Agrimonia Eupatoria.—*W. D.* 1, Abies brachyphylla; 2, Cupressus (Retinospora) pisifera; 3, Saponaria officinalis; 4, Veronica spicata; 5, an Aster, not recognisable; 6, Acanthus spinosus.—*H. P.* A, Cornus sanguinea variegata; B, Viburnum Opulus; C, Hypericum, not recognised; D, Hypericum Androsæmum; E, Kerria japonica; F, Phillyrea media.—*F. H.* Olearia Haastii, New Zealand.—*J. P. L.* 1, Monarda didyma; 2, Panicum plicatum; 3, Xylopbylla latifolia; 4, Fittonia argyroneura; 5, Hieracium aurantiacum.—*W. P.* Teucrium fruticans.—*S. L.* 1, Next week; 2, Reineckia carnea variegata; 3, Abutilon megapotamicum; 4, Hibiscus Cooperi; 5, Pellionia Daveauana; 6, P. pulchra.

SEEDLING CARNATIONS: *R. H.* Your white Carnation is pretty, the petals smooth, and calyx good. The flowers sent, however, are not large, but somewhat thin. The qualities you claim for it should constitute the variety a useful one for the border, where it would give an abundance of blooms for cutting from.—*Carnation.* The variety of which you send blooms is a good one, and well worth perpetuating for home use. Whether it is one which the trade would be glad to acquire we are not prepared to say. Send it to some trade specialist. It is distinct from anything we can call to mind at the moment.

COMMUNICATIONS RECEIVED.—S. T. G, France (we regret the occurrence and will make enquiries about it).—J. K.—G. H.—N. L.—A. C. C. (1 and 2 no, 3 yes, please).—D. W.—J. H. S.—T. B.—J. D.—H. G. C.—J. J. W.—S. H.—R. D. D. T. F.—H. W.—A. C. C.—A. D.—C. Y. M.—A. G.—G. S. J., West Indies.—J. McD.—E. C.—J. McIntyre.—D. R. W.—A. C. F. Messrs. Sutton & Sons.—S. L.—Wales. J. O'B. W. Wilkes. J. Thomson. A. P.—S. V. W. M. T.—C. H.—R. L. H.—T. C.—J. A.—H. W.—A. Dickson & Sons.—W. K. (the matter has been attended to).—A. J. L.

PHOTOGRAPHS, SPECIMENS, &c., RECEIVED WITH THANKS.—Col. E.—Sir N. L. (Apricot next week).—A. H. (next week) Wales (next week).

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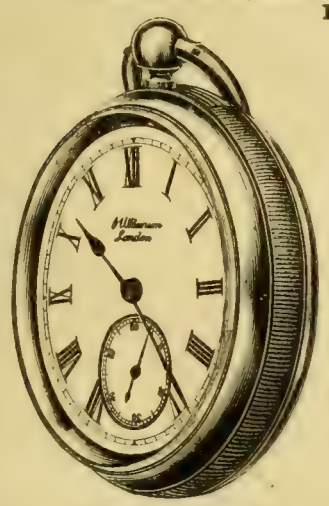
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9	„ ..	0	5	6	20	„ ..	0	11	0
10	„ ..	0	6	0	21	„ ..	0	11	6
11	„ ..	0	6	6	22	„ ..	0	12	0
12	„ ..	0	7	0	23	„ ..	0	12	6
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HENRY SOTHERAN & Co., 140, Strand, London—Second-hand Books and General Literature.

LITTLE & BALLANTYNE, Carlisle—Bulbs.

SUNSET SEED & PLANT Co., 429, Sansome St., San Francisco, California. (W. G. INNES & Co., 22, St. Mary Axe, London, E.C., Agents)—Sweet Peas.

THOS. METHVEN & SONS, 15, Princes Street, Edinburgh—Bulbs.

JAS. BACKHOUSE & SON, York—Bulbs, Carnations, Strawberries, &c.

DICKSON & ROBINSON, Manchester—Bulbs and Roses.

WM. BAYLOR HARTLAND, Cork—Daffodils, Tulips, and other Bulbs.

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GARDENING APPOINTMENTS.

MR. JAMES ROSS, until recently Gardener to Mrs CHARRINGTON, Burys Court, Reigate, as Gardener to J. D. CHARRINGTON, Esq., Gifford House, Rochampton.

Mr. W. H. PEARSON, as Gardener to Earl FORTESCUE, Castle Hill, South Molton, Devon.

Mr. ALBERT L. COLE, late Gardener at Heathfield, Addington, Surrey, as Gardener to E. HIBBERT, Esq., Ashby St. Ledgers, near Rugby.

Mr. CHARLES HOWARD, Foreman for the past two and a half years at Frythesden Gardens, Great Berkhamsted, as Head Gardener to G. MCCORQUODALE, Esq., Rossway, Berkhamsted.

Mr. GEO. JONES, until recently Foreman at Easton Park, Wickham Market, as Gardener to SIR HENRY PETO, Bart., Chedington Court, Misterton, Crewkerne, Somerset.

Mr. DONALD MCKINNON, General Foreman to Mr. BUGGINS, as Gardener to E. J. BEAUMONT NESBITT, Esq., of Tubberdaly, Edenderry, King's co. Mr. MCKINNON enters upon his duties on October 1.

Mr. F. W. CAVILL, for the past five and a half years Foreman at Upleatham Gardens, Yorks, as Head Gardener to the Honourable THOMAS DUNDAS, Ainderby Hall, Northallerton.

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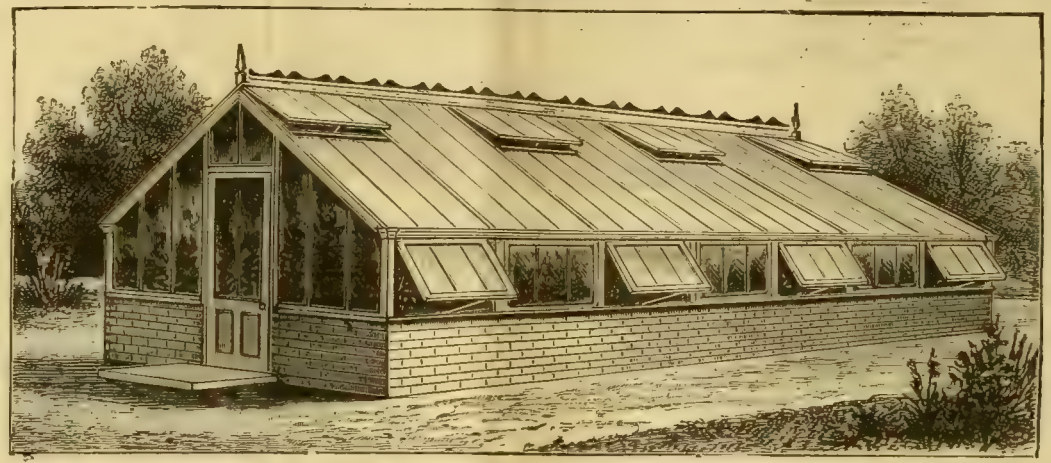
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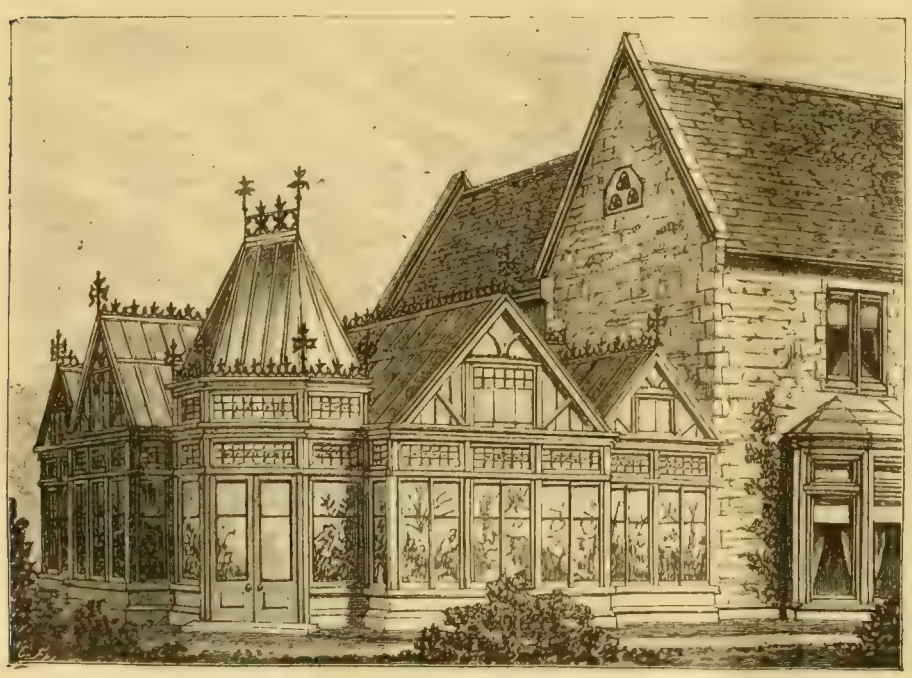
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The Gardeners' Chronicle

ESTABLISHED 1841. No. 2903.

No. 503.—Vol. XX. {Third Series.} SATURDAY, AUGUST 15, 1896. [Regt. as a Newspaper. PRICE 3d. Post-free, 3½d.

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STRAWBERRIES, all the leading sorts, in pots now ready for planting, 12s. 6d. per 100. H. LANE AND SON, The Nurseries, Berkhamsted, Herts.

PALM SEEDS.—PLANT NOW.—Just arrived, Kentias, Corypha, Phœnix, Cocos, Seaforthias, and others. 100 in variety, to name, free, 2s. 6d. 500 for 10s. Price to the Trade on application. MORLE AND CO., Conservatories, Finchley Road, N.W.

BEGONIAS of the newest and most superb type, including many rare varieties, Double and Single, for Conservatory or Bedding. See B. R. Davis' Descriptive CATALOGUE, free. A handsome coloured plate of Six Double Varieties and a Treatise on Cultivation, free for 1s. B. R. DAVIS, Yeovil Nurseries, Yeovil, Somerset.

THE NEW FUCHSIAS advertised at page 121 of the *Gardeners' Chronicle* are now all in flower. An inspection is invited. WILLIAM BULL, F.L.S., Establishment for New and Rare Plants, 536, King's Road, Chelsea, London, S.W.

Ferns—Ferns.

SPECIAL OFFER to the TRADE.—Pteris tremula, cristata, serrulata, compacta, alba lineata, hastata, cretica, argyrea, Mayii, and Lygodium japonica; good thick Stuff in thumbs ready for repotting. Price per 100. 12s.; per 1000, £5 10s.—R. PENGELLY, Nurseryman, Dyson's Lane, Angel Road, Upper Edmonton, N.

WANTED, Henry Jacoby and West Brighton Gem GERANIUM CUTTINGS, this month, by the 1000 or 100. HARRISON BROS., Nurserymen, Cockerton, Darlington.

WANTED, a few CLOCHES (French Bell Glasses), for Nursery Purposes. Please state price and size to WM. PAUL AND SON, Waltham Cross.

WANTED, "KERNER AND OLIVER'S NATURAL HISTORY of PLANTS." Complete, in parts, or bound. Offers to— H. E., 50, Rugby Road, Brighton.

LARGE PALMS & DECORATIVE PLANTS. Immense Stock. All sizes up to 20 feet for Sale or Hire. Inspection Invited. Prices on Application. B. S. WILLIAMS AND SON, Victoria and Paradise Nurseries, Upper Holloway, London, N.

BARR'S AUTUMN FLOWERS. Plant during July or August to flower this Autumn. Barr's beautiful and rare species of Crocus, Meadow Saffrons, White Lily of the West Wind, Yellow Lily of the Field, &c. Descriptive LIST on application. BARR AND SON, 12, King Street, Covent Garden, London.

The Nurserymen, Market Gardeners, and General

HAILSTORM INSURANCE CORPORATION, Limited.—Offices, 1 & 2, King Street, Covent Garden, W.C. Chairman, HARRY J. VEITCH. Manager and Secretary, ALEX. JAMES MONRO.

STRAWBERRIES.—A fine collection of the best varieties can be supplied. Orders should be booked now. Descriptive CATALOGUE post free. THOMAS RIVERS & SON, Sawbridgeworth.

ASK for the CHEAP BULB and PLANT CATALOGUE from J. M. STIGGELBOUT AND CO., Wholesale Bulb Growers, Texel and Hillegom, Holland. Telegram Address:—"STIGGELBOUT, TEXEL."

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free. P. McARTHUR, The London Nursery, 4, Maida Vale, London, W.

CARNATIONS.—My List of Surplus Carnations and Picotees is now ready, containing all proved new varieties up to date, post-free. CHARLES E. WHEELER, Bramley, Guildford.

EUCHARIS, strong and clean, in 32's, some throwing up flower-spikes, 30s. per doz. Winter-flowering CARNATIONS, in 48's, splendid stuff, 12s. doz. BOUVARDIAS, in 48's, extra bushy, 10s. per doz. Samples and names on application.—WALSHAW AND SON, Scarborough.

DUTCH TULIPS—DUTCH TULIPS.—DUC VAN THOL, scarlet, 1000, 16s. 6d., 100, 2s. ARTUS, red, 1000, 20s., 100, 2s. 3d. GLORIA MUNDI, yellow, 1000, 21s. 6d. 100, 2s. 4d. LA CANDEUR white, 1000, 21s. 6d., 100, 2s 4d. Apply for price of other Tulips to B. VERDOES, 2, Marlborough Road, Upper Holloway, N.

Choice Vegetable Seeds.

FOR AUTUMN SOWING.

H. AND F. SHARPE will be pleased to give Special Quotations for their fine Selected Stocks of CABBAGE, TURNIP, LETTUCE, ONION, RADISH, and other SEEDS suitable for AUTUMN SOWING, which will be found very advantageous to Purchasers. Also fine samples of WHITE MUSTARD, and Sowing RAPESEED, at moderate prices. SEED GROWING ESTABLISHMENT, WISBECH.

VIOLAS.—VIOLAS.—VIOLAS. Strong healthy Cuttings, post-free.
25 in 12 Best Distinct Varieties ... ... 2s.
50 in 25 ,, ,, ... 3s. 6d.
100 in 50 ,, ,, ... 6s.
Seed from a Collection of over 50 of the Best Varieties, 6d. and 1s. per packet. WILLIAM POTTEN, Camden Nurseries, Cranbrook, Kent.

Hyacinths, Tulips, Crocus, Lilies, &c.

C. G. VAN TUBERGEN, Jun., Haarlem, Holland. Wholesale CATALOGUE now ready, and may be had free on application to— Messrs. R. SILBERRAD AND SON, 25, Savage Gardens, Crutched Friars, E.C. N.B.—Many new, rare, and interesting plants and bulbs will be found in this Catalogue.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W. Telegraph Address "Hortulanus, London." Telephone, No. 3725

SALES BY AUCTION.

WEDNESDAY NEXT.

DUTCH BULBS-DUTCH BULBS

Mr. J. C. STEVENS

Begs to announce that his FIRST SALE OF THE SEASON will take place at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, August 19, at half-past 12 o'Clock precisely, and will include a

Splendid Collection of Choice Named

HYACINTHS, TULIPS, CROCUSES, NARCISSUS,

And Other Bulbs in Variety:

EARLY FORCING NARCISSUS and LILIUMS.

A Consignment of well-grown PALMS, from Belgium;

A Collection of STOVE and GREENHOUSE, PLANTS, &c.

On view morning of Sale, and Catalogues had.

DUTCH BULBS-DUTCH BULBS

SALES BY AUCTION,

Nearly every day, from the Middle of August till the end of December.

MR. J. C. STEVENS begs to announce that he has now completed negotiations with several of the most prominent Nurserymen in Holland to Continuously Supply his Sales, during the coming season, with only really First-class Bulbs, of the best quality.

A supply of Catalogues can be sent on application.

Friday Next.

By order of Messrs. W. L. Lewis & Co., Southgate, N.
GRAND IMPORTED ORCHIDS.
FOR SALE WITHOUT THE LEAST RESERVE.
Comprising:—
CATTLEYA WALKERIANA, in fine order; C. CRISPA, LÆLIA ANCEPS, &c.
Also,
CHOICE ESTABLISHED ORCHIDS.
Comprising:—
CATTLEYA GRANDULOSA VAR. SCHOFIELDIANA, fine varieties in flower.
CATTLEYA HARRISONÆ VIOLACEÆ, in flower.
CYPRIPEDIUM CHARLESWORTHII, strong plants, showing flower; C. BELLATUM ALBUM, LÆLIA AUTUMNALIS ALBA, L. × CATTLEYA GUATEMALIENSIS, very rare; and other choice plants.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, August 21, at half-past 12 o'Clock precisely.
On view morning of Sale, and Catalogues had.

Friday Next.

Ten cases of various IMPORTED ORCHIDS, received direct for unreserved sale. Also 540 EPIDENDRUM VITELLINUM MAJUS, good plants, and about 50 lots each of CATTLEYA CITRINA and CATTLEYA LABIATA.

MESSRS. PROTHEROE AND MORRIS will include the above in their Sale on FRIDAY NEXT, August 21.
On view morning of Sale and Catalogues had.

Friday Next.

198,000 CORYPHA AUSTRALIS SEEDS just received, in splendid condition. For sale without reserve.

MESSRS. PROTHEROE AND MORRIS will include the above in their ORCHID SALE on FRIDAY NEXT, August 21.
On view morning of Sale and Catalogues had.

The Longlands Nursery, Sidcup.

GREAT ANNUAL TRADE SALE of WINTER BLOOMING HEATHS and GREENHOUSE PLANTS. Preliminary Notice.

MESSRS. PROTHEROE AND MORRIS are instructed by Messrs. Gregory and Evans to sell the above on the premises on WEDNESDAY, September 9.
Detailed particulars will appear next week.

The Mill Lane Nursery, Cheshunt, Herts.

IMPORTANT SALE of thousands of WINTER-FLOWERING HEATHS, FERNS, CARNATIONS, and ROSES, by order of Mr. E. Rochford.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION on the premises, on THURSDAY, September 10.
Full particulars will appear next week.

MONDAY and THURSDAY NEXT.

DUTCH BULBS.

SPECIAL TRADE SALES.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on

MONDAY and THURSDAY NEXT, August 17 and 20,

at Twelve o'Clock each day, large consignments of NAMED HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other DUTCH BULBS, together with white ROMAN HYACINTHS, and paper-white NARCISSUS, received direct for Unreserved Sale.

These early auctions have been specially arranged in lots to suit the Trade and other large buyers.

The Auctioneers will be pleased to enter the names of intending purchasers on their permanent lists who may desire a regular supply of Catalogues for these Sales.—Auction Rooms and Offices, 67 and 68, Cheapside, London, E.C.

N.B.—The Sale on Monday next will also include 50,000 Double Von Sion Daffodils, all selected bulbs, in the finest possible condition for early forcing. To be offered in large Trade Lots.

The Avenue Nursery, Bexley Heath.

SECOND ANNUAL TRADE SALE of thousands of WINTER-FLOWERING HEATHS, FERNS, CARNATIONS, ROSES, and other GREENHOUSE PLANTS, by order of Messrs. P. H. & J. Cooper.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION on the premises on FRIDAY, September 11.
Full particulars will appear next week.

Birmingham.—Dutch Bulb Sales.

MESSRS. THOMAS JAMES AND DAVIES will commence their SALES of DUTCH BULBS on THURSDAY NEXT, August 20, at half-past 11 o'Clock, at their Sale Rooms, Temple Street, Birmingham.
Catalogues post-free. Commissions carefully executed.
T. J. AND D. receive Bulbs of only first-class quality from reliable Growers, the roots being sound and true to name. The Auctioneers have supplied some of the largest Gardens in England, and results have all proved satisfactory.

ORCHIDS! ORCHIDS!

JOHN COWAN & CO., Ltd.,

Call very special attention to a

CATALOGUE OF ORCHIDS,

which they are preparing,

and which will be ready for distribution on Saturday the 15th inst. Copies will be sent, post-free, on application to the Co.,

THE VINEYARD and NURSERIES, GARSTON, near LIVERPOOL.

WANTED, to RENT, a small NURSERY, with COTTAGE.—Full particulars to NURSERY, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED to RENT a GENTLEMAN'S KITCHEN GARDEN, with glass. Near a station and large town. State all particulars.—J. T., 41, Wellington Street, Strand, W.C.

FOR SALE, on South Coast, SMALL NURSERY, about 300 feet of Glass. Incoming, £80.
D. O. T., 41, Wellington Street, Strand, W.C.

OLD-ESTABLISHED SEED BUSINESS for SALE. In good Business Centre. Stock and Fixtures at a low valuation.—G., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FOR SALE, excellent SMALL JOBBING NURSERY and SEED BUSINESS. Good position; good connection; same hands twenty years. Six-roomed House and Shop. A going concern. Would sell as it stands.
Full particulars and price on application to N., 3, Station Buildings, Wightman Road, Hornsey, N.

HADLEIGH, SUFFOLK.—TO BE DISPOSED OF, the Lease, Goodwill, Stock in Trade, and Glass Erections, &c., of above NURSERY, comprising about 1¾ acres of Land, convenient DWELLING HOUSE, Packing and Potting Sheds, SEED SHOP, and Fittings. Lease about nineteen years unexpired. Rent £27. No other Nursery within several miles. Price £150. Apply to—
WILLIAM BADMAN, Cemetery Nursery, Gravesend.

To Nurserymen and Florists commencing Business.

HAMPTON-ON-THAMES, on the Marling Park Estate, free from London fogs, a deep rich loam, the favourite neighbourhood for Growers, FREEHOLD LAND for SALE on easy system of Purchase, or to be LET on Lease.
For full particulars, apply to Mr. FREDK. G. HUGHES (Surveyor), the Estate Office, Hampton-on-Thames.

LONDON, S.W. (8861).—A high-class and lucrative FRUITERERS and FLORIST'S BUSINESS for DISPOSAL. Noble shop, exceptionally well fitted. Held on lease at a rental of £130. Turnover £140 per week; large profits. Price for fixtures, stock, horses, vans, &c., £900.

MIDLAND COUNTIES (8862).—In a flourishing town, a thoroughly genuine FRUITERER'S and FLORIST'S BUSINESS. High-class trade. Large shop; excellent position. Takings over £50 per week. Price for stock, fixtures, horses, and carts, £700.
Full particulars of PROTHEROE & MORRIS, Auctioneers, 67 and 68, Cheapside, E.C.

BARGAIN.—TO be SOLD, SPAN GREENHOUSE, 12 ft × 45 ft. Good as new (opening and shutting gear to roof and side lights), properly framed together, perfect for re-erection.
Also PLAIN SADDLE BOILER, 48 in. × 24 in. × 24 in., and fittings good as new. Site required for Building Purposes.
Box 110, BATES, HENDY AND CO., Reading.

TO LET a SMALL NURSERY, close to Station. Address S. A., Primrose Nursery, Fordham, near Soham.

TO BE LET, HOUSE with spacious SHOP. Corner position. Opening for Greengrocer. Rent, £30.—Address, OWNER, 9, Great James St., Bedford Row, W.C.

TO FLORISTS, &c.—TO BE LET (from Michaelmas), in splendid situation, in Midland Town, SHOP, DWELLING-HOUSE, and half-dozen GREENHOUSES.
Apply to J. COLE, House Agent, Bedford.

SMALL NURSERY TO LET, or SELL. Seven Greenhouses, &c., Six-roomed Cottage. Old-established Business, large Stock and Goodwill, only £100. Genuine affair. Rent moderate, on Lease.
WILSON, 149, Markhouse Road, Walthamstow.

MUSHROOM FARM TO LET.—3½ acres, Mushroom House, 270 feet by 80 feet; Office, Sorting and Weighing-house, extensive and well-ventilated Compost Shed, and Tool-house. Every facility for raising large crops under cover. Eight-room Dwelling-house, Stables, and Coach-house, Fowl-house and Runs. Orchard and two large Gardens well stocked with Fruit. Rent, £75.—JOHN RAWLINGS, Rawesville, Richmond Road, Kingston-on-Thames.

PROTHEROE AND MORRIS, HORTICULTURAL MARKET GARDEN and ESTATE AUCTIONEERS and VALUERS, 67 and 68, Cheapside, London, E.C., and at Leytonstone, E. Monthly Horticultural Register had on application.

R. BOW, Florist, Bristol, will sell his patent, Flower-pot, for £10,000; sample 6*d*. Dome bottom, Self-draining; praised by judges; purchased by gardeners.

FOR SALE, cheap; room wanted.—About 200 CATTLEYA TRIANÆ in 48's, in good condition, and other ORCHIDS. Also 800 CALLAS, flowered two years in 32's, and 300 two years in 48's.—G. & W. HAYNES, Nurseryman, Hamley, Dartford, Kent.

CARNATIONS.—The latest French varieties, and best English Exhibition Selfs and Fancies; well-rooted plants. Full LISTS on application.—Apply—
GARDENER, Keevil Manor, Trowbridge, Wilts.

Primulas, Cinerarias, and Calceolarias.

H. CANNELL AND SONS have these in just the condition to give the greatest satisfaction and together with our perfection of variety, what a life and charm they would give wherever well grown. Seedlings, 2*s*. per doz.; in pots, 4*s*. per doz. SWANLEY.

FERNS AND DECORATIVE PLANTS!—(TRADE):—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 12*s*. 100; ditto, large, in 48's, 10 best selling sorts, 6*s*. doz.; strong seedlings, 6*s*. 100, 50*s*. 1000; Adiantum cuneatum, in 48's, for cutting, 6*s*. and 8*s*. doz.; ditto, for making large plants quickly, 16*s*. and 20*s*. 100; Cyperus, Aralias, Grevilleas, Rhodanthe, Geraniums, Fuchsias, and Heliotropes, in 48's, 6*s*. per doz.; Marguerites, Mignonette, and Cockscombe, in 48's, 8*s*. per doz.; Ficus, Palms, Dracænas, Crotons, Pelargoniums, and Hydrangeas, in bloom, in 48's, 12*s*. doz.; Lists free. Packed free. Cash with order.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

CHRYSANTHEMUM GUIDE

AND

CHRYSANTHEMUM ALBUMS.

I have a few of these valuable works left, and will send a copy of each, post-free, 2*s*., or separately. The Guide, 8 stamps, the Album, 18 stamps.
Both are invaluable to Chrysanthemum Growers.
H. J. JONES, Ryecroft Nursery, Lewisham.

ORCHIDS — ORCHIDS.

Clean, healthy, well-grown plants at reasonable prices; many large specimens and rare varieties.

CHOICE DENDROBES A SPECIALTY.

PLEASE WRITE FOR LIST.

JAMES CYPHER, EXOTIC NURSERIES, CHELTENHAM.

ODONTOGLOSSUM LONDESBOROUGHIANUM, O. MADRENSE, LÆLIA PEDUNCULARIS, and L. DAYANA. All fine imported plants, in grand condition, 2s. 6d., 3s. 6d., 5s., and 7s. 6d. each.
W. L. LEWIS AND CO., Southgate, London, N.

Blaze of Flower.

IT has frequently been said, if I could grow Zonals like Mr. Cannell, I would have a glare like him all the winter. We are sending free, full particulars and a List of varieties, with prices. Just what to do. Now is the time to commence. 2s per doz.; in 5 in. 12s. per doz.
H. CANNELL AND SONS, Swanley.

To the Trade.

B. MALLER AND SONS beg to offer a very extensive and unusually well-grown Stock of ERICAS (Hyemalis and the other varieties); EPACRIS, SOLANUMS, GENISTAS, CYCLAMEN, DOUBLE WHITE PRIMULAS, BOUVARDIAS, of sorts; ADIANTUM CUNEATUM, and other FERNS; PALMS, in variety; GREVILLEA ROBUSTA, ASPARAGUS PLUMOSUS, STEPHANOTIS, DIPLADENIAS, FICUS ELASTICA, CROTONS, TREE CARNATIONS of sorts; TEA ROSES in pots; BORONIAS of sorts; VINES in pots, &c.
An inspection is invited.
Trade Catalogues forwarded on application.
The ANNUAL SALE by AUCTION will be held on Tuesday, September 15.
Burnt Ash Road Nurseries, Lee, S.E.

JAMES SENDALL & Co LTD
CAMBRIDGE.
NURSERYMEN'S HOUSES.



Suitable for Plants, Vines, Tomatos, Chrysanthemums. Made of the best materials, Woodwork, and Ironwork complete, painted twice, 21-oz. English Glass.
A first-class House in every respect can be seen erected in nearly every county. Sent out so that anyone can erect them, as every part is fitted correctly; all screw and bolt-holes made.
See Testimonials from well-known people.

CASH PRICES. CARRIAGE PAID.

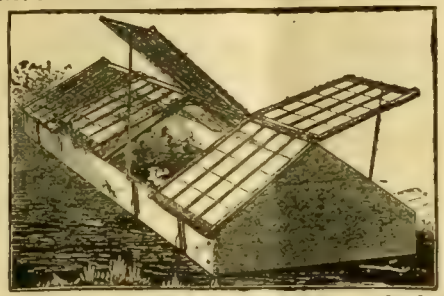
Long.		Wide.	£	s.	d.	Long.		Wide.	£	s.	d.
50ft.	×	12ft. ...	25	0	0	50ft.	×	15ft. ...	32	10	0
100ft.	×	12ft. ...	45	0	0	100ft.	×	15ft. ...	55	0	0

See New Lists, showing blocks of Houses as erected in different places.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

BOULTON & PAUL,
HORTICULTURAL BUILDERS, **NORWICH.**

No. 73. SPAN-ROOF GARDEN FRAME.



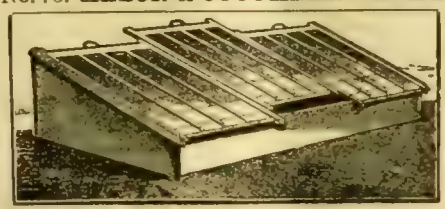
4 ft. by 6 ft.	...	£2	9	0	12 ft. by 6 ft.	...	£5	7	0
8 ft. by 6 ft.	...	£3	18	0	16 ft. by 6 ft.	...	£8	18	0

PIT LIGHTS { 6 ft. by 4 ft., painted and glazed ... 13/6 each. / 6 ft. by 4 ft., unpainted & unglazed 5/- ,,

GREENHOUSES FOR AMATEURS.

No. 47A.—10 ft. by 7 ft. { Well-made, Painted, / Glazed & Carriage Paid } £8 10 0
No. 49A.—10 ft. by 8 ft. { / } 10 10 0

No. 75. MELON & CUCUMBER FRAME.



4 ft. by 6 ft.	...	£1	15	0	12 ft. by 6 ft.	...	£3	15	0
8 ft. by 6 ft.	...	2	15	0	16 ft. by 6 ft.	...	4	15	0

No. 77.—VIOLET FRAME, 6 feet by 4 feet, similar to No. 75, with two lights. { **30s.**

CARRIAGE PAID on Orders of **40s.** value to most goods stations in England and Wales; also to Dublin, Cork, Edinburgh, and Glasgow.

EXHIBITIONS.

MAIDENHEAD HORTICULTURAL SOCIETY.
ANNUAL SHOW on THURSDAY, August 13, 1896, at St. Ives Place. Entries close August 6.
CHAS. A. VARDY, Hon. Sec.

KINGSWOOD, ST. GEORGE, and WEST GLOUCESTERSHIRE HORTICULTURAL SOCIETY.
ANNUAL SHOW
OF FLOWERS, FRUIT, VEGETABLES, and HONEY,
On WEDNESDAY, AUGUST 19, 1896,
Will be held (by kind permission of the Misses and Messrs. A. E. and R. H. Stone) in the Grounds attached to the Vicarage at Kingswood, near Bristol.
Over £300 PRIZES. SILVER CUPS, open to all Amateur Competitors.
Band of the Bristol Artillery Volunteers (by kind permission of Col. Ord), and the Band of the Kingswood School.
GRAND DISPLAY OF FIREWORKS.
Electric Trams pass the Entrance Gates.
Prices of Admission:—1 to 2 P.M., 2s.; 2 to 4 P.M., 1s.; 4 to 7 P.M., 6d.; after 7, for Bands and Fireworks, 3d. Children under Twelve half-price up to 7 P.M.
F. H. JULLION, A. W. COTTLE, } Hon. Secs.

BRIGHTON SUMMER SHOW,
AUGUST 25 and 26.
£200 in CASH and SEVERAL HANDSOME PRIZES.
Entries close August 19.
Schedules and particulars of—
THE SECRETARY, 87, Western Road, Brighton.

WILLESDEN GREAT SHOW,
AUGUST 27, 28, 29, 31.
Patrons: The Duke and Duchess of Teck.
Fifth year, Class D., open competition to Nurserymen and Gentlemen's Gardeners, for Groups, Table Decorations, and Cut Flowers, Dahlias, Asters, Zinnias, Pansies, Roses, Grapes Peaches, Apples, Tomatoes, Potatos. Entries close Friday, August 21.
Schedules and Entry Forms of Mr. BADGER, General Manager, 14, Grange Road, London, Middlesex.

SANDY, BEDFORDSHIRE.
TWENTY-EIGHTH ANNUAL SHOW.
THURSDAY, August 27, 1896.
Plants, Flowers, Fruit, Table Decorations, Vegetables, Corn, Roots, Dogs, Poultry, Pigeons, Rabbits, Cats, and Cage Birds, Honey, Butter, &c.
PRIZES, £360, including Prizes of £12, £8, £5, and £3 for Ten Stove and Greenhouse Plants.
Live Stock entries close August 8, 1896.
All other entries close August 19, 1896.
Bands:—Royal Horse Guards (Blues), and Bedford Orchestra Band.
Secretary, E. T. LEEDS-SMITH, Sandy.
Assistant-Secretary, EDWARD SILLS, Sandy.

BATH AUTUMN SHOW,
WEDNESDAY and THURSDAY, August 26 and 27.
Amongst the Prizes offered are for:—

	1st.	2nd.	3rd.
12 Foliage or 6 Stove or Greenhouse Plants	£10	£7	£4
6 Stove or Greenhouse Plants	£3	£2	£1
6 Orchids	£2	£1	
Group of Plants, not less than 100 sq. feet ...	£5	£3 10s.	£2
9 Fuchsias	£3	£1	£2
Collection of Fruit, 12 dishes	£3	£2	£1
8 Bunches of Grapes, 4 varieties	£1	£2	£2

And 5 other Classes for Grapes in varieties. Prizes in proportion.
Entries close Friday, Aug. 21. For Schedules, &c., apply to—
2, Northumberland Buildings, Bath. B. R. F. PEARSON, W. JEFFERY, } Secs.

NATIONAL CHRYSANTHEMUM SOCIETY,
Royal Aquarium, Westminster.
EARLY EXHIBITION of CHRYSANTHEMUMS, DAHLIAS, GLADIOLI, &c., on September 1, 2, and 3 next.
Schedules of Prizes from—
RICHARD DEAN, Secretary, Ealing, London, W.

FOWLER'S MEALY-BUG DESTROYER.—It is easily applied, is instant destruction to both insect and ova, and does not stain or injure the foliage. In Bottles, 1s., 2s. 6d., 5s., and 10s.—CORRY & CO., Ltd., E.C.
Sold by all Seedsmen.

NEW CALLAS OR ARUM LILIES.

All must, and will, welcome these varieties, as being the finest and most valuable acquisitions of recent years.

"**THE GODFREY CALLA**" is equal to the old variety in size, but excels it in whiteness, and is of much dwarfer habit in growth. The spathes are produced earlier, and with greater freedom, and require less heat to expand. They have also a much more refined appearance.

"**DEVONIENSIS.**"—Nearly all Arum growers have had experience with Little Gem, and with very few exceptions disappointment is the result. Little Gem only blooms occasionally, and the spathes, although very pure, are too flat in form, and have a wilted appearance. Devoniensis is of the same dwarf habit, but the foliage has more substance. The spathes are very freely produced, of the purest white, and of perfect form. The size is about half that of the ordinary Calla. For floral work this variety can be used where others would not be admissible.

These Callas are more free-flowering than others, are whiter, and of better form.

Plants, 10s. 6d. each. Orders now being booked. Trade price on application.

W. J. GODFREY, EXMOUTH, DEVON.

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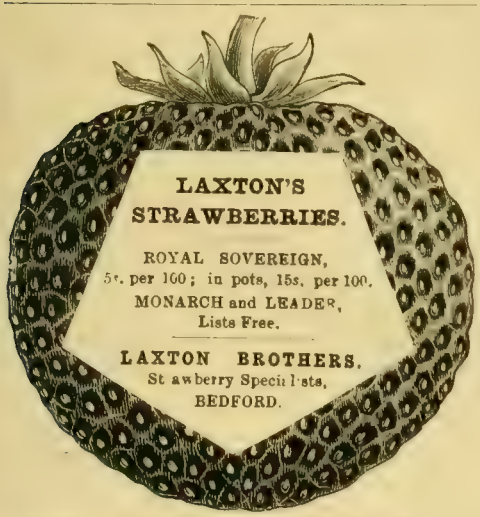
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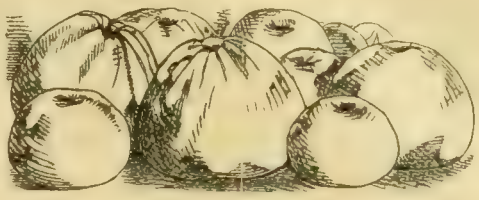
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THE
Gardeners' Chronicle.
SATURDAY, AUGUST 15, 1896.

ROBERT BURNS AS A FLOWER-POET.

IN this special capacity Burns has been, it seems to me, almost ignored. Even Lord Rosebery in his recent great "Centenary" eulogiums of the most gifted of lyrical singers, at Glasgow and Dumfries, did not speak of the poet's remarkable felicity when singing of the unobtrusive, yet exquisitely beautiful flowers of the shadowy woodlands, the waysides, and the fields. And yet Burns was one of those rare spirits who could have deeply sympathised with Wordsworth when he sang:—

"Thanks to that human heart by which we live,
Thanks to its tenderness, its joys, its fears,
To me the meanest flower that blows can give
Thoughts that do often lie too deep for tears."

Nor could he have failed to discern the beauty of such a memorable passage of Wordsworth as this, which, notwithstanding its deep, tender significance, is, I greatly fear, unknown to most readers of the High Priest of Nature:—

"The Daisy, by the shadow that it casts,
Protects the lingering dew-drop from the sun."

This was entirely in the manner of Burns, the very kind of conception, far-reaching in its meaning, and intense in its sympathy, the tender-souled Scottish singer would, in his finest moments of inspiration, have written himself. It is not marvellous that he who wrote those memorable passages which I have quoted from his works could also have said of him whose early death he mourned so deeply, when placing upon his grave an imperishable wreath of fondest affection:—"Neighbours we were, and loving friends we might have been." I can imagine that both Wordsworth and his poetic follower, Matthew Arnold, would have agreed with me in thinking that the "Daisy" of Robert Burns, with all its combined sweetness and power, is the grandest flower-poem that has ever appeared. There is a remarkable floral passage in Milton's *Lycidas;* another of equal impressiveness—as I have previously indicated—in Arnold's *Thyrsis,* one of the noblest elegiac strains ever given to the world. Shakespeare has some tenderly-musical passages on flowers; Keats, Shelley, Byron, Coleridge, and Tennyson, have occasionally very beautiful floral inspirations. Thomas Gray has told us in his Elegy written in a country churchyard, which I visited not without an accompaniment of emotion last year (for are not both the poet and his sister buried there?)—that

"Full many a flower is born to blush unseen,
And waste its sweetness in the desert air:"

but is there any one flower-poem existing that can make any approach to "The Daisy" of Burns in soul-reaching tenderness or in manliest strength? I can say of this inspiration and its influence upon my memory, as he said of the parting-scene with his much-loved Highland Mary: "Time but the impression

deeper makes, as streams their channels deeper wear." Burns would have been entitled to poetic immortality, and the eternal reverence and gratitude of all lovers of Nature, had he never written any other poem save this. Let any of my English readers who have not read this profoundly-touching improvization, do so without delay, and they will understand my enthusiasm. How powerfully, in the terminating stanza, it predicts his early death!

"Even thou who mourn'st the Daisy's fate,
That fate is thine, no distant date!
Stern ruin's ploughshare drives, elate,
Full on thy bloom,
Till, crushed beneath the furrow's weight
Shall be thy doom!"

Song was his nature rather than his art. As the tree of the forest, at the suggestion of spring, puts forth its delicate leaves, so the nature of Burns, at the touch of tender passion, blossomed into song. His "sweetest lays are those that tell of saddest thought;" from amidst the golden sunlight of present inspiration they cast the shadow of a prophetic sadness far into the future. How noble in its meaning of Christ-like sympathy the identification of his own destiny with that of the meekest and lowliest of flowers! He often finds relief for his very despair in the passionate expression of his mighty strains. His pent-up grief for a love long lost suddenly becomes musical and imperishable in "To Mary in Heaven" (in which there is a floral passage of incomparable beauty)—the most tender and touching of all his lays. His world-embracing love, arising on the tearful wings of pity, broods sadly over the fate of the unconscious Daisy; commiserates the emotions of the wounded hare, and imprecates in language too frequently forgotten, "man's barbarous art." Though, like Wordsworth, he loves to hold communion with the fairest forms of Nature amid the solemnities of the mountains, the weird murmurs of the forest, where—

"Fragrant Birch and Hawthorn hoar
Twined amorous round the raptured scene;"

or the deep-toned monotony of the echoing shore, his soul was not a star that dwelt apart, for his was that spirit of gentlest sympathy which thinks evermore of the hopes and fears, the sorrows and saddening destinies of humanity.

"The clouds that gather round the setting sun
Do take a sober colouring from an eye
That hath kept watch o'er man's mortality."

And hence, thanks to that great human heart by which he lived; thanks also to those passions which gave him all his weakness and more than half his power, his poems must always profoundly appeal to the noblest emotions, to the fairest sympathies of men. And potent indeed for good must be the influence of *his* song, who could not pass by a wounded hare without feeling the infinite pathos of compassion urging him onwards to mercy and tenderness; or a humble flower of spring without a lesson to his fellow-creatures on the sublimity of the smallest of God's creations! *David R. Williamson.*

New or Noteworthy Plants.

Adiantum (Hewardia) malaliense.

*Jenm., n.sp.**

This is a very interesting plant, of a totally different habit to the others of the small section Hewardia, which hitherto has contained only three species, all from Guiana, and all growing together where this was found. I do not include A. dolosum, Kze. (A. Phyllitidis, J. Sm.), which, too, grows with them, for, as Mr. Baker has said, a pair of veins fortuitously anastomosing, give it no just right to inclusion. The plant was discovered by Mr. Ward, who, with the exception of two or three black men who claim that lineage, is the only Scotsman in this department. He came upon it at the greater *Malali* of the Demerara River, the "Great Falls" of Waterton's delightful classic "Wanderings;" which Falls, though few white men or women have seen them, are known to almost every man, woman, and child, throughout the wide world who speaks Waterton's tongue. *Malali*, I should have said, means, in the particular Indian tongue, a waterfall. The habit of the new species is exactly that of A. Kendalli, Jenm., of Jamaica, but differing, of course, in all other characters. *G. S. Jenman, Demerara.*

Campanula Zoysii.*

Our illustration (fig. 32) of this charming little alpine was taken from a plant exhibited by Messrs. Barr & Son at a recent meeting of the Royal Horticultural Society. It was drawn by Mr. Worthington Smith, is of the real size, and shows the tufts of obovate, rather thick, green leaves, from the midst of which the flower-stalks rise. The flowers are of a light blue colour, and, as is commonly the case with alpine plants, are large in proportion to the plant. The shape is different from that of any other Campanula we can remember, the tube being somewhat angular and flask-shaped, contracted at the throat, and with five short, triangular, connivent lobes. The inner surface of these lobes is studded with hairs, and, as seen in the section, the stamens, which are unlike those of most Campanulas, are short, and occupy the bottom of the flower-tube, whilst the style (which is glabrous) is as long as the flower-tube, and the stigma closely invested by the inflected segments. An insect visiting the flower would, therefore, have to push aside these segments, would be more or less obstructed by the hairs on their inner surface, and would come into contact with the stigma. If that insect had just come from another flower, it is most probable it would be dusted over with pollen, and that pollen would now be deposited on the stigma. It is not at all unlikely that other flowers of this plant might be provided with long stamens and short styles as some Primroses are, but we can only speak from the facts before us. Insect agency in any case is clearly probable, but it is singular, under such circumstances, to find the pollen grains smooth, as they were observed to be by Mr. Worthington Smith, and as shown by him in the figure. This circumstance, together with the characters of the stamens and style, suggest the occasional possibility of close-fertilisation and even cleistogamy. In the young state the flowers are pendulous, becoming erect as they grow older. The plant is a native of the Austrian Alps, and is reported to be difficult to cultivate. *M. T. M.*

Kew Notes.

Pterisanthes polita.—Pterisanthes is a genus of about six species of climbing or sarmentose plants, very closely allied to Vitis. It is remarkable in the form of its inflorescence, which is flattened like a knife-blade, with the male flowers borne singly on stalks at intervals of about an inch along the margins, and the females sessile and scattered about the surface of the flattened blade. The berries are about the size of Peas, and are black when ripe. Some of the species have pedate or trifoliate leaves, and are very similar to Cissus. P. polita has lately been introduced to Kew from Singapore, and it is now in flower in the stove. It has quick-growing scandent stems, cordate-glabrous leaves about 5 inches long, the margins toothed. The flower-rachis is a sort of modified tendril, the lower portion being red, 4 to 6 inches long, by an inch in width, quite flat and membranous, the irregular form and leg-like arrangement of the male flowers bearing an odd resemblance to a flattened lizard. Although not a plant that would win the approval of a floral committee, it would interest the botanically inclined among horticulturists. The best of the species is P. cissoides, which has a rachis 2 inches wide. There is a good figure of this species in *Linnæa*, 18, t. 8.

Dischidia hirsuta.

This is the third species of Dischidia that has been established at Kew, the first being D. bengalensis, a climber, with small fleshy grey-green leaves and minute green flowers, for many years an inmate of the Palm-house; the second is the remarkable D. Rafflesiana, which, in addition to its orbicular leaves, produces numerous pitcher-like organs 2 or 3 inches long, inflated and perforated at the base with a small hole, through which adventitious roots sometimes find an entrance. The Kew example of this species has developed about twenty new pitchers this year. D. hirsuta is quite distinct from these two in its slender wiry stems, its orbicular fleshy leaves, with irregular surface, and its axillary clusters of blood-red flowers, which are tubular, nearly half-an-inch long, and not unlike those of a miniature Hoya. There is a healthy example of this species in the stove at Kew, where it is grown on a short stem of tree Fern, and has been in flower for some weeks. Sir Joseph Hooker says, "The species of Dischidia all want careful study. The leaves change in form, and it is not ascertained in respect of many species, whether they may or may not be converted into pitchers." There are about twenty-four species, all natives of the tropics of the East.

Mammea americana.

The Mammea Apple or American Apricot is a well-known fruit tree in the tropics, where it forms a tree about 50 feet high, with leathery oblong evergreen leaves, white sessile flowers about the size of the flowers of the Tea plant, and very large fruits, the pulp of which is sweet and aromatic, and is eaten cut into slices and steeped in wine, or made into preserves of various kinds. The seed is as large as a hen's egg. Although long cultivated at Kew, it is now flowering for the first time in the Economic-house there, the plant being about 10 feet high and growing in a large pot. Some of the flowers have set for fruits. According to a note in a list of the economic plants cultivated in Jamaica, the wood of the Mammea, which is remarkably durable and resists damp, is beautifully grained. The bark has astringent properties and is used for dressing sores. A liquor known as "Crême des Creoles," is distilled from the flowers in Martinique, and the fruit is russet-brown when ripe, and has a peculiar odour. It is said to often attain the size of a child's head.

Morea Robinsoniana.

The giant Iris of Lord Howe's Island has flowered with unusual freedom in the Succulent-house at Kew this year. It developed spikes in the spring, which grew to a height of 8 feet, and pushed lateral branches before the first flowers opened on May 21. From this date till August 5 fresh flowers were produced on every day except eighteen, the number expanded on each of the other fifty-nine days varying from four to 113. The total number of flowers produced was 1666, an average of twenty-eight per day. The flowers expanded in the morning, and by the following morning they were folded and withered. Each flower was about 3 inches in diameter, star-like, the segments broad and spreading, pure white, with a blotch of yellow at the base of the three broader segments.

* *Adiantum (Hewardia) malaliense*, Jenm., n. sp. Root-stock prostrate, repent, closely, biserially knotted, clothed with densely imbricated brunneous fine scales; stipites erect, scaly, not articulated, angular, ultimately bare at the base, nigrescent, brightly polished, above freely rusty, tomentose, 6 to 9 inches long; fronds stiffly erect, a span or more long and broad, bipinnate, very dark olive green, subcoriaceous, naked, except on the rachis and costæ, which are densely rusty furfuraceous, consisting of a terminal pinnate portion (with an entire ovate-lanceolate and acuminate terminal segment, much like the contiguous lateral ones), and with one to three similar basal, horizontally-spreading, pinnate branches, usually of lesser size, but otherwise exactly conform to the terminal part; pinnules 2 to 3 inches long, half to three-quarters of an inch wide, oblong-lanceolate acuminate, obliquely rounded at the sessile or shortly-stipitate base, the inferior side of which is very shortly cut away, bidentate, the teeth appressed in the faintly-serrate groups; veins fine, close, very oblique, repeatedly forked, freely anastomosing, excurrent; sori oblong along the upper and lower edges, divided every quarter of an inch or so by the primary incisions of the margin.

* *Campanula Zoysii*, Wulf, in *Jacq. Collect.* ii., 122; *Jacquin Icon.*, 3, t. 4; *Rossi, Fior. Europ.*, 1, *Stirp. Pedem.*, vi., 22; *Gardeners*, October 19, 1895, under the name C. Lorevi; Reichenbach, *Fl. Germanica*, 19, 1610.

Mr. Charles Moore, the ex-director of the Sydney Botanic Gardens, who discovered this plant in Lord Howe's Island, recently saw the plant at Kew, and said that it was equal to any that he had seen wild, except that the leaves were a little shorter. This plant first flowered at Kew five years ago, and not again till this year. [See *Gardeners' Chronicle*, 1872, figs. 123 and 124.]

SOLANUM CERNUUM.

There is a fine example of this tree-like Solanum in the Temperate-house at Kew. It has a woody stem, forked at the top, and bears a head of noble leaves, each 2 feet or more long, and from 1 to 1½ foot wide. The stalks are clothed with long, thin, brown, chaff-like hairs, which, according to Sir Joseph Hooker, gave rise to the Portuguese name for the plant, viz., "Braco de Preguica"—the arm of the ant eater. The Kew plant came originally from the garden of the late Sir George Maccleay, who grew it in a large conservatory under the name of S. jubatum. It bears clusters of short-stalked white flowers, an inch across; but it is as a noble foliage plant that it deserves the notice of horticulturists.



FIG. 32.—CAMPANULA ZOYSII.
Flowers pale blue; section of flower magn. two diam.; pollen grains magn. 240 diam.
(See p. 182.)

ARISTOLOCHIA GIGAS STURTEVANTII.

There is a strong plant of this grand climber on the roof of the Victoria-house at Kew, which is now flowering freely, two or more of its noble flowers being open on most days. When the Victoria Water-Lily is in flower, the mixture of the penetrating odours of the two plants is almost overpowering. *W. W.*

NEW HYACINTHS.

THE number of new Hyacinths, compared with novelties in other groups of florists' flowers, is rather small. In consequence of the slowness of multiplication, it takes several years before a new seedling Hyacinth can be brought before the public. Notwithstanding these circumstances, there are a few new seedling Hyacinths which surpass the existing trade varieties, although the standard of these is very high now. The following varieties deserve special attention, and many of them will become the leading sorts of the trade.

Lohengrin is a double rose-coloured sport [seedling?] of the well-known double blue Charles Dickens, which is one of the best double Hyacinths in the trade. Lohengrin has kept all the excellent qualities of its parent, and forms large, dense trusses of fine rosy-red bells.

Tolstoi is another double flowering novelty of high standard. The bells are very thick and fleshy, in the way of those of Kastanjitloem, of a most delicate shade of pink, almost rosy-white, and form an effective truss.

La Grandesse, double white, is certain to become one of the very best double white leading Hyacinths in the trade, being a sport from the single white variety of the same name. It obtained the highest number of votes in the Dutch bulb growers' *plébiscite*. The double variety produces a most splendid spike with very regular and full bells of the purest white. It has the same excellent forcing and bedding qualities as its parent.

Pale and porcelain-blue Hyacinths being much in demand, there is a tendency to obtain novelties in these shades, which surpass the older standard sorts. The results of these crossings have proved very successful, the two following showing a great advance on older forms.

Holbein throws up a long, regular, and compact truss of very delicately blue-coloured single bells, and may be considered as one of the foremost trade varieties of the future.

Johan is an excellent forcing variety, forming a gigantic truss of fine soft porcelain-blue single bells.

Other meritorious blue Hyacinths of last year are:—

Figaro, a very distinct blue variety, the lobes being pale blue, whereas the bells are tinged bluish-black outside, thus producing a quite unique effect.

Gounod makes loose and regular trusses of well-shaped single bells, which are light greyish-blue, striped dark blue on the petals.

Richard Wagner, a compact, medium-sized truss of regular single bells of a very distinct pale porcelain-blue.

Besides the pale-blue varieties, the pure yellow Hyacinths have been much improved of late. The best new yellow varieties include the following, viz.:—

Lemon-tree, a splendid compact truss of soft yellow single bells.

Gold light, a medium-sized truss of brilliant golden-yellow bells; and

Hofdyk, a regular truss of fine large, single light-yellow bells.

A charming orange-yellow variety is Trilby, and Het Loo is a good dark carmine with orange shade. The latter was personally named by the Queen of the Netherlands, when visiting "Bulb Land" in 1894. "Het Loo" is the name of her favourite residence.

Splendens is a very effective rose Hyacinth, like Waterloo, of the same colour, and also a new acquisition.

The above is a selection of the best new Hyacinths obtained, and of late offered to the trade, by different Dutch growers. They are all rather expensive at present, but the descriptions given above may interest the reader, as they refer to many leading Hyacinths of the nearest future. *Ernest K. Krelage, Haarlem.*

ORCHID NOTES AND GLEANINGS.

MASDEVALLIA SCHRODERIANA.

THE beauty of this species is equalled by few others of the genus. The bright-green foliage is from 4 to 6 inches in height, and the flowers stand well above it. The colouration is a beautiful combination of orange, yellow, amethyst, purple, and white. The length of the sepal-tails is nearly 3 inches, the two lower ones recurved towards the peduncles. Introduced by Messrs. Sander, it was awarded a First-class Certificate in 1890 by the Royal Horticultural Society. A plant is flowering at the present time in the Royal Botanic Garden, Edinburgh.

ZYGOPETALUM GAUTIERI.

This pretty species is also in flower in the above garden. In some gardens a difficulty is experienced in growing and flowering this plant with success. Here it grows on the shady side of the Cattleya-house, and is watered freely during the growing period. It is grown upon a tree Fern trunk. The bluish-purple colour of the lip, and brown and green spots and blotches upon the sepals and petals make the flowers very attractive. A native of Brazil, it is a plant which does not appear to be imported in large quantity. *R. L. H.*

REMARKS ON THE FRUIT CROPS.

(*See Tables, pp.* 124 *to* 131.)
(*Continued from p.* 157.)

4, MIDLAND COUNTIES.

BUCKS.—Apples are an abundant crop, all trees being loaded with fruit. Strawberries were of excellent quality, Royal Sovereign and President taking the lead. Red and white Currants fair, but trees somewhat blighted; black Currants very heavy crop, and of excellent quality. Raspberries an average crop, quality good. Pears are scarce, owing to prevailing frosts when trees were in bloom. Peaches, Nectarines and Apricots are not grown outdoors here. Filberts are plentiful, but trees somewhat blighted. On the whole, our fruit crop is satisfactory up to the present time. *Hedley Warren, Aston Clinton Gardens, Tring.*

—— Generally, bush-fruits are under average, both Red and Black Currants being thin, and Raspberries

dried up, owing to continual drought. Apples in this neighbourhood are a good average crop, and the trees, considering the dry weather, are looking well. Should rain come soon, the crop will be a good one. Of orchard-trees, Blenheims and Dutch Mignonne are especially well cropped; and of bush-trees on the Paradise stock, Lord Grosvenor, Grenadier, Eclinville Seedling, Lord Derby, Bismarck, Lane's Prince Albert, Cox's Orange, the same remark applies to those. Cherries on walls have been good; standard and orchard-trees very thin. Pears on walls, excepting Williams' Bon Chrétien, are scantily cropped; while bush-trees on Quince stock are, taken collectively, about two-thirds of a crop. Peaches and Nectarines on walls cropped heavily, and have required severe thinning. Apricots only a partial crop. Nuts abundant. Plums a good crop. *Chas. Herrin, Dropmore, Bucks.*

—— Apples are a heavy crop, such varieties as Stirling Castle, Lord Suffield, and Keswick Codlin, are bearing a very fine crop. Early dessert varieties are also good, such as Beauty of Bath, Gladstone, Early Margaret and Irish Peach. *J. Smith, Mentmore, Leighton Buzzard.*

—— The fruit crop round here is very thin in places, especially in fruit gardens surrounded with woods. Cherries set a good crop, but dry weather setting in, they nearly all dropped off. Apples and Pears early took the blight, but using the syringe freely, we have saved a fair sprinkling. Pears set well, but dropped, owing to drought. Peaches and Nectarines are good outside. Plums good on walls. All bush fruit and Strawberries are excellent. American Blackberries, such as Wilson Junior, Laciniatus, and Kittatiny are producing good crops. *A. B. Wadds, Cliveden, Maidenhead.*

—— A deficient rainfall, with much aridity combined, has been the means of increasing insect-pests to a very great extent; so much so, that the size and quality of certain kinds of fruit will thereby be greatly deteriorated. Apple and Plum crops suffer most in this district. Peach and Nectarine trees are fairly clean, considering the dryness of the season. The prolonged period of ungenial conditions that prevailed after the fruit had set did much mischief in causing the fruits to drop. *G. T. Miles, Wycombe Abbey.*

Cheshire.—Apples are a very poor crop indeed; Lord Suffield, Potts' Seedling, Lane's Prince Albert, Grenadier, and Cox's Orange, have a fair crop, but many of the trees have very few fruits. Pears are a worse crop than Apples; Louis Bonne and Beurré Clairgeau are two of the best for crop. Plums are thin, too, excepting the Czar, which is bearing a full crop, and requiring to be thinned. The best and heaviest crops are the Gooseberries, by reason of this, and not sufficiently thinned in the green state they are rather undersized. *Robert McKellar, Abney Hall Gardens, Cheadle.*

—— All fruit trees bloomed abundantly, and gave promise of a good fruit year, but owing to the long-continued hot, dry weather, with 10° of frost on the night of May 20, the bloom and foliage were much injured, and the fruit crops much less than were expected. Apples and Pears are under the average; Plums and Cherries about an average. Peaches, Nectarines, and Apricots on protected walls an abundant crop. Strawberries on light soils generally small. Foliage of bush fruit much attacked by insects, and unhealthy-looking. *W. Whitaker, Crewe Hall.*

Lancashire.—In spite of the very dry weather we have experienced here since April, fruit crops are very good. Apples and Pears have been much troubled with caterpillar on the foliage, but the fruit is sound and good. Peaches on the open walls a grand crop, and the trees are clean and healthy, owing to constant use of the hose-pipe. We gathered the first dish of Early Beatrice on the 5th inst., and Early Rivers on the 8th, some of the latter weighing 8 oz. The Strawberry season, owing to the drought, has been rather short. *B. Ashton, Lathom House Gardens, Ormskirk.*

Derbyshire.—The fruit crops here are remarkably good, and of fair quality, considering the heavy crops of all sorts last year. Apples are unusually good. Blenheims and Cox's Orange Pippin are cropping well; Northern Spy, Wadhurst Pippin, Lemon Pippin, and Besspool, which are amongst the most useful late dessert kinds, are fruiting well. Suffield, Tower of Glamis, Flower of Kent, and Grenadier are loaded, as are also some of the newer sorts, such as Lady Sudeley, Washington, Lane's Prince Albert, Bismarck, and Gascoigne Seedling. Amongst Pears, Williams', Louise Bonne, Beurré Hardy, Duchesses, Knight's, and all the Bergamots are good. *J. H. Goodacre, Elvaston Castle.*

Hertfordshire.—Some of the more tender kinds of Apples received serious check from cold winds and slight frosts early in May, and in consequence trees became badly infested with aphis and red-spider, and are making but poor growth. Pears are slightly below average, but owing to early mulching and waterings the trees are looking well and the fruits are swelling satisfactorily. Plum-trees are badly infested with blight. Cherries, excepting Morellos, are very poor. Bush fruits are a satisfactory crop, and Black Currants much above average, and very good. *E. Hill, The Gardens, Tring Park.*

—— Generally speaking, this is a more fruitful season than usual. Small fruits have been fully up to the average, except red Currants; Gooseberries have been a very heavy crop; Strawberries have been fine in quality, but the season was short through the dry weather. Pears have been thinned to a great extent, particularly on bush and pyramid trees; Apples are a good average crop, and Peaches are of splendid quality, the colour unusually fine. *G. Norman, The Gardens, Hatfield House.*

—— Small fruits in this neighbourhood have suffered from the drought, although the quality has been good, the quantity would have been increased had rain fallen at the proper time. The excessive heat has necessarily made the small fruit season much shorter. Raspberries and Strawberries appear to have suffered from the drought more than Black and Red Currants. Apples, Pears, Peaches, Nectarines, Apricots, look promising, but Plum orchards have but scanty crops; and Cherry orchards are disappointing in some places, while others possess a good crop. *Wm. Garman, Frythesden Gardens, Great Berkhamsted.*

Leicestershire.—All kinds of fruit-trees blossomed abundantly, but in most instances they failed to set a heavy crop, and many of the Apples have fallen since, owing chiefly to exhaustion of the trees following the heavy crop of last season, aggravated by the dry weather this spring. Apple-trees are remarkably clean and healthy; Plums and Cherries have been much infested with aphides. Peaches and Nectarines are healthy and clean, and have shown no blister where they are protected with Rendle's glass coping. *W. H. Divers, Belvoir Castle Gardens, Grantham.*

—— The fruit crop generally is satisfactory. A large Fig tree which is trained on a wall with a south-west aspect has an excellent crop of fruits, some of which are commencing to ripen. The flavour of these fruits for the past three seasons has been first-rate. *Thos. A. Metcalfe, The Gardens, Rolleston.*

Northamptonshire.—Apples, Pears, and Plums have improved much since rain has come. Morello Cherries are almost a failure. Currants (red, black, and white) are very plentiful; also Gooseberries. Peaches and Nectarines have improved, but they were attacked by the blister-fungus. *H. Kempshall, The Gardens, Lamport Hall, Northampton.*

Nottinghamshire.—Apples, Pears, and Plums, when in bloom, looked promising, the individual blooms were strong and healthy, but some were destroyed by frosts, and owing to the continued dry weather, many fruits are falling now. Still, we shall have a good average crop of Apples, Pears, and Plums, though not so plentiful as was promised in early spring. Small fruits are abundant and good. *A. Henderson, Thoresby.*

Oxfordshire.—Apple trees are healthy. Pears a capital crop, especially on walls. Plums heavy on walls. Birds destroyed a good many buds on open trees. Cherries good, especially Morellos. Peaches and Nectarines a capital crop, leaves blistered badly in spring, but scarcely a tree on the walls of any kind has missed fruiting. They had a good early watering, and were heavily mulched. Subsequent waterings have been given when necessary, especially to Pears on Quince stocks. Small fruits of all kinds have been abundant, and trees healthy. Strawberries on the younger beds have been good, on older beds very poor. Royal Sovereign, President, Vicomtesse, James Veitch, Hélène Gloire, and Latest of All were the best. *George Stanton, Park Place, Henley-on-Thames.*

Shropshire.—Fruit has suffered from the drought and consequent blight, especially caterpillar and red-spider. Orchard trees are carrying better crops than trees within the walled garden. King of Pippins, Lord Suffield, Blenheim Orange, Ecklinville Seedling, Beauty of Kent, Thurle Pippin, Northern Green, Cox's Orange Pippin, and Cox's Pomona are amongst the best-cropped Apples. Our rainfall for the first six months of the year was only 6·99 inches, which is 5 or 6 inches below the average. *A. S. Kemp, Broadway, Shifnal, Salop.*

—— The dry hot season has prejudicially affected the small fruits, and they have ripened earlier than usual. I gathered the first outdoor Strawberries, John Ruskin, on May 25th, an average crop, but smaller than usual, and soon over. Raspberries are a very poor crop, and small. Red and white Currants about one third under average. Peaches, Nectarines, and Apricots good and early; I gathered first Peaches, Alexander and Waterloo, on the 30th of June, from the open walls, which is earlier by twelve days than last year. Apples and Pears are irregular, and poor crops. Of Apples, Lord Suffield, Hawthornden, Potts' Seedling, Winter Greening, Bess Pool, King Pippin, Orange Pearmain, and Ribston Pippin are bearing better than most varieties. *G. Pearson, Attingham Gardens, Shrewsbury.*

—— Of Apples, the variety Lord Suffield is the only one that has a crop. Of Plums, Victoria and Prince Engelbert have a good crop. Raspberries are extra fine; the caterpillar has been very troublesome to the Gooseberries this year. *D. Owles, The Gardens, Apley Castle, Wellington.*

Staffordshire.—We had a splendid bloom on Apple trees, but have only an average crop, and the trees are infested with red-spider more than I have ever seen them. Pears are a very thin crop, so are Apricots. Plums have a moderate crop, and Gooseberries and all kinds of Currants a very heavy one, but Strawberries and Raspberries have the thinnest crop we have had for years. *J. Wallis, Keele Gardens, Newcastle.*

—— There was prospect of a good fruit crop in the spring, but from blight and drought Apples have nearly all fallen. Of Pears, Williams' Bon Chrétien is doing well, and some other early kinds, but fruits of late varieties are scarce. Bush fruits have been plentiful but small; Strawberries were good, but the season short. Peaches, Nectarines, and Apricots outside are carrying a grand crop. *G. H. Green, Enville Gardens.*

Warwickshire.—The Apple crop in this district is much under the average. Pears, with the following, exceptions are almost as bad:—Beurré Diel, Beurré d'Amanlis, and Beurré Bachelier. Peaches are good, and the trees are ripening earlier than usual. Apricots a good crop, but earwigs and ants are very troublesome. *James Rodger, The Gardens, Charlecote Park.*

—— The flowering season of the various fruit trees was this year most favourable to an excellent set of fruit, and there is a good promise that we shall reap the benefit therefrom. The crops in the gardens here, and those also in the neighbourhood which have come under my notice, are generally good. True during the flowering and setting period we had, perhaps, more than our usual attack of caterpillar and aphis, and being short-handed we were obliged, *nolens volens*, to allow those unwelcome marauders to have very much their own way. These having done

the best for themselves and the worst for us, we find there is still left a plentiful fruit harvest. With the exception of a few ordinary and some extraordinary thunder storms, accompanied by heavy rains, the season has been unusually dry. Luckily I had at my command an ample quantity of stable-litter, with which, early in the season, we freely mulched our fruit-trees, including the smaller fruits, for which seasonable attention we have had excellent returns. Not only has the mulching a most beneficial effect on the production of fine fruit and healthy leafage but at the same time it most effectually prevented an up-rush of weeds. As we are now considerably to the leeward of midsummer, with days perceptibly shorter, accompanied by long dewy nights, crops will, with such help, grow on to maturity, and if a timely shower should fall it will increase the productiveness of one of the most pleasant and bountiful seasons our county has been blessed with for many a long year. *W. Miller, Combe Abbey Gardens.*

—— The great feature of the present season's crops in this district is undoubtedly the enormous quantities of Strawberries, Raspberries, Gooseberries, and Currants, which have been produced with remarkable uniformity. Apples and Pears are very irregular. In some gardens they are abundant, in others the crop is a failure. In regard to Plums, Victoria seems to be the only variety bearing a heavy crop. Peaches and Nectarines are a good crop where insects, have been combatted, and the trees well watered. *D. Dunkin, Castle Gardens, Warwick.*

5. SOUTHERN COUNTIES.

Berkshire.—The prospects during early spring of a good fruit season have been much discounted by drought and the hordes of caterpillar and insect life with which the trees have been infested. Many fruits have fallen, especially Apples, and I anticipate the bulk will be small, as the rainfall here from January 1 until July 24 was 7·94 inches. The average at Windsor is 13·00 inches. In a collection of Apples and Pears numbering several hundred varieties, it is impossible to name many bearing good crops without giving a tabulated list for comparison. Of Apples, the following are bearing heavy crops: Lord Grosvenor, Lord Suffield, Forfar Pippin, Frogmore Prolific, Baldwin, Bismarck, Taylor's Seedling, Jonathan, and some others. Pears: Beurré Hardy, Emile de Heyst, Doyenné d'Alencon, &c. Of Strawberries, the best here have been Sensation, Countess, Scarlet Queen, Lord Suffield, A. F. Barron, Latest of All, Waterloo, Frogmore Gloede, and Aromatic. *O. Thomas, Royal Gardens.*

—— I have a heavy Apple crop; my poultry-run is my orchard ground, and it is under grass; I feed the poultry alternately under the trees, and it is much the worse for the insects; there is not a caterpillar left. The trees have superb foliage, and as to the fruit, as someone down in Kent says, "Come and see." I take a wheelbarrow filled with wood-ashes, and in dewy or drizzling weather, with a shovel toss it wholesale over and upwards. It is much the worse for the eggs of the insects, and the better for the grass. *Robert Fenn, Sulhamstead.*

—— Apples are variable, and not more than half a crop. Pears on walls and on open trees are an average crop, but small. Plums on walls are good, but there are very few on open trees. The same remark applies to sweet Cherries. Peaches and Nectarines are again a full and satisfactory crop, and the trees exceptionally clean and healthy. Of Apricots, Shipley's is the only variety bearing a crop. Strawberries were very good; I gathered fine fruits of Royal Sovereign from open quarter on May 28; too much cannot be said in favour of this variety. *T. Turton, Maiden Erlegh Gardens, Reading.*

—— Of Apples, Adams' Pearmain, Devonshire Quarrenden, Cockle Pippin, Ribston Pippin, Court of Wick, Cox's Orange (grand), Lord Suffield, Keswick, Frogmore Prolific, Cox's Pomona, Peasgood Nonsuch, Blenheim, and Orange, carry the best crops The best Strawberry, both for forcing and early work outside, is Royal Sovereign. *F. J. Thorne, Sunningdale Park, Ascot.*

Hampshire.—Owing to the prolonged drought, the season of 1896 will be one of the worst experienced here for many years. Apples are almost a failure, and little better can be said of the Pears. Peaches on walls are good, and the smaller fruits have been extra good, a heavy thunderstorm on June 10 (rainfall 2·13 in the twenty-four hours) being the salvation of the crop. Plums are an average crop, and the same may be said of Cherries and Nuts. *A. Maxim, Heckfield Place, Winchfield.*

(To be continued).

FOUL BROOD OR BEE PEST.

Foul brood or Bee pest is the most terrible scourge of apiculture. It spreads so rapidly by contagion in a single season, that, unless precautions are taken, a whole neighbourhood may become affected, and the chances of successful bee-keeping therein will be seriously imperilled, if not utterly destroyed.

Foul brood is caused by a rod-shaped micro-organism, called Bacillus alvei, which increases by splitting, and has, under certain conditions, the power of forming spores. It is important to note that bacilli are present in the earliest stages of the disease, but in the latest, when brood has become rotten and coffee-coloured, or has dried up to a scale, they turn to spores. These represent the seeds of the evil, and retain the power of germinating into bacilli when in contact with a suitable nourishing medium at a proper temperature, even after the lapse of long periods.

They are endowed with wonderful vitality. Freezing and boiling, carbolic acid, phenol, thymol, salicylic acid, naphthol beta, perchloride of mercury, as well as creolin, lysol, eucalyptus and naphthaline, which evaporate at the ordinary temperature of the hive, prevent the growth of bacilli, but have no effect on the spores From this it will be seen how great is the difficulty in curing foul brood, unless the disease is attacked in its earliest conditions.

When stocks are found weak, working languidly, very slightly profitable, and swarming little, foul brood may be suspected. If it is present, an examination of the combs will show some cells (many or few) with dying or dead larvæ in them; others with their covers sunken or perforated, while the cells of healthy brood are usually compact, and the grubs are plump and of a pearly whiteness. When healthy, the young larvæ are curled up in crescent-shape at the base of the cells. On the other hand, if diseased, they will be found extended horizontally in the cell, presenting a flabby appearance, and of a pale straw colour. As they begin to decompose, the colour changes to brown. They then dry up till all that remains of them is a brown scale adhering to the side of the cell. Should the larvæ survive until capping takes place, a few of the cell covers will be found here and there slightly indented and darker in colour than those of healthy brood. The capped cells will be observed in irregular patches and mostly perforated. On removing the capping, the contents will be seen to consist of a putrid, sticky, elastic, coffee-coloured mass, formed of the rotting larvæ. The bees do not seem to have the power to clean out the foul cells, and so they remain, spreading infection within the hive, until the stock becomes too weak to defend its stores, when some neighbouring colony probably robs it, and in doing so carries away the seeds of disease and death, which are thus spread, until all the hives of a neighbourhood may be fatally affected.

Hives in which foul brood exists give forth a sickly and unpleasant smell, and when the disease is of a malignant type and in a very advanced stage, the foul odour may be frequently detected even at some distance from the entrance.

It should be noted that chilled brood must not be mistaken, as it very frequently is, for foul brood. In the former the dead larvæ turn first grey, and afterwards become nearly black (never brown, as with foul brood). The larvæ, dead from cold, are also generally removed by the bees, but they seldom attempt to carry out those which have died from disease, unless disinfectants to arrest decomposition are used. Adult as well as immature bees suffer from the pest, but these leave the hive to die.

Experience has plainly shown that with foul brood as in all epidemic diseases—the weak, sickly, and badly-nourished are attacked, and become centres of infection to others. So it often happens that as colonies become weak, bees from healthy hives rob them of their honey, and thus carry off the germs of the disease along with their ill-gotten gains.

Another very important point is that the bee-keeper may himself be the means of spreading the pest by indiscriminately manipulating, first diseased, and then healthy hives, without taking proper precautions to disinfect himself and his appliances. Combs which have contained foul brood retain the spores The queen lays eggs in the cells and the workers deposit their honey and pollen in them. Both honey and pollen in this way become vehicles for the transport of the disease to the larvæ in the process of feeding by the nurse bees. Under no consideration should infected hives or combs be knowingly exposed to the visits of bees. Carelessness in this respect may work immense mischief to neighbouring stocks and apiaries.

In endeavouring to get rid of foul brood, efforts must be made to raise to a high standard the lowered vitality of the bees, which first enabled germs of the disease to get a footing. This will be effected by keeping only strong stocks, with young and prolific queens, and good wholesome food, combined with cleanliness and proper ventilation.

Foul brood is so extremely contagious that it is advisable at all times to adopt preventive measures against infection. Naphthaline in balls is generally used for this purpose; two of these, split in half, being the proper dose. The pieces are placed on the floor-board of the hive in the corner farthest from the entrance. The temperature of the hive causes the naphthaline to evaporate, and it must be, therefore, renewed as required. All syrup used for feeding should also be medicated with naphthol beta. When the bee-keeper has been in contact with diseased stocks, clothes, appliances, and hands must be washed with carbolic soap, and other articles disinfected by spraying with a solution of one ounce Calvert's No. 5 carbolic acid in twelve ounces of water.

It was formerly thought that honey was the only source of infection, so that, if bees were starved until they had got rid of the honey carried by them from the diseased hive, a cure would be effected. It is now known that the starvation method, good as far as it goes, has always failed from the fact of its not being supplemented by disinfection of hives and appliances.

When the disease is discovered in a weak colony, the destruction of bees, combs, frames, and quilts, together with a thorough disinfection of the hive, is by far the best course to pursue. The spores are thus annihilated, and the source of infection removed.

If, on the contrary, the colony be still strong, the bees may be preserved by making an artificial swarm of them. They should then be placed in a straw skep and fed on syrup of which three grains of naphthol beta have been added to every pound of sugar used, the naphthol beta being dissolved in alcohol and added to the syrup while still warm.

The infected frames, combs, and quilts should then be burned, and the hive disinfected by being either steamed, or scrubbed with boiling water and soap, and then painted over with a solution of carbolic acid (one part of Calvert's No. 5 carbolic acid to two parts of water). When the smell of the disinfectant has disappeared, the hive will be ready for use. The bees must be confined to the skep for forty-eight hours, by which time all honey they may have taken with them will have been consumed, and such of the bees as are diseased will have died off. Those remaining should then be shaken from the skep into a clean frame-hive furnished with six frames, fitted with full sheets of comb-foundation, and must be fed with medicated syrup for a few days longer. The skep used as their temporary home should be burnt. In order to avoid chance of robbing, all such work as is here described should be done in the evening, when the bees have ceased flying for the day.

It may be added that in attempting remedial measures of the nature described, it would be desirable, wherever such help can be procured, to seek the advice of a competent expert. 4, *Whitehall Place, London, S.W., July*, 1896.

VIOLAS.

A seasonable and timely note appeared in your last issue in respect to the proposed trial at Chiswick of these increasingly popular plants. It has been proved that failure in their culture is due in the majority of instances to planting the wrong sorts and at an improper moment. But there is another point too frequently overlooked, and it is the undoubtedly cool-loving nature these Pansies have, and unless this is considered, and the beds or borders prepared accordingly, failure in some degree is sure to ensue. With very special care and attention after planting, and equally special care when planting, Violas may be flowered with fair success after spring planting. But you cannot possibly get the best results from it, but lose more than half of the beauty and worth of Violas in the garden. If they are planted in their permanent positions during the first or second week in October, in soil deeply worked, and rich, the plants have the advantage of becoming established during the autumn months. Few plants are capable of providing so rich a display of blossom as Violas, and they are equally remarkable for diversity of colouring. Very important for the complete success of these plants, is that only freshly-rooted cuttings, and not divisions of the old stools, be planted, as the former are far more vigorous, beside being more compact. It is good practice, and particularly so when heavy autumn rains are frequent after planting, that the surface of the soil be stirred at least once a week either with small fork or hoe. When planting in lines, it is desirable to place the plants in a rather deep furrow, and as growth ensues, to earth the plants up with dry, well-rotted cow-manure, leaf-soil, and loam, in equal parts. This may seem a deal of trouble, but I have proved its

efficacy. It has produced plants by the end of the year composed of a score or more shoots such as are usually obtained only in April or May. The late Mr. William Dean was a firm advocate of the earthing-up practice in autumn, mainly to encourage fresh growth from the base, and provide protection. By planting in furrows, the operation is quite easy and simple. It was from Mr. Dean that I obtained the hint, and I could scarcely have credited that the results would have been so advantageous. Where beds on the lawn are devoted to Violas, the surface should be slightly below the lawn level, and flat, or nearly so, in order that a thorough saturation of water may be given if desired. The present time is an excellent one for inserting cuttings, selecting the freshly-made growths from the centre of the tuft, and not the old flowering stems or growths, which, by comparison, are useless. A few old plants, if cut down at once, will quickly develop plenty of young shoots, which, if plucked out by finger and thumb, will in many instances have tiny roots already upon them. Insert these in a shady place in a frame, or behind a north wall, and as soon as rooted pinch the point of the growth out, to encourage breaking from the base. By allowing the cuttings a fair amount of space, compact plants will be available for planting in October, with breaks already issuing from the base. Plants of this stamp are much better than others with only a single leg to stand on. *E. Jenkins, Hampton Hill.*

Viola, How Pronounced.

We have hardly got over the discussion which raged so freely respecting the proper pronunciation of the name Gladiolus, when another hare is started by a querist who at the recent conference at the Botanic Gardens, Regent's Park, wanted to be informed as to the proper pronunciation of Viola The somewhat affected one getting into common use is Vē-ola, the "i" being pronounced "e," but soft. That is the style of the cult, who always seem to be fond of pronunciations of the mincing order. The querist in question wanted to know if using a plain English accent to Viola, we should be right in pronouncing an allied plant ve-olet. Now there are in common use two pronunciations, Vi-ō-la and Vio-la, the first syllable short and soft. The first is the old style, the latter, the later common style, whilst the perversion of the "i" into "e" is presumably the new style. If Viola is to be regarded as a purely Latin term, then its pronunciation must be governed by its derivation. If on the other hand we regard it as a purely vernacular term, such as Violet, Pansy, Daffodil, &c., then should its pronunciation be governed by custom. That the term is not used in its botanical sense by raisers and growers of Violas there can be no doubt, but it is by them regarded entirely as a common and well understood appellation. When, however, at a conference some two or three diverse accentuations are heard, there is wisdom in having the correct one made not only clear, but constantly employed; even the most unlearned does not like to be caught in any *lapsus linguæ*. *A. D.*

Florists' Flowers.

OLD CARNATIONS AND PICOTEES.

It has been thought and said that the constant culture and propagation of a florist's flower, and especially of a Carnation, leads to certain deterioration and weakness of constitution; whilst it has also been stated that the act of placing the plants under protection at the time of flowering tends to certain debilitation. It is difficult to recognise these statements with the position of certain fine old varieties on the exhibition-stage at the recent Carnation shows. Take, for instance, that fine old scarlet bizarre, Admiral Curzon, which was sent out in 1845—fifty-one years ago—and which to-day, in company with its seminal offspring, Robert Houlgrave, shares the distinction of being the finest S.B. in cultivation. The late Mr. E. S. Dodwell said of it, with much truth, that it is "quite seven times in ten the best flower of the exhibition." Its raiser, James Millwood, of Derby, is long since dead; he sold the plant before it bloomed to Mr. Easom, and it is therefore found in catalogues under the name of Easom's Admiral Curzon, pink and purple bizarre. Sarah Payne has also been well shown this season; it was sent out in 1847. It was raised at Woolwich by one Ward, a veteran florist, and though regarded as a weakly grower, it yet survives, and is to be found in almost every collection. It almost invariably stands second, as Admiral Curzon does in its class—in any selection of P. P. B.'s. Mr. Dodwell testified to its repute by stating—"In its way, I believe, as with Admiral Curzon, it will never be surpassed." Next in point of age is Scarlet Flake Sportsman, a sport from Admiral Curzon, which "originated in 1855 in the collection of Mr. John Hedderly, and like its parents, it went at one bound to the head of the class," where it still remains. This was shown in fine character, both at the Crystal Palace and at Birmingham, and took in both places all the leading prizes in the class for scarlet flakes. Cristi-galli, rose flake, though not shown so much this year as usual, was in good character at the Crystal Palace. This was raised at Royton, Lancashire, and sent out in 1873, has been in cultivation twenty-three years. James Douglas, a superb purple flake, and one of the very best of its class, was sent out in 1876, and will in all probability be found in collections a quarter of a century hence. C. B. J. D. Hextall, still a very fine and leading variety, was sent out in 1874.

There are some Picotees which date back for a number of years. One of the oldest is light red edge Thomas William, which has been in cultivation some forty years, and is yet at the head of its class. Heavy red edge John Smith, sent out from Bradford in 1864, is also at the head of its class. Dr. Epps, another heavy red, raised at Darlington, has been in cultivation forty years, and is yet much grown for exhibition. Bruuette, in the same class, dates back for some years; so does J. B. Bryant, also heavy red, sent out in 1874. This was raised at Huntingdon by the late Mr. John Ingram, though it does not rank nearly so high as J. B. Bryant and John Smith. Heavy purple-edge Zerlina, one of the late Mr. Robert Lord's seedlings, was sent out in 1876, and still holds a high position in its class. Heavy rose-edged Edith d'Ombrain was raised at Slough, and sent out in 1873; but it is now surpassed by such varieties as Little Phil, Mrs. Payne, Mrs. Sharp, and Norman Carr; yet still grown, and has been seen this season in good character. Mrs. Payne, just mentioned, dates back to 1878.

There must be good constitutional vigour in these varieties to have held their own through, in some instances, so many years; they do it because they possess qualities of a high order of merit, and until they are eclipsed by others of superior merit, are in all likelihood to be grown for several years to come. *R. D.*

THE CEDARS, HARROW WEALD.

In the pretty and well-kept gardens of T. F. Blackwell, Esq., which take a prominent place among gardens round London for the excellence of its fruit and flower culture, the many specimens of Cattleya labiata Gaskelliana have well maintained the character of the variety for beauty and freeness of flower. Some years ago a number of freshly imported plants were obtained, and every year since has seen them forming the chief show in the Orchid-houses, and every year each specimen produces more flowers than it did the year before, thanks to the skilful management of Mr. J. Dinsmore, the gardener at The Cedars, who has for so many years successfully managed the gardens and other matters included in his duties. For some considerable time past, the end and part of the side of the centre stage has been filled with these charming, fragrant Cattleyas, some of them bearing a dozen or so large richly-coloured blooms. A few plants of C. Mendeli are also with them, one white-petalled form being specially beautiful; and about the house are well-flowered plants of Disa grandiflora, D. racemosa, Cochlioda vulcanica, Miltonia vexillaria, Epidendrum vitellinun, M. Roezli, Odontoglossum cirrosum, the pretty little O aspidorhinum, Dendrobium chrysanthum, and other Dendrobes, &c.; while at the back rises a tall spike of the Dove Orchid (Peristeria elata), which here thrives remarkably well. The Orchids are set up with Cocos Weddelliana, Caladium argyrites, Adiantum cuneatum, and the denser A. Pacotii; and these ornamental plants are conducive to the health of the Orchids, as well as to their more elegant arrangement.

In the stove-houses are large specimens of Ixoras in bloom; Tabernæmontana coronaria flore-pleno, plentifully covered with flowers like small Gardenias: Gardenia florida, and other flowering plants in great beauty; while the roof is laden with heavy trusses of golden Allamandas, rose-coloured Dipladenias, and white Stephanotis.

The lesser houses for decorative plants have good batches of Tuberoses; a fine show of a splendid strain of Gloxinias—the third and last batch for the year; a nice lot of the now-favourite Streptocarpus; a fine lot of Calanthes, for winter flowering; a pretty and useful lot of Dracænas and Crotons, among the latter being Croton Ruddii, with large foliage almost of the size and form of Ficus elastica, but brilliantly coloured green, white and red.

The handsome conservatory, built to harmonise with the mansion, has the exterior stone-work closely covered with Ampelopsis tricuspidata, which is always pretty when in leaf, and later in the year will be brilliant in its vinous red hues. The interior has the centre of tall Palms and Tree Ferns, fronted with Lilies, Vallota purpurea, &c.; the side-stages being arranged with a charming selection of flowers. In the back are many tall and graceful specimens of the yellow Crocosma aurea, a very fine plant for the conservatory. The corners are occupied by two show specimens of Statice profusa, a mass of bright blue colour above clear green leaves; and around are splendidly-grown tuberous Begonias, Achimenes, &c. In furnishing the conservatory, Mr. Dinsmore aims to make an arrangement of plants—which will bear close inspection—and so dispose the plants that each one can be seen. In many places the contrary is the rule, and large quantities of very unsightly plants are crammed together, that the one may hide the defects of the other, and when at its best such an arrangement is a sorry affair.

The old-fashioned bedding-out is not much affected at The Cedars, though in the garden outside the conservatory there is a pretty arrangement with a large bed in the centre, bearing a vase filled with Dracæna australis and some flowering plants. Around it is a belt of flowering Cannas, then a band of white Marguerites mixed with blue Salvia patens, which looks very pretty; and then dark Coleus, white Violas, and Echeverias. Of the other beds, some of the prettiest are two of scarlet Begonias, mingled with yellow Violas, and two of variegated Pelargonium Flower of Spring, mingled with dark blue Viola.

Running beside the flower garden is the herbaceous border, covered with flowers on the Pentstemons, Gladiolus, Phloxes, Gaillardias, and other summer flowering plants. At the back the Cactus Dahlias are beginning to bloom, and among the dwarf plants in front, one of the prettiest is Nemesia strumosa.

Passing the great beds of Rhododendrons, which this year have had to be liberally watered in order to assist the plants to make up their buds for next season, is the rosary, and walking beneath the large Cedars, we come to what is called The Wilderness, and which is certainly one of the most interesting and enjoyable parts of the outdoor garden. It was formerly rough ground, but Mr. Dinsmore has transformed it into a charming natural garden with grassy glades and winding walks; rustic arrangements for Ferns and climbers, and generally for the reception of any number of handsome shrubs and perennials, which will in a measure take care

of themselves. These are supplemented with annuals for making summer show, and the effect is admirable even this year, when the heat has been so trying. Here the Golden Elder is very effective, the different species of Spiræas pretty; the Hollyhocks, Dahlias, and other strong-growing flowers quite in their proper places, with their unconventional surroundings; and the Godetias, Salpiglossis, Coreopsis, and other annuals very brilliant. Where possible, the original inhabitant, the Bracken, is retained as an undergrowth, and it has a very cool and pleasing effect. On one side are some large Camellias planted out, and of which some flower well out-of-doors; and at the other is a charming nook composed of the remnant of the old orchard, the fine old trees in which, although of little use for fruit, are grand objects when in bloom.

Fruits under glass have been generally good. The Grapes in the new range, notwithstanding the fact that the heat of the sun has destroyed most of the foliage, have never been better; the Muscat of Alexandria, Madresfield Court, and Black Hambro, planted in 1890, bearing fine crops of bunches which would figure well on an exhibition stand. The Peaches and Nectarines, both indoors and out, have been, and still are, good; the Melons are excellent in quantity and quality; and the Pine-pit, although Pines are not very extensively grown, is giving some excellent fruit.

EUCHARIS PLANTS BEARING THEIR THIRD CROP OF FLOWERS.

In fig. 33 is represented a collection of Eucharis plants growing in the gardens of Mrs. Miller Brentry, Westbury-on-Trim. The photograph was taken in November last, and at that time the plants were producing a crop of flowers for the third time during the year. Upon twenty-two plants were produced about 1,000 flowers. A good example is this of the extraordinary floriferous nature of this popular flowering plant. As there were three distinct lots of flowers in the year, the gardener, Mr. Osman, had no doubt given the plants an enforced rest on more than one occasion, it may be by partially drying-off the roots, or merely by subjecting the plants to a reduced temperature. The former method is a dangerous one if pushed too far, and if the Eucharis is to be rested at all in the manner we are speaking of, the better plan is to reduce the temperature a little, and at the same time to give less water, avoiding extremes in either limitation. By alternate resting and growing more flowers can be obtained in a given time, and they can be had at certain dates in some measure at the will of the cultivator, but we have had occasion to remark that many collections so treated have fallen a prey to debility and disease. It is from this reason that many growers at the present time keep their plants in a moderate state of growth throughout the year.



Fig. 33.—Eucharis plants at Brentry Gardens, bearing their third crop of flowers.

Forestry.

North American Conifers in Germany.

However backward we may be as a nation in forestry, we can still hold our own in arboricultural matters. The truth of this assertion is the more convincing when we find English trees and introductions referred to in foreign literature. An instance of this may be found in a controversy which has been going on for some time in Germany between Herr Booth, of the Flottbeck Nurseries, Hamburg, and several high authorities on forestry and forest science. Probably no greater advocate for the trial and planting of exotic trees can be found in Germany than Mr. Booth, and his efforts have been so far successful as to have been the means of numerous experimental clumps of introduced trees being planted in the State forests throughout that country. Many forest authorities in Germany, however, contend that the rapid growth of these trees in Europe minimises their value as first-class timber producers, and that from a purely economic point of view, they are little, if at all, superior to European trees. The difference of opinion on this point is not, however, confined to Germany, and an article* by Forst-assessor Bohm of Eberswalde, on an investigation on the quality of the wood

* *Zeitschrift für Forst und Jagdwesen* for July.

of these German-grown trees, together with some samples of Douglas Fir grown in England, are of interest to those who regard these trees as the timber-producers of the future. In his examination of the European-grown woods, Herr Bohm compares them with specimens taken from trees cut in the natural forests of North America, where naturally the conditions of growth are slightly different to those under which the others (probably specimen trees) were grown. This fact minimises the value of the results considerably, for nothing alters the quality of timber more than these ever-varying conditions of growth. The great difference in the quality of the American and that of the European-grown woods now under discussion, lies in the narrow annual rings of the former as compared with the broad-ringed wood of the latter. For certain qualities, such as specific weight, transverse strength, and general durability of the wood, the actual breadth of the wood-ring is of less importance than the relative breadths of its spring and summer zones. The broader the latter zone is, the higher are the above-named qualities in a particular ring, but as a tree trunk consists of a considerable number of annual rings, the quality of its wood depends upon their uniformity in this respect throughout the tree. For certain purposes, such as joinery work, this uniformity of texture is of the highest importance, and in practice, it has long been recognized that only narrow-ringed wood is suitable for this kind of work. Freedom from knots is a *desideratum* whatever the purpose may be for which the timber is used, and both this and the production of narrow-ringed wood is only attainable —in quick-growing trees—by a crowded condition of growth. Where strength and durability are the most important qualities, however, narrow-rings are of less consequence, and as building and estate timber generally, there is no good reason why these North American trees should not be as valuable as indigenous species The species dealt with in the article, are those of which the experimental clumps referred to have been formed; and the Douglas Fir stands first on the list. The total area occupied by this tree extends to 144½ hectares, or over 350 acres, and so far, it is the most promising species of any that were tried. The wood is described by Sargent as "hard and firm, but varying greatly in density and quality, and also in the proportion of heart-wood to sap-wood, according to the condition of growth. The lumberman recognizes two varieties, know as 'red' and 'yellow' fir, which probably arise from the age of the tree, the former being coarse fibred and dark in colour, and not so highly valued as the yellow Fir." Mean specific weight is given as ·5157.

So far as this last-named factor goes, the European examples are quite as heavy as those from America, with the exception of the English-grown sections. The specimens of these latter show very broad rings, with little summer wood in them, and their specific weights are lower than any of the other sections mentioned. The locality from which they were taken is not stated, but, in any case, they cannot be considered typical specimens of plantation-grown trees, which alone are of use in this connection. So far as the development of the summer-wood zone is concerned, we have seen trees in which the annual rings were composed almost entirely of summer wood (an example of which accompanies this communication), proving that in this respect English-grown wood, under favourable conditions, is quite equal to that grown elsewhere.

While Herr Bohm considers that only narrow-ringed wood can come up to the required standard for the finer kinds of work; he allows that the wood of this tree is, compared with the Scots Pine, closer in grain, of finer texture, and takes on a better polish than the latter, and is possibly stronger and more durable, which qualities are by no means to be despised. *A. C. F.*

(To be continued.)

MR. REDFIELD'S HERBARIUM.—In our note on p. 102, upon Mr. REDFIELD'S Herbarium, we should have stated that the sum asked for it is 2000 dollars, and for the Fern collection 500 dollars. Owing to a clerical error, the dollars were represented as pounds.

THE ROSARY.

NEW HYBRID TEA ROSE, MARJORIE.

SINCE the appearance of my article on Hybrid Teas in the *Gardeners' Chronicle*, this beautiful new variety, raised by Messrs. Alexander Dickson & Sons of Newtownards, has come into bloom. Its colour is as impressive as that of its sister Rose, Margaret Dickson, which it strikingly resembles from this special point of view. The flower, however, while equally attractive, is not so large, but has the advantage of being fuller in the centre, and more compact. The plant is also of considerably dwarfer habit, which I cannot but consider a great advantage, and produces a flower like White Lady, another Rose possessing similar attributes at the end of every shoot. It is unquestionably an exquisite addition to the rapidly-growing race of Hybrid Teas. If mere size were not so vastly over-estimated, it would be an admirable Rose for exhibition. *David R. Williamson.*

TREES AND SHRUBS.

EUCRYPHIA PINNATIFIDA.

THIS South Chilian shrub, introduced some few years since by Messrs. Jas. Veitch & Sons, is now flowering freely here, as it has done for several years past in succession. The flowers are white, but otherwise resemble Hypericum calycinum in form and size. The habit of the plant, however, is quite different, the specimen here being upwards of 6 feet in height and 3 feet in diameter. It is growing in a sheltered position here, but from the manner in which it passed through the severe frost of January and February, 1895, I cannot consider it by any means a tender plant. The foliage is distinct and attractive at all times. *W. H. Divers, Belvoir Castle Gardens, Grantham.* [See Fig. in *Gardeners' Chronicle*, Jan. 27, 1894, and August 22, 1891.]

THE WEEK'S WORK.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Burford, Dorking.*

MEXICAN-HOUSE.—In the division devoted principally to Mexican species, such plants as Lælia anceps, L. albida, L. autumnalis, L. rubescens, L. purpurata, L. acuminata, Cattleya speciosissima, C. Skinneri, C. Walkeriana, Epidendrum nemorale, E. atropurpureum (macrochilum), Odontoglossum citrosmum, Vanda teres, Luisias, &c., should be making considerable progress in their growth, and should receive plenty of water at the root. If these plants have only a small quantity of material in which to root, a good syringing overhead, if given during the afternoon of sunny days, will be very helpful to them. Such species delight in a strong light and abundance of sun-heat at this period, and the house may be closed early, the blinds being drawn up at the same time, in order that the temperature may rise to 80° or 90°. During the evening the lower ventilations should be gradually increased, and on mild nights they may be left entirely open; ventilate freely through the early part of the day, plenty of fresh air being very essential to them.

EAST INDIAN-HOUSE.—The majority of Cypripediums being in full growth, afford them abundance of water at the root. Shade from strong sunshine, or the leaves will soon assume a sickly hue. Some species, as for instance C. Schlimi, C. superbiens, and C. Fairieanum, resent the least amount of sunshine, and it is well always to place a piece of tissue paper above them whenever the blinds are removed. The same species suffer greatly if they become dry at the root. All hybrids of C. Fairieanum, including C. Arthurianum, C. Juno, C. Niobe, C. H. Ballantine, and C. vexillarium, need the same treatment.

INTERMEDIATE-HOUSE.—The Sobralias have been one of the principal attractions in the Orchid-house for several weeks past. S. macrantha, S. xantholeuca, S. Lucasiana, S. Princess May, S. leucoxantha, S. albo-violacea, the white S. liliastrum, S. Warscewiczii, S. virginalis, S. macrantha alba (Kienastiana), and the pretty hybrid, S. Veitchii, are all deserving of culture, and they produce a long succession of handsome flowers at a season when Orchid blooms are few. Sobralias being strong-rooting plants should be given plenty of pot-room, but it is not always advisable to re-pot them immediately they have filled their pots with roots, providing there is sufficient space for the young growths to come up freely. Plants that appear to require a larger pot may be given a liberal shift as soon as flowering is past. Afford good drainage, and pot firmly, using a compost consisting of rough fibry peat and sandy loam, and a small quantity of sphagnum-moss. After re-potting, water the plants with care, and when well-established, and the growths are vigorous, they will require an abundance. It is too early yet to remove the shoots that have just flowered: they should be left until the commencement of the winter months. The lightest portion of the intermediate-house suits Sobralias throughout the year. The elegant Platyclinis (Dendrochilum) filiformis is now flowering from its half-grown breaks. At this time an abundance of water must be given at the root, otherwise the growths will receive a check, and red-spider establish itself on the tender foliage. This charming species roots freely in well-drained peat and sphagnum.

THE HARDY FRUIT GARDEN.

By G. WOODGATE, *Gardener, Rolleston Hall, Burton-on-Trent.*

SUMMER PRUNING.—Continue the pruning of pyramid, espalier, bush, and cordon trained trees of Apples, Pears, and Plums, leaving sufficient shoots for extension, and for replacing worn out branches, on espaliers, and cordons. Remove any extra gross growing shoots, also others, if they are too thickly placed, and shorten all the remaining laterals to five or six leaves. Short sturdy growths, of 4 to 6 inches long, usually produce a fruit bud in the point of the shoot, and should be left intact. Those varieties of Apples mentioned on p. 760, vol. xix., which produce fruit at the point of the preceding year's growth, will require the old fruiting-wood and the weakly growths to be cut out, after the fruit has been removed from the trees. But no stopping should be done. In the case of young trees trained as pyramids or bushes, it will be necessary to leave a few new growths, for forming additional branches. A great difference may be seen in the habit of varieties, and there can be no hard and fast line, as to the exact distance that should be allowed between the branches. The end to have in view is that when the branches are covered with spurs there may be a free circulation of air amongst them, and that the rays of the sun may be able to reach the ground through the trees. As a general rule, which may be modified in cases of extra weak or unusually strong-growing varieties, when main branches exceed 2 feet from each other, secure a young shoot for forming another branch. Young trees of Apples and Pears trained as standards require similar treatment in regard to the formation of new branches. Prune the laterals back to five or six leaves for forming fruit-spurs, and leave the leading shoots intact until the winter. A perfect standard tree is well balanced, its branches evenly distributed, and covered their whole length with short healthy fruit-spurs.

In gardens where there have been no heavy rains recently, all fruit-trees bearing crops should be given copious supplies of water at the root. The Apple crop is not a large one, therefore it is important that trees carrying many fruits should be well attended to.

THE FLOWER GARDEN.

By HEDLEY WARREN, *Gardener, Aston Clinton, Tring.*

EVERGREEN TREES AND SHRUBS.—It will be safe, shortly, to proceed with the transplantation of shrubs or evergreen trees, particularly if the weather be moist. In cases where this kind of work is likely to be extensive, advantage has to be taken of the first favourable opportunity to commence. The early-lifted trees will then become partly established before the advent of winter. Trees that are to occupy shady positions should first be moved, as these will require less watering at the root and overhead afterward, and when these are done, cooler weather is likely to obtain; but in any case early-lifted trees will require the soil about the roots to be kept in a perfectly moist condition. Evergreens may yet be pruned if this is necessary. If the gardener wishes to increase his own stock of Aucubas and other Evergreens, cuttings may now be put in, but we think it better to obtain them from a nurseryman who makes a speciality of such things. Should cold frames be unobtainable for the purpose, the cuttings can be planted in a shady position out-of-doors. Put them moderately close together in rows or narrow

beds as is most convenient, and afterwards make the soil firm round about them. If the soil is not sufficiently moist, a good soaking of water should be given.

FLOWER-BEDS AND BORDERS from which cuttings are being removed, should be disfigured by gaps as little as possible. Remove all seed-pods or decaying leaves and stems. Tie out or peg down growths not required to be taken, and keep the beds in as good condition as possible.

GRAVEL WALKS AND DRIVES, ETC., will require to be rolled on every favourable occasion, and if weeds are showing, hoeing or other convenient methods for their destruction should be taken without delay. Mow grass walks and lawns, and trim the verges of same as often as is needful.

HERBACEOUS BORDERS.—Sunflowers, Phloxes, Scabious, Chrysanthemum maximum, Campanulas, Geums, and many other species of plants, are now producing a wealth of blossom in these borders, and in order to keep the plants in good condition, they must receive thorough waterings should the supply of rain be insufficient. Eryngiums (Sea Hollies) have again proved how well able they are to withstand severe drought. Most of the varieties are worthy of cultivation, but E. Oliverianum, E. amethystinum, and E. giganteum are the best, the last named are most effective if planted in groups, the bold foliage and pale grey heads of flower being then shown to advantage.

BEGONIA WORTHIANA is one of the very best for bedding-out purposes. It has been gay the greater part of the season, and if the stock is of limited extent, it should be increased. Take off any side-growths, and insert them in light or sandy soil in pans or pots. Place them in a gentle heat, and they will soon form small bulbs at the ends of the shoots. They may be kept growing the greater part of the winter, and should furnish excellent plants for bedding-out next season. Apart from its pleasing colour, the variety has a charming appearance, possessed by few other Begonias now in cultivation, and for pots or beds it cannot be too highly recommended, being in no way fastidious as to the soil or position in which it is grown.

THE KITCHEN GARDEN.

By C. Herrin, *Gardener, Dropmore, Maidenhead.*

CAULIFLOWERS.—Seeds should be sown about the middle and towards the end of the month to furnish plants for standing through the winter in frames and handlights to be planted out next spring. If two sowings be made at different dates so much the better. Although in some gardens the sowing of Cauliflower seed in autumn has been discontinued since the introduction of the early forcing varieties for spring sowing, I prefer to sow a quantity in the autumn, for if handlights and frames are available through the winter, the labour arising from this method is really less than from early spring sowing. Select an open position in the garden for sowing the seeds, and one where the soil is in good condition and there is no fresh manure required. Sow the seeds thinly, and by preference in drills about 9 inches apart. Good varieties for sowing now are Early London and the dwarf Erfurt Mammoth, and if space for wintering is forthcoming, a few seeds may also be sown of Eclipse and Autumn Giant; they will afford a useful succession to the preceding varieties.

PARSLEY.—The weather has been much against the well-doing of this herb, and to encourage growth, watering has been very necessary. The present is a suitable time to lift a number of roots and dibble them into boxes of soil to reserve for winter use. Boxes about 18 inches square and 6 inches deep are a useful size for placing later in Peach or other houses. Put a good layer of half rotten leaves in the bottom of the boxes, and fill up firmly with any moderately good soil. Lift the plants with care after they have been watered, and re-plant them about 3 inches apart in the boxes. The boxes may be placed in a shady position until the plants are partially established, but afterwards give them full exposure until severe weather sets in. A quantity of plants should also be transplanted into frames, if any are available, but first fill them to within 8 inches of the top with soil. The lights should be left off for the present, but afford a little shade until the plants are re-established.

CUCUMBERS.—If plants are required for planting in heated pits or houses for autumn and winter use, seeds of a good variety, such as Telegraph, should be sown forthwith. Sow the seed singly in 4½-inch pots, which may be filled two-thirds full of soil, the remaining space, with the exception that room for watering be left, to be filled up as soon as the plants need additional soil. To plants now fruiting, attention should be given frequently to the stopping and thinning out of superfluous growths. Owing to the hot weather that has prevailed, Cucumbers have made rapid growth, and for some time have been fruiting freely. The fruits should be removed from the plants directly they are large enough.

MUSHROOMS.—It is time that preparations for the formation of early beds should be made. Shake out the droppings from the stables every two or three days, together with the shortest strawy litter, and if it is very dry afford a slight watering through a moderately fine-rosed can. Turn the manure over about every other day until the heat has become moderate. The first bed may be made up in some shady position out-of-doors. If any old beds still remain in the Mushroom-house have them removed, thoroughly cleanse with a brush the inside of the structure. Allow the door and ventilator to remain open and when quite dry, the walls should be lime-washed and the woodwork painted.

PLANTS UNDER GLASS.

By Jno. McIntyre, *Gardener, Woodside, Darlington.*

BOUVARDIAS.—Continue to stop the shoots of Bouvardias, in order to obtain bushy plants; and if the plants are in pots, and the pots plunged, they should be turned round every three weeks, so as to prevent the roots from taking a firm hold of the plunging material. Give liquid-manure from the farmyard on two occasions each week.

MIGNONETTE.—Sow seeds of Mignonette in pots for blooming next spring. We sow in the same pots in which the plants are to flower. These are 4 inches and 5 inches in diameter, and a compost is used containing good loam, dried cow-manure, and old lime-rubbish, in equal parts. The variety best suited for pot-culture is Matchet, which is dwarf in habit, and capable of producing fine heads of bloom. When the seed has been sown, place in a cold frame, but keep the top-lights off for the present, unless when heavy rains occur.

TREE CARNATIONS.—Most specimens have almost finished flowering, and if it is desired to increase the stock plant them out where they may be shaded from the hot sun. Layers made now should bloom in April, May, and June next. If large specimens are wished repot some of the plants now passing out of flower into good loam which is free from wireworm, and add a little broken charcoal and wood-ashes. Those layered early should now be ready for potting-up; when this has been done plunge them to the rims of pots in leaf-mould, the roots will thus be protected from hot sun, and they will draw natural moisture from the plunging material. If layers are rooted, as they should be before being removed from the parent-plant, they may be at once put into the pots in which they are to flower. For the first season 5-inch and 6-inch pots are suitable. Careful crocking is most essential, as no plant is sooner injured by stagnation of water in the soil than Carnations. When layers have been potted up, they should at no time be given water, unless the plants really require it. A rather close atmosphere for some days after potting should be kept, and the plants sprayed overhead at least once a day. Afterwards increase the ventilation gradually until fully exposed. Careful attention should now be given to the plants intended for winter and spring blooming.

POINSETTIAS are almost universally grown; the magnificent scarlet bracts being so useful through the winter months. A house should be devoted to them, if possible; a low span-roofed structure is best, but it must be provided with sufficient piping to maintain the temperature of the house at 65° at nights, until the plants are ready for removal to the show-houses. As soon as the plants are well rooted, feeding may be commenced. Sheep liquid prepared from sheep-dung is one of the best.

THE FERNERY ought now to be very attractive. A late batch of Selaginellas may still be propagated; they will be useful for furnishing late in the autumn. It is rather late for re-potting Ferns, but any special plant that may require to be grown on rapidly may be potted. Dense shading may now be dispensed with for the season, but be careful to remove it gradually. As soon as a Fern shows signs of cessation from growth a less quantity of water should be given it; roots as well as fronds become less active. All syringing overhead may soon be discontinued.

GENERAL WORK.—Continue to take cuttings of stove plants as required; those propagated now will make nice plants next season. Eucharis which flowered in the spring and have now completed their growth may be moved into a cool-house for three or four weeks; if they be then returned to heat, they may bloom in September, and by allowing part of the plants to remain longer at rest, a succession of blooms may be had throughout the winter. A thorough rest when they have finished their growth is very essential to the successful flowering of the Eucharis.

FRUITS UNDER GLASS.

By W. Pope, *Gardener, Highclere Castle, Newbury.*

PEACHES AND NECTARINES.—If there are any new houses to be planted, or any trees to be lifted and replanted in the older structures, preparations for the work should be commenced at once. The compost necessary for making new borders, or for renovating old ones, and for placing about the roots of lifted trees, is one of the chief requirements, and should be ready before any lifting is done. Large trees that may not have been lifted for some years, but are disposed to make too much late growth, require to be prepared for the operation of lifting, by taking out a trench around each tree at the distance of 5 or 6 feet from the stem, according to the size and height of the branches. After severing the roots extending beyond this, the trench may be again filled in until transplanting takes place, which may be done about the middle of September, or as soon as the foliage of the trees gives signs of falling. Where the staple soil is fairly good, and the drainage satisfactory, as it sometimes is on a gravel or sandy subsoil, it may not be necessary to form entirely new borders. A free addition of chalk or lime and mortar-rubbish, if the natural soil be deficient in calcareous matter, or a good dressing of finely-pulverised clay if the soil be too light and sandy, would be all that is required in such a case. But if the subsoil is cold and wet, it must be efficiently drained, or the results will be but poor. Provide a layer of concrete over the bottom, with a slope to the front, and upon these place proper drains, connected with an outlet to carry off the surplus-water. Upon this 9 inches to a foot of rubble should be placed, the roughest at the bottom, and finishing off with 2 or 3 inches of old mortar-rubbish, which will prevent the soil falling into the rough material. Deep borders are not desirable, 2 feet of soil being ample. Good early sorts are Alexander, Hales' Early, Early Louise, Stirling Castle, Early York, and Early Grosse Mignonne; and of Nectarines, Cardinal, Rivers' Early, and Lord Napier, are the best earlies.

VINES, EARLY HOUSES.—Any lateral growths that may have been allowed to extend on these should be shortened, but not yet taken off closely, as this would probably have the effect of causing some of the principal buds to start into growth. The old surface-soil should now be removed down to the roots, and any that are too deep should be raised at the same time, and laid out in fresh material nearer the surface. Procure some good calcareous loam for this if possible, and add a little crushed bone, wood-ashes, and charcoal. If too stiff, some old mortar-rubbish may also be added; or if of too light a nature, mix in a due proportion of finely-pulverised marly-clay. As soon as the operation is completed, give a moderate watering, and the roots will commence to push into the new soil at once. This practice carried out yearly, will soon induce a healthy lot of roots near the surface, and the Vines will be correspondingly benefited.

Sauce for the Goose, etc.—Since the publication in these columns of the report of a law case in Belgium, p. 42, we have received communications from some of our nurserymen complaining that whilst purchasers expect the nurserymen to revoke the bargain or to make compensation if a plant bought turns out to be something different from what was anticipated, purchasers are not so eager to compensate the trader when the plant purchased turns out better than was expected! Several cases have been cited to us where the plant proved to be of very much higher value than originally supposed, but the purchaser thinks that a piece of good luck, and never thinks of compensating the dealer in such a case!

APPOINTMENTS FOR THE ENSUING WEEK.

SHOWS.

MONDAY, Aug. 17—Felling Horticultural (two days).

WEDNESDAY, Aug. 19—Shrewsbury Floral Fête (two days); Trowbridge, Worthing, and Eastbourne Horticultural Shows.

THURSDAY, Aug. 20—Abingdon Horticultural.

FRIDAY, Aug. 21—Co-operative Show at Crystal Palace (two days). Devon and Exeter Horticultural Shows. Royal Horticultural Society of Aberdeen Show.

SATURDAY, Aug. 22—Keighley Horticultural Show. South Manchester and District Horticultural Show.

SALES.

MONDAY, Aug. 17—First Special Trade Sale of Dutch Bulbs, & 50,000 Double Daffodils, at Protheroe & Morris' Rooms.

THURSDAY, Aug. 20—Second Special Trade Sale of Dutch Bulbs, at Protheroe & Morris' Rooms.

FRIDAY, Aug. 21—Sale of Imported and Established Orchids, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK—61·8°.

Mr. Burbank's work as a hybridiser.

THE appearance at the Royal Horticultural Society recently of an entirely new variety of Plum gives us an opportunity for which we have long been waiting of saying something about its originator or introducer. We should have done so long ago, but that Mr. BURBANK expressly says his catalogue is not for public distribution, and seems to deprecate rather than to court publicity. If a copy of his list should fall into the hands of an editor, he begs that the list be not mentioned, unless incidentally. The reason for this reticence is, that he believes he "would be overwhelmed with an avalanche of correspondence."

Mr. BURBANK has devoted himself for many years to raising, hybridising, and cross-breeding on a gigantic scale. He talks of "600,000 hybrid and cross-bred seedling berry-plants, of more than half-a-million seedling Lilies, and of other things in proportion. He does not introduce these plants himself into commerce, but he circulates his catalogue among nurserymen (not among the public), and the nurserymen or their agents visit his grounds at certain seasons, select what they please, purchase the entire stock, and leave Mr. BURBANK free to make other experiments, or supervise the products of former trials. Casual visitors are not encouraged in the nurseries, which are situate at San Rosa, California; but those who do go will not, we are told, find long rows of beautiful plants, but "chaos, utter chaos, a workshop, the birthplace of new vegetable forms." One of his workmen is reported to have said, when asked if he knew BURBANK, "Course I do . . . he raises acres and acres of stuff, and every summer has 'em all dug up and burned."

It is only the unpromising stuff, however, that is burned, but nothing is propagated that is not deemed at least equal to the best, and better, in some particulars. The statements made as to the number and variety of Mr. BURBANK'S productions are so astounding, that some might be disposed to consider them as so many flowers of rhetoric, such as we are accustomed to from the other side of the Atlantic, were they not authenticated by competent observers of established repute.

A double Gladiolus is one of Mr. BURBANK'S novelties; and in the catalogue before us there are Clematis, Myrtles, Poppies, Nicotiana, Tomatos, Tigridias, Cannas, Brodiæas. "There is," says Mr. BURBANK, who writes as an enthusiast flushed with his successes, "no barrier to obtaining fruits of any size, form, or flavour desired, and none to producing plants and flowers of any form, colour or fragrance; all that is needed is knowledge to guide our efforts in the right direction, undeviating patience, and cultivated eyes to detect variations of value." This statement may be true as a general principle, but there are a great many exceptions in practice, and the knowledge we shall get in time will serve to show where and what are the limitations. In the meantime, Mr. BURBANK'S experiments are of the greatest practical importance, and should also possess high scientific value. Probably, the results are far too numerous to permit him to record them, analyse, or co-ordinate them in the way we should like to see. Yet, perhaps, a single group, say of Rubus or Prunus, might be dealt with in this way; or the material might be placed in the hands of the directors of some of the experiment stations to work up, leaving the commercial part of the business to be directed by Mr. BURBANK himself.

The Burbank Plum, fig. 34, p. 191, is one of which we have heard a good deal, but which we have had no opportunity of seeing till it was exhibited by Mr. MCINDOE. It is, we believe, of Japanese origin and very unlike any of our ordinary Plums in habit and foliage. It is very prolific and bears numerous fruits from the old wood. The fruit is yellow, but we can give no opinion as to its flavour, nor say anything about the stone, which, as our readers are aware, furnishes distinctive characters of value.

The Flora of the Alps.

MR. ALFRED BENNETT'S two volumes, published under this title by NIMMO, King William Street, Strand, will be valued by tourists and others desirous of obtaining an acquaintance with the plants they are likely to meet with, and will be serviceable as a catalogue to collectors and cultivators. "Every species of flowering plant which is reported by competent authorities as growing wild in Switzerland is at least named, and a short description given of all except the commonest English plants, which are familiar to everyone interested in our wild flowers."

"As the traveller with botanical tastes approaches Switzerland by any of the ordinary routes through northern and eastern France, he notes but little difference in the vegetation from that with which he is familiar in our southern counties. A few strangers soon make their appearance; the spiny heads of Eryngium campestre are seen by the roadsides, and the damp meadows are coloured by the yellow Thistle (Cirsium oleraceum). In the vineyards he would also find some unfamiliar weeds, such as various species of Delphinium. But until he reaches Mâcon or Pontarlier the general aspects of the vegetation are the same; it is the flora of north-western Europe. In the mountain woods of the French Jura, or of the northern cantons of Switzerland, he will come across much more to attract his attention; such plants as Veronica urticæfolia, Prenanthes purpurea, and Astrantia minor meet him everywhere; Prunella grandiflora is common by the roadsides; species of Dianthus and Gentiana become gradually more predominant; while among the bushes by the roadsides or in damp meadows he will notice the red-berried Elder, Sambucus racemosa, and the feathery Spiræa Aruncus. The sylvan flora of the calcareous Jura chain is especially interesting; here are found in abundance the alpine Honeysuckle, Lonicera alpigena, with its twin red berries; the Mezereon, the weird herb, Paris — Paris quadrifolia, the pretty little Maianthemum bifolium, the red-berried Crowberry, more than one species of Phyteuma, and many another which the inexperienced botanist will transfer with delight to his vasculum. But none of these are truly alpine plants, and it is not till he ascends much nearer to the eternal snows that the full glories of the alpine flora burst upon him; the Rhododendrons, the azure of the innumerable Gentians, the star-like Saxifrages, white, yellow, and purple; the many-hued Anemones, the feathery heads and silvery leaves of Dryas octopetala, the Primulas, the Sempervivums, with their webbed leaves and singular blossoms, and multitudes of others. Even to those who do not claim to be botanists it is a day to remember when the Edelweiss or the [wild] Auricula is first gathered in its native haunt, or the tasselled bell of the Soldanella or Snowbell is first seen appearing through the edge of the snow."

North of the Alps the flora is essentially that of north-western Europe. South of the Alps it is essentially that of the Mediterranean, the great range of snow-clad peaks preventing any great migration of southern plants northwards, or of northern plants southwards. But a certain degree of intermixture of alpine and of southern floras does take place, of which examples may be found along the Rhone Valley.

The chief element in the British flora which would be strange to a Swiss botanist is the Lusitanian one, but that is scanty in point of numbers, and confined to the extreme south-west of England and of Ireland. "So accustomed," says Mr. BENNETT, "are we to the glories of our gorse commons, and of our hills clad with purple heather, that we can scarcely believe how limited is the range of these plants, and it is only gradually that the English botanist visiting Switzerland begins to realise that in her woods there are no Blue-bells, on her banks no purple Foxgloves; that the Gorse and the Broom are hardly ever seen; that in her Corn-fields are no Corn-marigolds; and that from her mountain-sides our Bell-heathers are entirely absent."

The origin of the alpine flora is a matter not yet settled to the satisfaction of philosophers. A migration from the north, in consequence of glacial action, does not account for all the phenomena, for the flora, as a whole, more closely resembles that of the Asiatic Alps than it does that of Scandinavia. The only general conclusion arrived at is, in the words of Mr. Thiselton-Dyer, "that the alpine flora is a very ancient one, and probably a decaying survivor of one of which the extension was at some former time much more considerable."

Mr. BENNETT discusses in his introduction the adaptations of structure and conformation undergone by the plant in its endeavours to maintain its existence under the circumstances in which it is placed, and in his grouping of species he does not strictly follow the indications of affinity, but puts together those species which are united by some conspicuous or easily recognised character, leaving the reader to seek the more important marks in botanical treatises to which his own may serve as introductory.

In his remarks on the cultivation of these plants, Mr. BENNETT quotes GRAF in saying that "the great object of the cultivation of alpine plants should be to reproduce as nearly as possible the conditions under which they grow in their native habitat."

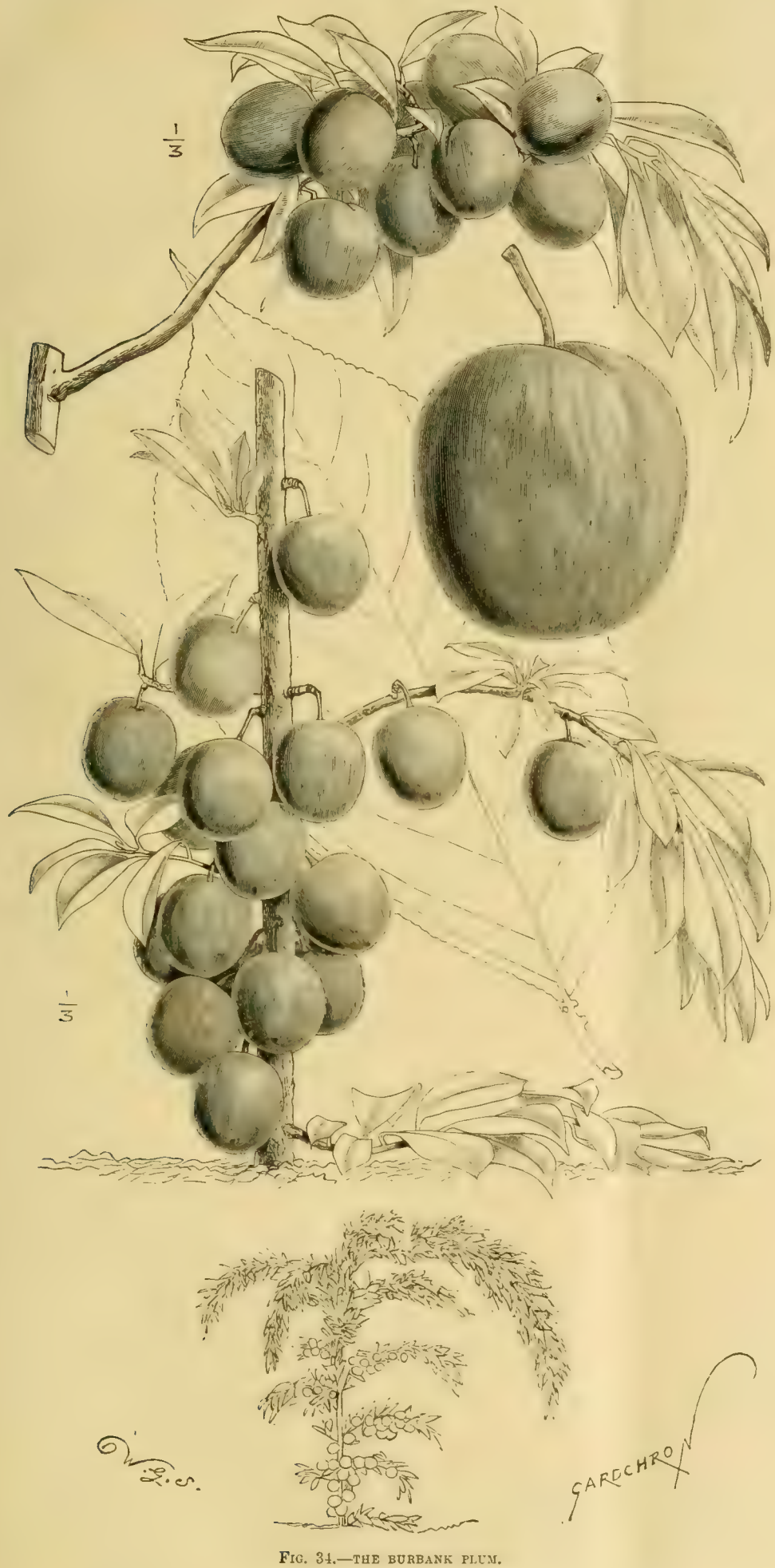


FIG. 34.—THE BURBANK PLUM.

Fruit natural size, other parts reduced. (See p. 190.

This may be good in theory, but in practice it must be modified according to circumstances. We cannot reproduce alpine conditions in their entirety, and if we could, it is by no means certain that it would be desirable to do so. Plants have to grow where they can, not necessarily where the conditions are best suited to them, and, if some of them are found in alpine situations, it is not that the conditions there are specially favourable to them, but that those conditions are unfavourable to other plants, and hence there is less competition, and the struggle for existence between plant and plant is lessened. If it were not so we should not be able to grow in our lowlands and in our damp climate so many alpines as we do. Whilst, therefore, not overlooking the influence of the conditions under which plants grow in the Alps, or indeed in any other climate whatever, it behoves the gardener to study with even more attention the power and means of adaptation that the plant has at its disposal. This can be done by a careful study of the minute anatomy of the plant, but, of course, more particularly by careful observation and searching experiment.

It will be seen from what we have said that the book will be useful not only to tourists, but to cultivators, as it contains reference to most, if not all, of the plants generally designated "alpine," including those of Dauphiny and the Pyrenees. A list of the principal works consulted is added, but, singularly enough, no mention is made of Mr. WOOSTER's *Alpine Plants*, although some of the coloured illustrations have been adapted (e.g., Campanula linifolia) from that work, and the others taken without any change.

THE ROYAL HORTICULTURAL SOCIETY.—The meeting of the Royal Horticultural Society on Tuesday last, if not so large as on some former occasions, was, at any rate, more extensive and interesting than could have been expected. The plan of placing the novelties and plants exhibited for certificates on a separate table is an excellent innovation, for which we have to thank the new Superintendent It is a plan which adds greatly to the convenience of the experts, whilst it in no degree detracts from the appearance of the general exhibition. The most remarkable feature on this occasion was the group of hardy Bamboos exhibited by Messrs. VEITCH, a very extensive and interesting exhibit. Mr. CANNELL's moderately-sized and beautifully varied Cockscombs were also remarkable. For further details of this exhibition we must refer to another column, merely adding that Mr. DRUERY's lecture on the generation of Ferns, illustrated by lantern-slides, was very successful and instructive. It is curious to observe that the greatest amount of variation takes place in the vegetative organs. In the higher plants, on the contrary, if we wish to perpetuate a particular form, we rely on cuttings, grafts, rather than on seedlings, which are less constant.

A NURSERYMEN'S BEANFEAST.—On Monday, the 3rd inst., the heads of departments in the various nurseries of Messrs. JAS. VEITCH & SONS, and a few friends, enjoyed their annual holiday. The company, numbering about fifty, assembled at Paddington, where a saloon carriage was in waiting to take the party to Slough, which place was reached at 10·8 A.M. From Slough the company were driven in four large brakes to East Burnham Park, the country residence of Mr. HARRY J. VEITCH, whose hospitality was greatly appreciated. Afterwards a pleasant hour was spent in viewing the varied and extensive alterations and improvements that have been made in the gardens, and upon the estate generally. Before leaving this lovely spot, the company was photographed. The intimation that luncheon was to be served at Langley at two o'clock, and

that the drive thence was to be by the famous Burnham Beeches, and the pretty avenue through Dropmore Park, was received with pleasure, many of the party not having previously had an opportunity of seeing the stately demesne of Dropmore. The majestic Conifers, and huge clumps of Rhododendrons, give this extensive park a unique charm. Langley having been reached, luncheon was partaken of under the presidency of Mr. Harry J. Veitch, after which the trial grounds were inspected, the seedling Orchids visited, tea partaken of, and a pleasant day brought to a happy ending.

Carnation Pests at the Cape.—We have received from the Agricultural Department of the Cape of Good Hope three specimens of diseases which affect Carnations at the Cape. One of these (No. 2) is well enough known in Europe under similar circumstances, and has often been alluded to in this journal under the name of Heterosporium echinulatum. It is one of the black moulds which attacks Carnations in Europe, and if dealt with at all it must be by the copper solutions, whilst all spotted leaves would be better removed and burnt. Another set of specimens appear to be those of Septoria Dianthi (No 1), in which the spots on the leaves are larger, thickened, and of tawny-yellow, inclining to reddish with age. The perithecia, like little black points, are visible on both surfaces beneath the cuticle. The sporules are elongated and curved, about 30 or 40 millemetres long, and not more than 4 broad, with an indistinct row of nuclei. This does not appear to differ much from the European type, and is also disfiguring and destructive. The third set of specimens (No. 3) are not so readily identified, as they support a parasite in an imperfect condition, that is to say, it is a Uredo, or the Uredosporous stage of some Uromyces or Puccinia, and probably the former. The pustules are small, bullate, and for a long time covered by the cuticle. It is probably the Uredo Dianthi of Persoon, which is held to be the Uredosporous condition of Uromyces. This is also a European pest, but by no means common, as far as our experience goes. In similar cases it has been affirmed that syringing with Condy's fluid has been of benefit, causing the pustules to blacken and fall away. Others recommend Bordeaux mixture or Eau celeste, but we doubt whether in such cases, where the parasite is an endophyte, and pervades the tissues before any external indication takes place, the application of fungicides will be of much service. In all three instances it is much safer to prevent the spreading of the pest by picking off all the diseased leaves, if practicable, and burning them, whilst syringing the standing plants so as to destroy any scattered spores. It is interesting to note the wide distribution of these pests, almost wherever their hosts are cultivated, and to ascertain that cultivators in remote parts of the world have to contend with the same difficulties which beset ourselves. *M. C. C.*

Nicholas Funck.—A name well known in the history of botanical science has to be deleted from the list of living worthies. Funck and Linden, Funck and Schlim are well-known names in the literature of botany. Funck was the friend and companion of Linden in his remarkable explorations, made more than half a century ago in districts of tropical America, at that time almost unknown. Funck accompanied Linden as an artist, and became his most zealous colleague in the search for and collection of objects of natural history. The two naturalists arrived in Rio de Janeiro on Christmas Eve, 1835, and sent thence large collections of botanical and zoological specimens, even now not all elaborated. Afterwards the two friends explored together many of the West Indies, Mexico, and northern Guatemala. On their return to Europe, Funck became one of the Managers of the Zoological Gardens at Brussels, and subsequently became Director of the Zoological Garden at Cologne, a post he held for several years. On his retirement he returned to his native city, Luxemburgh, where he died at an advanced age on the 10th inst. He will be remembered as a learned, upright, loyal man, who won the sympathies of all who knew him.

Monthly Meeting at Ghent.—On the occasion of the last meeting of the Chambre Syndicale des Horticulteurs Belges et Société Royale d'Agriculture et de Botanique, the following awards were made:—Certificates of Merit for Cattleya rex, to M. Jules Hye (by acclamation); for Lilium auratum, Wittei, to M. A. Dallière; for Odontoglossum vexillarium superbum, to MM. Pourbaix Frères, of Mons. Awards for Cultivation and Flowering:—For two Cereus macrogonus, from M. E. Bedinghaus; for Chironia floribunda, from M. L. De Smet-Duvivier. An Award for Cultivation was allotted to Maranta vittata, from the last-mentioned exhibitor, who obtained also Honourable Mention for Maranta regalis, and for Pandanus amaryllidifolius.

Wellingborough Dahlia Society.—This is a newly-formed society, and will hold its first exhibition at the Corn Exchange, Wellingborough, on Sept. 5. A modest, but representative schedule of prizes has been issued, and it also contains a few classes for Roses, fruit, and vegetables. The secretary is Mr. W. Spriggs, 29, Grove Street, Wellingborough.

Stock-taking: July.—The increase there has been in the imports has not been maintained. During the month of July there was a decrease in the values (*vide* Board of Trade Returns) to the extent of £714,664; not much, one may say, but sufficient to indicate that, to some extent, politics in the United States, are having an unsettling effect. An equally disturbing item is to be found in our own harvest prospects. But the wreck of crops in southern Russia must not be overlooked. The following items are from the "summary" table of the imports for the past month:—

Imports.

	1895.	1896.	Difference.
	£	£	£
Total value.	35,097,514	34,382,850	—714,664
(A.) Articles of food and drink duty free	13,050,262	11,862,307	—1,187,955
(B.) Articles of food and drink dutiable	1,965,093	2,085,831	+120,738
Raw materials for textile manufactures	3,530,191	2,796,693	—733,498
Raw materials for sundry industries and manufactures	4,798,757	5,106,149	+307,392
(A.) Miscellaneous articles	1,103,739	1,164,810	+61,071
(B.) Parcel Post	79,664	66,504	—13,160

The principal subjects of decrease are to be found in articles of food and drink, duty free (£1,187,955); oils (£24,761); raw materials for textile manufactures (£733,498). The total imports for the first seven months of the year are in excess of those for the same period in last year by £12,040,421. The extracts from the general mass of figures bearing on fruits and vegetables are very interesting, as here shown:—

Imports.		1895.	1896.	Difference.
Fruits, raw:—				
Apples	...bush.	57,968	103,252	+45,284
Cherries	,,	66,047	90,166	+24,119
Plums	,,	59,040	138,023	+78,983
Pears	,,	36,906	78,523	+41,617
Grapes	,,	45,238	20,770	—24,468
Unenumerated	,,	342,194	286,200	—55,994
Onions	,,	367,942	335,594	—32,348
Potatos	... cwt.	593,882	199,811	—394,071
Vegetables, raw, unenumerated	.. value	£204,059	£.94,648	—£9,411

Looking at the large totals attached to the two items of "unenumerated" fruit and vegetables, it certainly does seem a pity that the information is so scanty. Two articles of import are worth separate mention—"wood and timber"—and a product from the latter. The former stands for 293,245 loads, valued at £595,087; the latter—wood-pulp—is represented by 35,379 tons, valued at £175,437; mahogany foots up 4586 tons, valued a £36,717.

The Returns relating to

Exports

are satisfactory, though there was room for greater improvement. On a total for the month of £21,334,785, there is an increase of £775,299, as compared with the same period last year. The seven months just ended show a total of £140,337,507—or an increase of £13,660,505 over the same period in 1895—the only decrease to record for the latter period being £194,928 in raw materials. Of course the healthy harvest reports which have been published from time to time during the past month or two, have influenced the importation of food—a decrease is above noted amounting to £1,187,955. Therefore our exchange of both raw and manufactured materials is affected by our own good fortune, temporarily; when the actual quantity and value of our home crops are ascertained and those also of other nations then the usual process of adjustment will follow; and if there should be a falling off in exports there will assuredly be a rise in the value of home trade.

The Preston and Fulwood Horticultural Society held its annual meeting in the Preston Town Hall on the 8th inst., Ald. W. H. Wood presiding. The Secretary (Mr. C. Parker) presented the balance-sheet for the year ending with the eighteenth spring show. These showed that the receipts amounted to £231 13*s.*, and that after providing for all contingencies, there was a balance of £35 5*s.* to carry forward. Amongst the officers appointed were the following:—Mr. J. B. Dixon, Hon. Treasurer; and Mr. C. Parker, Secretary. It was decided that a programme for the winter session be drawn up by a sub-committee.

Arundel, Littlehampton, and District Horticultural Show.—The first annual show of this society was held on the 6th inst., in the grounds of Arundel Castle, the seat of his Grace the Duke of Norfolk. Several thousands of persons visited the display, which was a very creditable one. There were upwards of 800 entries. Handsome non-competitive groups came from his Grace the Duke of Norfolk, Lieut.-Col. Henty, Major Middleton, and C. J. Fletcher, Esq. Among the nurserymen, Messrs. Cheal & Sons, Crawley, showed excellent Dahlias, &c.; and Miss McRonald some fine cut Roses and seedling Tree Carnations.

The Scottish Horticultural Association held its August meeting on Tuesday last at Edinburgh, Mr. Todd occupying the chair. An interesting paper was given by Mr. Samuel Johnson, Kirkby Malton Hall, Kinckley, Leicester, entitled the "Evolutionary Theory and Plant Life." The paper excited a considerable amount of discussion from several members.

The Chester Show.—In the hurried report which appeared in our last issue, we omitted to mention a very meritorious collection of fruit exhibited by Mr. N. F. Barnes, gardener to his Grace the Duke of Westminster, Eaton Hall. This consisted of thirty dishes of first-rate fruit, and included Madresfield Court Black Hamburgh, and Muscat of Alexandria Grapes, Triumph, Hero of Lockinge, and Little Heath Melons, Jargonelle, and Souvenir du Congres Pears, Transparent Gage, Jefferson, and Kirk's Plums, Pine-apple, and Lord Napier Nectarines, Royal George Peaches, Moor Park Apricots, Brown Turkey Figs, red and white Dutch Currants, Morello Cherries, and Duchess of Oldenburgh, and Worcester Pearmain Apples. It was tastefully staged, and the fruit was of an even description, and of good quality. We believe the idea of holding a great horticultural show in Chester in 1896 first suggested itself to Mr. Barnes. A collection of choice Conifers, &c., was staged in the lower end of the specimen plant tent, as well as outside, by Mr. Anthony Waterer, Knaphill Nursery, Woking. Messrs. John Cowan & Co., Liverpool, had an extensive exhibit of well-grown

and tastefully-arranged Tea Roses in pots. This excellent exhibit was awarded a Silver Flora Medal by the deputation of the Royal Horticultural Society. Messrs. Dobbie & Co., Rothesay, made a fine display of Violas, Sweet Peas, and early-flowering Chrysanthemums, and were awarded a Silver-gilt Banksian Medal by the deputation of the Royal Horticultural Society.

National Co-operative Flower Show.—In connection with the eleventh annual flower show at the great National Co-operative Festival to be held at the Crystal Palace on August 21 and 22, there will be an exhibition of photographs, and other illustrations of suburban and rural gardens and scenery. The capabilities of photography as a means of illustrating sylvan and garden scenes, and bringing out the gradations of light and shade, will be strikingly illustrated.

Formaldehyde.—An inquiry in our last issue induces us to extract the following particulars from the report of the British Pharmaceutical Conference as given in the last number of the *Pharmaceutical Journal*. "Formaldehyde (said Mr. Bird) is an exceedingly powerful antiseptic, and at first sight appears to be one which should prove exceptionally valuable in certain pharmaceutical operations on account of its intense germicidal action, the absence of odour or taste in dilute solution, its non-poisonous nature, and its volatility. It has been stated that milk may be preserved by formaldehyde, and the antiseptic subsequently driven off on boiling or cooking the milk. The influence of formaldehyde on vegetable colours is well illustrated in the following experiment. Two samples of infusions of Rose-petals were set aside, one containing 1-10 minim formaldehyde solution per fluid ounce, and the other without any addition. After six weeks they were examined. Both were covered with a thick layer of mould. In the one containing formaldehyde the colour was unchanged; in the other it had been completely destroyed by the growth of fermentative bacteria." Mr. Druce said the paper suggested to him a method which he adopted some few years ago for preserving flowers, in accordance with a hint which he got from the herbarium at Berlin. He took a solution consisting of two parts of sulphurous acid and one of methylated alchohol, and having immersed the freshly-gathered flowers in it until the red colour was entirely bleached, they were then shaken and dried in the ordinary way, and as oxidation proceeded, the colour gradually came back again until the original tint was regained, and it then remained permanent. He had specimens gathered six years ago which were fairly good yet. It occurred to him that probably the solution of formaldehyde either alone or in conjunction with methylated spirit would answer the same purpose, and he should certainly try the experiment."

Fire in Covent Garden.—In a recent number of the *Echo* occurs a timely warning as to the probable results of a fire in the precincts of the market. Every morning, and particularly on Tuesday, Thursday, and Saturday mornings, all the streets in the vicinity are so blocked with market waggons and other vehicles that it would be an extremely difficult matter for a fire-engine to effect a passage. Let those who wish to know what the state of affairs is, endeavour to effect the passage in a "Hansom" on market morning—or even in the afternoons.

Funnel-shaped Leaf of Cauliflower.—Colonel Eddington obligingly sends us an excellent example of a funnel-shaped leaf. The basal lobes in place of being separate remain in union one with the other and form the funnel. We have rarely seen a more perfect example.

The Selly Hill Collection of Orchids.—We learn that the fine collection of Orchids formed by Chas. Winn, Esq., at The Uplands, Selly Hill, Birmingham, passes in its entirety into the hands of Messrs. Charlesworth & Co., of Heaton, Bradford. The collection embraces some of the finest things in cultivation, and notably a grand form of Cattleya Mossiæ Reineckiana, the yellow and white Cypripedium callosum Sanderæ, and C. Lawrenceanum Hyeanum, the true C. insigne Sanderæ, and another yellow form which is in the size and form of its flowers superior, it being the yellow form of the C. insigne Chantini class. It was named C. insigne Dorothy. The chief feature of the collection is the almost innumerable hybrid Orchids, raised by Mr. Winn, and which includes a great number of fine and novel crosses, which may be improved strains of well-known hybrids, brought about by careful selection of the best forms for crossing, for it was always Mr. Winn's argument that rather than use any but the best varieties for seeding, a cross had better be left untried. The Hybrid Cypripediums raised at Selly Hill, on those lines, of the C. × Leeanum C. × Lathamianum inversum and other showy types, are thus as much new plants to-day, from a florist's point of view, as they were when originally sent out. That Mr. Winn should give up the collection of Orchids which has been his chief pastime and pleasure for so many years will be a surprise to many, but he is unable to give the unremitting care to the work in the future that he has done in the past, and he therefore determines to part with the collection, as a whole, to those who make a business of the culture of such things, while they are in their present condition, rather than by neglect allow them to get into bad condition.

"No Warranty Expressed or Implied."—How far the disavowal of responsibility may be a legal exemption to wholesale firms in regard to the correct definition and description of seeds or other produce they supply is occasionally the subject of dispute and litigation. The circumstances of a case bearing upon the point have just come to our knowledge. It appears that a retail firm A. ordered of a wholesale house B. a quantity of seed of a choice variety of a certain plant. The seed was delivered and invoiced to A. as the variety ordered, but when the seed had been distributed and its character proved, instead of being of the choice variety, it was inferior, and not more than half as valuable as it should have been. A. having sold the seed, his customers are suing him for damages. B. admits a mistake was made in regard to the seed, but denies responsibility, on the ground that his firm uses the usual protective notice, and it is printed on each invoice. A. contends that B. did imply that the goods were true to name when B. invoiced them under that name. The question is an important one. Is B. liable to pay damages to A. for the mistake made? and can A. recover anything for loss of custom he has sustained through it?

Publications Received.—Botanic Gardens, Grenada: *Bulletin of Miscellaneous Information*, No. 2, vol ii., contains an abstract of Dr. Morris' lecture on the Bahamas, and of Professor Carmody's paper on the "Industrial Resources of Trinidad."—Agri-Horticultural Society of Madras: *Report of Annual Meeting*, 1895–1896, and *Proceedings of the Society*, January–March, 1896.—Vermont Agricultural Experiment Station: *Bulletin* No. 49 contains reports and figures relating to Potato blights, their prevention and cure.—*Bulletin of the Botanical Department, Jamaica*, June, 1896, contains notes on the care of young Vines, on budding Orange trees, and other subjects of importance to tropical agriculturists.—*A descriptive account of Jersey*; an interesting account of the island, with numerous figures. It will be particularly interesting to horticulturists, as containing an account of Mr. Becker's imperial nurseries.—*Bits of Experience on a Sussex Farm*, A. F. Parbury. *The Mushroom: how to grow it for Profit*, by John Corban, Rotherham.

MADRESFIELD COURT GRAPE AT CLANDON PARK.

When the Earl of Onslow's gardener, Mr. H. W. Blake, exhibited Madresfield Court Grape in such fine condition at Richmond on June 24 last, and carried off the first prize for "blacks" with such ease, it was felt by those who saw the bunches that the grower had got a practical knowledge of the requirements of the variety, and did it wonderfully well. Many otherwise excellent Grape-growers find numerous troubles to beset the culture of this Grape. The accompanying illustration (fig. 35, p. 194) shows the character of the Richmond bunches, and yet these were by no means the best that Mr. Blake has had, for later on there were on the single Vine of the variety, in a mixed house, several noble bunches weighing some 3½ lb. each, and of 14 inches in length. Not a symptom of cracking was to be seen, and none has ever troubled the berries since the present gardener took the Vines in hand. The berries were fine, very even, and richly-coloured. Higher praise of the variety it would be difficult to give. The one house, some 40 feet long, and of the usual height and width, is planted with blacks, Hamburgh and Madresfield Court, and of whites, Buckland Sweetwater and Mrs. Pearson. The Vines were started in February, and of course all were treated alike. Black Hamburgh ripened first, followed by Buckland Sweetwater, Madresfield following, and Mrs. Pearson, a thick-skin Grape, here of really fine flavour, and which should hang late if needed, coming latest. The entire period of maturation was about five weeks. Thus, for a mixed house, from these varieties an excellent succession is assured.

The Mrs. Pearson bunches, though less heavy than those of the Madresfield, were very compact, tapering, handsome, and well finished. Next to Muscat of Alexandria, and evidently as seen here much more easily grown, this fine white Grape is entitled to take high rank. The Vines were planted nine years since, and when Mr. Blake took to the place a few years ago, hardly a bunch of any sort was produced. Finding the border inside (for the Vines have free run in and out) to be very dry, he gave two heavy soakings of water, and this seems to have performed good service in swelling the buds and maturing the wood. Also some liquid-manure from the cow-yard, weakened by the addition of six times its bulk of water, was given occasionally; and still so strong was it relatively, that the ammonia, whilst benefiting the Vine foliage, destroyed the leaves of Gloxinias. The necessity for keeping plants in the vinery, obviously does not assist in the development of fine Grapes; therefore, the good results obtained are all the more creditable.

It is interesting to learn that Mrs. Pearson having plenty of pollen, and being therefore a free setter, pollen from that variety is employed on the bunches of the Madresfield Court. In all respects ventilation and treatment are of the ordinary kind. The outside border is coated with leaves in the winter, and when removed in spring, it is found that roots have been freely attracted to the surface. Then a light sprinkling of Thompson's Vine-manure, a good watering, and a thin mulching of straw litter are most beneficial. Occasional dressings of this manure and liberal waterings are also given to the inside roots. *A. D.*

HOME CORRESPONDENCE.

Some experiences with the eel-worm.—Without declaring the eel-worm to be the worst amongst the list of our garden enemies, I may say that its acquaintance is by no means desirable. Certain plants are more susceptible to injury from this cause than others, and none more so than the Gardenia and Cucumber. My first experience with the eel-worm was several years ago, in the case of some Gardenias on the back wall of a lean-to plant-house. At first the plants grew strongly, and produced flowers of large size, but they soon began to die-back—sometimes a branch, and occasionally a whole plant would collapse. An examination of the roots showed knotted swollen fibres, the work of the unseen eel-worm. Thinking that the excessive dampness of the soil, caused by the moisture maintained in the house, might be the cause, a much more porous material was substituted. This answered somewhat better, but was never a success, and after a while the attempt to grow plants in an unsuitable place was abandoned.

The Gardenias are now grown where there is plenty of light, and quite close to the glass, which is never shaded, the compost being loamy soil full of fibre. The drainage is good, and copious supplies of water are given frequently. For several years the plants have grown and flowered well under these conditions. An average sample of the growth is enclosed to show its vigour. [Very satisfactory, and flowers extra large. Ed.] The above experience has convinced me that if Gardenias are grown in a suitable place they will not readily be attacked by eel-worm. The only experience I ever had with eelworm attacking Cucumbers was once, when, partly as an experiment, the plants were given a deeper border, and more adhesive rooting material than usual. The bed in which they were planted was supplied with bottom-heat from hot-water pipes, over the covering of which on previous occasions a good layer of porous material was placed before putting in the soil for the plants. On this occasion the compost was put on the slates. For a time they grew strongly, producing exceptionally good fruits. I noticed that the roots were extra thick and more fleshy than usual, and after a time the plants began to fail. The roots became such a continuation of knotted excrescences that there was no mistaking the cause. They were promptly rooted out, and the previous method of planting re-adopted, with the result that no injury has been done by eel-worms since. *J. MacDonald.*

PEACHES AS OPEN-AIR STANDARDS.—With reference to "C. H.'s." letter in your issue of last week, may I corroborate his views on Outdoor Peach standards? I planted out Hales' Early four years ago, and it has borne and ripened good fruit ever since. *Alex. Hutchinson, Major-General, Owthorpe, Bournemouth, August* 11.

BRITISH HERBS AND THEIR USES.—It will be something new to most country-bred people to read in Mr. Fletcher's letter that the eating of Scarlet Runners is of modern origin. I know from memory that they have been eaten in West Norfolk for upwards of forty-eight years, and they were nothing new then to the old people who were living then. Then, again, if I am not greatly mistaken, they are mentioned as an article of food in Culpepper's *Herbal*, which must have been written upwards of 200 years ago. *W. B.*

THE SEASON.—All varieties of vegetables here have done well. We beat all record in gathering Peas from out-of-doors on May 22. We had also new Potatos, Globe Artichokes, and Cauliflowers on the same date. The late varieties of Broccoli have overlapped the Cauliflowers a long way. Autumn-sown Onions well ripened off, and spring Onions were never healthier or finer. Beets are as large as they ought to be, and all roots are good. Caterpillars are affecting the Brassica tribe somewhat. All winter vegetables are growing rapidly. A better year than 1896 has been so far cannot be wished. *P. Middleton, Wynnstay Gardens, Denbighshire.*

OAK ALYN, WREXHAM.—Referring to the illustration given in your last number, I may say that the residence of Edwin Stanley Clark, Esq., dates from the year 1656. Passing through the conservatory you enter a large billiard-room, and by a very simple contrivance the table is lowered in a few seconds into a pit below the floor, thereby making the room available for a ball-room. This system of stowing away the billiard-table is the patent of Mr. Clark's. Leaving the billiard-room by a central door, you enter a corridor nicely furnished with climbers and flowering plants; passing up two flights of steps, the fruit-room is at the top; each shelf is made in moveable sections. On the left of the fruit-room you enter the vineries, two in number: passing from the late vinery, you reach the Orchid-house (shown in your illustration), of which the centre plant is a giant, recently imported, of Lælia elegans with fifty bulbs, twenty-six with leaves. It has twelve leads, many of them showing sheaths. Other fine specimen Orchids are in this house, with a goodly number in flower. All the houses are lighted throughout with the electric light, and are so arranged as to furnish a nice promenade. The photograph is by Messrs. Geo. Smith & Co., South Parade, Bradford. *E. J. E.*



Fig. 35.—Madresfield Court Grape, as grown at Clandon Park.
Much reduced.)

THE "KEW" WEED, GALINSOGA PARVIFLORA.—Many of our common weeds are really obnoxious and troublesome to eradicate, some from their easy growth by multiplication of scraps of stems and nodes of creeping grasses, and from the production of numerous seeds, such as Charlock, Chickweed, Groundsel, and the coarser sorts, such as Burdock, Buttercup, Goosefoot, Mayweed, and Thistle; so bad, indeed, was the latter in the time of Linnæus that he wrote of it:—"Vitium agrorum apud nos, primarium est" (it is the greatest pest of our fields), and still we hear the harsh epithet of "cursed" often applied to it. Our American friends say of some English weeds as they come across them—"It is a foreigner of a bad type," and only such an expression in an extra superlative degree would express the conduct of the exotic Galinsoga, which appears to be a garden-escape from Kew, as all round that neighbourhood it has naturalised itself in such densely abundant quantities that it completely smothers every seed-bed. The plant in appearance very much resembles the annual Mercury, but differs very widely in having a capitulum or flower-head like a small Mayweed. It belongs to the family of Compositæ, and like the Feverfew produces myriads of small seeds of easy germination, retaining their vitality in deep soil for a long period. The name, Galinsoga, was given to it by Ruiz and Pavon, to commemorate M. Galinsoga, physician and botanist at Madrid; it is a native of Peruvian America, and akin to G. trilobata, a hardy annual of little merit. Mr. A. A. Black noticed and wrote about it in 1870, but otherwise none of the local floras have any record of it, as in the case of the submerged aquatic invader (Anacharis) of the Irish canals, carried by the Gulf Stream, and now naturalised. Great care must be taken to keep the land clean, to prevent the Galinsoga from maturing, or the old proverb of "One year's seeding makes nine years weeding," will require some cyphers after the nine to express the time for eradication, as only the greatest vigilance and energy will spoil its semination. *Jain Murison.*

THE FRUIT CROPS.—There is one class of people which we may rest assured will take no harm; these are the middlemen; they make ample profit, and this they do no matter whether the season's returns, as regards the growth of crops, be good, bad, or indifferent. Not very long ago, a middleman wrote in defence of his calling, that the salesmen there were all young men, thus, unwittingly, expressing a plain confession that they were all able to retire before they grew into old men. I wish the same could be said of the hardworking gardener and farmer, amongst whom may be found many white-bearded old men, working out life to the end, without the slightest chance of retiring to enjoy even a short afternoon of well-earned rest. The middleman, from the very commencement of the world's history, seems to have been doing a roaring trade. We first read of him as making his appearance in the Garden of Eden. Burns also had his eye dead upon him when he wrote:—

"Lang sine in Eden's bonny yaird,
When youthfu' lovers first were paired,
And all the soul of love they shared,
The raptured hour.
Sweet on the fragrant flowery swaird,
In shady bower.
Then you, ye auld snec-drawing dog,
Ye came to Paradise incog.,
And played on man a cursed broque—
Black be your fa'!
And gied the infant world a shog
'Maist ruined a'."

W. Miller, Combe Abbey.

SOCIETIES.

ROYAL HORTICULTURAL.

August 11.—The usual fortnightly meeting of the Committees was held in the Drill Hall, James Street, Westminster, on Tuesday last. There was little indication that the holiday season is now at its height, for the display was an extensive one, and the attendance good. In common with the meetings that have taken place throughout the summer, the show on this occasion was comprised largely of hardy cut flowers, which are exhibited at the present time so persistently, and it may be added, so well. In addition to the miscellaneous collection of such plants, Messrs. Kelway & Sons displayed an exhibit of Gladioli in the extensive manner common to this western firm.

One of the exhibits most worthy of remark was a group of hardy Bamboos from Messrs. Jas. Veitch & Sons, which, by reason of its comprehensiveness, was a useful object-lesson to persons not familiar with the variety of foliage and habit of growth that a good collection of these plants presents. As will be seen below, many plants and flowers called for awards from the Orchid and Floral Committees. Fruit was not extensively shown, but several awards were made. Mr. C. T. Druery gave an interesting and illustrated lecture in the afternoon upon "The Generation of Ferns."

Floral Committee.

Present: W. Marshall, Esq., in the chair; and Messrs. Jno. Fraser, H. B. May, H. Herbst, R. Dean, J. Jennings, J. F. McLeod, R. M. Hogg, Chas. Jeffries, Thos. Peed, W. Bain, H. Selfe Leonard, H. J. Jones, Jas. Walker, H. Turner, Geo. Paul, and H. Cannell.

From Mr. Sharp, Fareham, was exhibited a dozen plants of Abutilon Silver Queen. They were bushy little plants, and the leaves were almost wholly cream-coloured, there being an exceptionally small quantity of green surface in any of the plants (Award of Merit).

Messrs. Jas. Veitch & Sons, Royal Exotic Nursery, exhibited a new strain of Streptocarpus, obtained from crossing

previous hybrids with pollen from S. Wendlandii. The flowers are large, and the strain, to be known as Mrs. Heal, promises to be a useful one (Award of Merit). Some plants, well bloomed, of the bright-flowered Rhododendron multicolor Ruby, were shown, and an ornamental-leaved Begonia, named Princess Charles of Denmark.

Messrs. Jas. Veitch & Sons also exhibited a very fine group of Bamboos, in which were represented specimens of most of the species now in cultivation. First-class Certificates were awarded to Bambusa palmata, a plant possessing a bold habit and handsome appearance, and to Phyllostachys Kumasanca, a very distinct plant from the former. It has a rather dense-growing habit, dwarf, reddish-brown stems, and smaller leaves.

Messrs. Paul & Sons, Cheshunt, received an Award of Merit for a white flowering variety of Clematis viticella named alba. An Award of Merit was also obtained by Mr. A. Lister, Rothesay, who exhibited a very superior variety of Sidalcea malvæflora var. Listeri.

T. Hamilton Fox, Esq., Keston, Kent, gr. Mr. London, exhibited numerous flowers of a variety of Clove Carnation, named Arthur Soames, with very large flowers.

Sir T. Lawrence, Burford, Dorking (gr., Mr. Bain), exhibited flowers of Crinum Powelli, C. P. alba, and C. Makoyanum or Moorei, all of them hardy and very ornamental.

Several varieties of hardy Nymphæas were exhibited by Messrs. de Rothschild, Gunnersbury House, Acton (gr., Mr. J. Hudson). All of them were pretty, and, as far as exhibition in the Drill Hall goes, novel also. First-class Certificates were awarded to N. Robinsoniana, an extremely effective flower, the centre petals being of telling crimson, and the essential organs pale and bronzy yellow. Also to N. Marliacea carnea, a large, handsome blush-white variety.

From F. Reckitt, Esq., Caen Wood Towers, Highgate (gr., Mr. Burt), came a collection of miscellaneous plants, arranged in a pretty group upon the floor. Caladiums and well-grown plants of the usual ornamental foliaged plants were used with good effect (Silver Flora Medal). From the same garden was an excellent plant of Cycas revoluta (Cultural Commendation).

Mr. J. Purnell, Woodlands, Streatham Hill, showed a group of plants consisting of greenhouse species of a very miscellaneous character (Silver Banksian Medal).

Caladiums were shown by Messrs. Jas. Veitch & Sons, King's Road, Chelsea, and Messrs. J. Peed & Son, Norwood Road, West Norwood. Messrs. Veitch had a large group of well-grown plants, representative of very ornamental and choice varieties, all of which have been described. Messrs. Peed's plants were of smaller size, and were interspersed among a larger number of other foliage plants and Ferns (Silver Banksian Medal).

Hardy flowers were exhibited on this occasion largely by Mr. T. S. Ware, Hale Farm Nurseries, near Tottenham; Messrs. Barr & Sons, King Street, Covent Garden; Messrs. Kelway & Sons, Messrs. Cutbush & Sons, Highgate; and others.

In Messrs. Barr's exhibit we noticed many varieties of herbaceous Phloxes. Gladiolus, too, in variety were conspicuous, and there were flowers of Lilium tigrinum, and other species, herbaceous Sunflowers, Pentstemons, &c. An Award of Merit was made to a very fine variety of the last-named species, known as President Carnot. The flowers are very large, and purplish-crimson in colour, with a distinct very handsome silvery throat. Jules Sandeaux, Deschanel, and Servadac, are also meritorious varieties (Silver Banksian Medal).

Messrs. Ware's exhibit was a larger one, and contained a number of species of flowers. Herbaceous Phloxes, Lilies, Sunflowers, Pentstemons, Cannas, Dahlias, also a number of spikes of Campanula pyramidalis, Gaillardia hybrida grandiflora, was well shown, and there was quite a display of other hardy species. A small group of Lilium philippinense in flower was very noticeable. This is a very graceful Lily, pure white, and has very narrow leaves (Silver-gilt Flora Medal).

Sir Weetman Pearson, Bart., Paddockhurst, Crawley (gr., Mr. Capp), showed a very creditable collection of hardy flowers. Some double-flowering Hollyhocks were very fine. Raby Castle and other varieties of border Carnations, Coreopsis, and many perennial species, were good (Silver Banksian Medal).

Messrs. W. Cutbush & Son, Highgate, N., had a group of hardy flowers, and numerous varieties of Carnations, the specimens being first-class of the numerous species (Silver Banksian Medal).

Messrs. Paul & Son, The Old Nurseries, Cheshunt, had a collection of cut flowers, in which an important part was taken by varieties of herbaceous Phlox; bunches of garden and other varieties of Roses were included also, and a few other species of useful hardy flowers. The two fine Cannas, Austria, canary-yellow, and Italia, were also shown (Silver Banksian Medal).

Messrs. H. Cannell & Sons, Swanley, exhibited a group of a very fine strain of a dwarf-growing, variously-coloured Cockscomb (Silver Flora Medal).

The finely-coloured Spiræa Anthony Waterer was shown by Mr. A. Waterer, Knap Hill Nursery, near Woking.

Messrs. J. Cheal & Sons, Lowfield Nurseries, near Crawley, exhibited about three dozen blooms of Cactus-flowering Dahlias. Many of the varieties were bright and meritorious. Also a collection of ornamental Crabs (Bronze Banksian Medal).

Messrs. Kelway & Son, of the Langport Nurseries, set up an excellent collection of cut spikes of Gladioli, in which were 160 spikes, several of them illustrating the dark-shaded crimson forms we have seen during the last year or two, and some of them with gigantic blossoms, showing the blood of the Lemoinei and Nanceianus sections. This collection afforded a good opportunity to make a selection, only that all were so good that a selection of, say, a dozen varieties was a little difficult. Awards of Merit were made to Carlyle, a magnificent hybrid, the flowers brilliant red, that portion of the throat represented by the lower petals being pale, punctured with small dark spots—a superb new form; to Baxter, crimson, heavily suffused with purple, and flaked on the edges of the stout and finely-formed petals with maroon—a variety of high quality; and to Penn, a type remarkable for the large size of its individual blossoms and superb spike, the colour bright carmine, the throat flamed with violet-purple. In addition, there were other deep crimson forms, some brighter than others, some with lively purple shades—Fortal, Dryden, Clive, and others. Then of others of the type with which we are more familiar, there were Darwin, Giovanni, Chaucer (cream with yellow throat), Kemble (a beautiful light variety), Rev. H. H. D'Ombrain, Baroness Burdett Coutts, and Baron Schræder. Older varieties, but still very fine—Alaine, W. H. Fowler, &c.

Mr. W. Bain, gr. to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, set up a very interesting collection of Gladioli, comprising, first, some of the newer forms of Lemoine's hybrids, such as Jules Deville, purple; Gambetta, maroon-crimson; Etoile d'Or, Sceptre d'Or, and L'Enfant de Lorraine, all very pleasing shades of yellow, more or less handsomely marked on the throat. Of the Nanceianus type, President Carnot, very fine; Abbé Frowerit, President Chandon, Emile Auger, yellow; W. Watson, very large, and singularly novel in the colouring, but the petals were too thin in substance to stand outdoor exposure; and Lamartine. Of the new American hybrids, some of which are very fine, Childsii, brilliant scarlet, white throat; Mrs. Beecher, Ben Hur, Fatma, and Dr. Sellow.

Messrs. Veitch & Sons, Exotic Nurseries, Chelsea, also had a select collection of new hybrids of Lemoinei and Nanceianus Gladioli, such as Denil de Carnot, brilliant crimson ground, heavily flaked and shaded with maroon Award of Merit); Sénateur Pollard, pale purple or violet upper petals, the lower petals stained with a deeper tint, the throat cream and black (Award of Merit); Sophie Buchner, pale yellow; Amiral Gervais, Paul Hariot, purple; Pactole, deep yellow, small, but of fine form; Rev. W. Wilks, Dominie, rose; and A. K. Kruber.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. Jas. O'Brien (hon. sec.), H. M. Pollett, H. Ballantine, H. J. Chapman, T. W. Bond, Dr. M. T. Masters, E. Hill, E. Ashworth, W. Cobb, W. H. Protheroe, S. Courtauld, T. B. Haywood, J. Jaques, and A. H. Smee.

Although Orchids were not represented in great quantity, a few really fine exhibits were staged. Of these the Cattleya × Hardyana splendens, exhibited by Baron Sir H. Schroder, The Dell, Egham (gr., Mr. H. Ballantine) was, viewed from all points, the finest variety of this showy and delightfully fragrant natural hybrid Cattleya yet exhibited. The gorgeous dark purple-crimson, gold-veined labellum, seemed exactly like that of a fine variety of Cattleya aurea Dowiana, while the rose-tinted sepals and petals were like those of C. Warscewiczii (gigas). The plant, which was also a fine example of good culture, secured a First-class Certificate. Baron Schroder also showed fine cut examples of Lælio-Cattleya × Sedeni (L.-C. elegans × C. superba); L.-C. × elegans, Veitch's variety, in which the whole flower is very richly coloured, the side lobes of the labellum unusually dark; and the rare L.-C. × elegans Morreniana.

R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr., Mr. H. J. Chapman), staged a very pretty and interesting group of Orchids, in which the showy things and those of rare botanical interest were well balanced. Among the most noteworthy things in this group were a fine variety of the pretty orange-scarlet Lælia monophylla, the rare and singular Pleurothallis scapha, with a graceful raceme of long white and rose flowers, a fine specimen of Cypripedium × œnathum, C. × Clinkaberryanum, C. Godefroyæ, C. × Chas. Canham, C. × Lachmee, C. × grande; a pretty plant of the dwarf Oncidium longipes, Cattleya Warscewiczii, and other showry Cattleyas; Phalænopsis Schroderi, Lælio-Cattleya Schilleriana, a number of varieties of Masdevallia Harryana, M. × Stella, M. × Barkeana, M. amabilis, M. auchorifera (Botanical Certificate); M. guttulata, M. Reichenbachiana, M. chimæra, &c. (Bronze Banksian Medal).

Sir Frederick Wigan, Clare Lawn, East Sheen (gr., Mr. W. H. Young), showed Lælio-Cattleya × elegans Cawenbergiana, a very distinct large light rose purple coloured form, with the base, and parts of the side lobes of the lip clear white. The inflorescence bore nine fine flowers, and the variety received an Award of Merit. Sir Frederick Wigan also showed a ten-flowered inflorescence of another fine form of Lælio-Cattleya × elegans of the "Turneri" class, taken from a plant bearing twenty-nine flowers.

Messrs. F. Sander & Co., St. Albans, staged an effective group, in which the principal novelty was Cypripedium ×, Excelsior var. Mars (Harrisianum × Rothschildianum), a fine flower, with the upper sepal greenish, with chocolate lines; the long petals green at the base, spotted with chocolate-brown, and tipped with rose, and the face of the labellum bright reddish-brown (Award of Merit); also in Messrs. Sanders' group were two plants of Sobralia xantholeuca, the pretty Trichopilia brevis, Cattleya eldorado Wallisii, Lælio-Cattleya × elegans Turneri, Polystachya Leonensis, Phaius Humblotii, Spathoglottis plicata Micholitzii, Miltonia vexillaria, Eria acervata, Dendrobium bracteosum.

Elijah Ashworth, Esq., Harefield Hall, Wilmslow, Cheshire (gr., Mr. Holbrook), sent Cattleya Gaskelliana alba magniflora, perhaps the finest pure white form of Cattleya labiata yet seen, its flower being extraordinary in size, fine in shape, and of a pure white; also the rare and pretty Cattleya × Kienastiana (C. Luddemanniana × C. aurea).

Sir William Marriott, Down House, Blandford, showed Cattleya × Marriottæ (Eldorado × Warscewiczii), a very pretty hybrid, with a general resemblance to C. Eldorado splendens, but with all the segments broader. The plant bore a fine five-flowered inflorescence.

C. L. N. Ingram, Esq., Elstead House, Godalming (gr., Mr T. W. Bond), showed Lælio-Cattleya × Seraph (L.-C. elegans × C. citrina), a remarkable and pretty hybrid, although not as yet showing so much of the influence of C. citrina as might be expected. The plant was dwarf, and the pseudobulbs curiously swollen in the middle. The flower was borne erect, and partook of L.-C. elegans in form, but was smaller, and more compact, and the segments broader in proportion to their length. The sepals and petals were light yellow, slightly tinged with green, and the front lobe of the lip crimson-purple (Award of Merit).

Reginald Young, Esq., Fringilla, Linnet Lane, Sefton Park, Liverpool, sent cut examples of Lælia crispa Buchaniana, Cattleya velutina, Lælio-Cattleya × elegans Turneri, and L.-C. × elegans Houtteana.

A. H. Milton, Esq., White Ladies Road, Clifton, showed a six-flowered inflorescence of Cattleya Loddigesii, and a striped form of Cattleya labiata Gaskelliana.

Pantia Ralli, Esq., Ashstead Park, sent cut examples of a pretty, small-flowered, crimson-purple Sobralia, allied to S. Lowii, and of Odontoglossum aspidorhinum, Ralli's variety, a remarkably pretty flower, and the best of this curious and elegant species yet shown. The sepals and petals are yellow, with bright red-brown spots, the large fringed lip evenly spotted with rosy crimson. The bristles at the base of the labellum, which are characteristic of the species, were also highly developed in this fine variety.

A. Singleton, Esq., Chapel-en-le-Frith, sent Cypripedium × Singletonianum (vexillarium × barbatum Warneri), and a spike of Lælia crispa.

Fruit Committee.

Present: Philip Crowley, Esq., in the chair; and Messrs. R. Hogg, Geo. Bunyard, A. F. Barron, Jos. Cheal, A. H. Pearson, J. Wright, Alex. Dean, J. Willard, J. W. Bates, Jas. H. Veitch, G. H. Sage, Robert Fife, and G. W. Cummins.

The Apple awarded 1st prize in the Veitchian competition, for the best dessert sorts, was Irish Peach, exhibited by Mr. Owen Thomas, Royal Gardens, Frogmore. Red Astrachan was placed 2nd, as shown by Colville Brown, Esq., Hextable, Swanley Junction. Summer Queen, Worcester Pearmain, and American Nonsuch were also shown.

Only one Pear was staged, viz., Jargonelle, by Mr. O. Thomas, and it was awarded 2nd prize.

Mr. Jas. Nash, Belvedere Nursery, Wimbledon, exhibited four dishes of Victoria Nectarines; and Mr. D. Davies, Amberley Court, Stroud (gr., Mr. Butcher), had a dish of Princess of Wales Peaches.

Sprays of Wineberries (Rubus phœnicolasius) were sent by Mr. W. Batchelor, Harefield Park Gardens, Uxbridge. Mr. Batchelor had also a dish of Runner Bean, Sutton's Best of All.

An Award of Merit was given to a Melon, Harris' Favourite, exhibited by Philip Crowley, Esq., Croydon (gr., Mr. J. Harris). It is a scarlet-fleshed variety, and has straw-coloured exterior, closely netted. The flesh is deep and the flavour good. A few other seedling Melons also were before the committee.

Messrs. Geo. Bunyard & Co., Maidstone, exhibited about forty dishes of fruit consisting for the greater part of Apples, but including a few Pears. Awards of Merit were recommended to Pear Aspasie Aucourt, and Apple Cardinal (Peter the Great), both of them in this collection. The Apple has been known for several years under both of the names given above. In appearance it is not unlike Duchess of Oldenburgh in regard to the red streaking, but they are less deep than in the Duchess. It is a good flavour, useful for the table or for the kitchen. The Pear is a green-fruited variety, passing to yellow, and is ripe in August. Many varieties of Apples and Pears were exhibited in fine condition in this collection (Silver Banksian Medal).

Plums were exhibited by Messrs. Jas. Veitch & Sons, Chelsea, who had a score or more of dishes and varieties. The following were noticeable among them. All the fruits were taken from pyramid trees out-of-doors: Early Green Gage, Early Transparent Gage, Jefferson, Lawson's Golden Gage, Washington, Boddaert's Gage, and of purple or black-fruited varieties, Frogmore Orleans, Kirkes, Belle de Louvaine, Prince Engelbert, De Montfort, Angelina Burdett, and Czar; Victoria was shown well. This exhibit also included Morello Cherries, Negro Largo Figs, Lady Sudely Apples; Pears, Williams' Bon Chrétien, and Doctor Jules Guyot, and spray of Wineberries (Silver Banksian Medal).

A seedling variety of Cucumber, known as Palmer's Graceful, was exhibited by Mr. W. Palmer, Andover, Hampshire. The specimens were very commendable, but there was not occasion for an award.

Some large Potato tubers were sent from Mr. Kempshall, Lamport Hall Gardens, Northampton.

Mr. Druery's Lecture.

In the afternoon Mr. Chas. T. Druery, F.L.S., gave a very interesting lecture (Dr. Maxwell Masters, F.R.S., in the chair) on "Fern Generation, Normal and Abnormal," a subject of which he has made a special study, and which he illustrated by means of numerous lantern slides, depicting the various phases of development from spore to plants. Starting with a brief description of the difference between a spore and a seed, the one a simple vegetative cell protected by a shell, the other a complex body, the result of fertilisation by pollen, he showed how the first results of germination also differed fundamentally. The spore in Ferns took the form of a small green scale, or prothallus, on the underside of which the flower-equivalents were developed; fertilisation took place, and practically a seed produced from which the Fern as we know it arose. The phenomena attending this were shown on the screen from a series of diagrams by the lecturer, finishing by a slide of young Ferns themselves, and then by a reproduction of Count Suminsky's splendid series of p'ates which accompanied the publication of his original discovery in 1844 of the complete cycle of Fern life. Having thus treated of the normal or usual method of reproduction, Mr. Druery proceeded to describe Professor Farlow's discovery of apogamy, in which the Fern was produced upon the prothallus by non-sexual budding, showing that the process of fertilisation was not an absolute essential to the continuance of a species. A recent case of a different form of apogamy was cited, in which ordinary buds were developed on horn-like extensions of the prothallus. The various types of buds or bulbils formed on the fronds of Ferns were then illustrated, the curious dorsal bulbils sometimes associated with the spores on some Lady Ferns being especially dealt with as leading up to another abnormal mode of reproduction first noted by the lecturer, termed apospory, in which the Fern does not produce spores, but develops the prothallus either on the backs of the frond, where spores should be, or more remarkably still from the points of the frond segments. This phenomenon had been observed in four British species, and the lecturer exhibited a plant in which one of the fronds was literally fringed with prothalli, while the backs bore heaps of the incipient growths of the other kind or dorsal apospory.

Mr. Druery then proceeded to deal with the varietal aspects of Fern reproduction, throwing photographs on the screen of two remarkable instances of success in selective culture in a few generations; the pedigree being shown, and the immense strides taken clearly exemplified.

Finally, he alluded to the possibilities of hybridisation and crossing, not merely between varieties and subspecies, but actually between widely divided specific forms. Mr. Schneider's success in Polypodium Schneideri was cited, and others of more recent accomplishment by the same hand; in which the peculiarly beautiful character of our British forms had been unmistakably introduced into large growing exotic species. Mr. E. J. Lowe's successes in the crossing of Hartstongues were also commented upon.

THE BRITISH PTERIDOLOGICAL.

August 3.—As usual on the August Bank Holiday, a goodly number of lovers of our native Ferns assembled in the Lake District, this time at Bowness, Windermere, to discuss the most recent varietal developments, and to read papers bearing upon the cult under its several aspects. The Institute at Bowness was the meeting place, and after the usual routine business had been transacted, Mr. Chas. T. Druery read a paper on the "Marvellous Side of Fern Life," Dr. Stansfield following it with another on "Weismann's Theory of Heredity as Applied to Ferns." Curiously enough, without any prearrangement, the two papers formed a continuous history of the cell and its development; Dr. Stanfield's dealing with the process of fertilisation of the egg-cell, and illustrating by diagrams how this cell prepares itself for the process by throwing off and out a part of its nucleus, which is subsequently replaced by contact with the antherozoid. A very interesting point bearing on Mr. E. J. Lowe's theory of multiple parentage in Ferns, was hereby demonstrated, namely, that this process is effected by such an exact adaptation of part to part, that there is absolutely no room for the introduction of multiple influence in the sense of multipaternity. To use a commonplace illustration, the nucleus to be fertilised is like a pill-box, the lid of which is thrown away prior to fertilisation, the result of which is the addition of a fresh lid, after which the box or cell divides and multiplies itself on a regular plan. Just as a second lid could not find a place, so would a second antherozoid find itself *de trop*. In Mr. Druery's paper the cell was compared to a patent brick which multiplied itself *ad libitum*, and built itself up into complicated structures, planned with marvellous foresight and ingenuity to accommodate a self-generated community of ladies and gentlemen (archegonia and antheridia), the latter of which were furnished with bicycles (cilia) to visit their stay-at home lady-loves. This community then passes away, and behold! a wonderful structure arises—the primary frond—and in time a stately Fern is seen, built up on unnecessarily complicated lines, and culminating in a shower of millions of "bricks" or cells, all capable of performing the same miracle as the original brick we started with.

The papers read were discussed at some length. A considerable number of fronds were exhibited for judicial opinion and naming. A very beautiful and dense plumose Athyrium, found in Ireland, was shown by Mr. Phillips, of Belfast, together with a neatly tasselled Shield Fern of peculiar symmetry.

Mr. Druery showed a number of fronds of his plumose Lady Ferns, which were much admired, some six or seven distinct forms of rare beauty being exhibited. The "sensation" of the meeting was, however, a form of Lastrea montana (the lemon-scented Buckler Fern), raised by Mr. Wiper, the treasurer, from a find of his own. In this extraordinary plant (o which a number appeared in the sowing), the frond has very finely cut pinnules, differing greatly from the normal, from the point of each of which the midrib extends for nearly an inch as a delicate filament. These threads throughout some of the fronds terminated in tiny tassels, the whole combination being extremely pretty. The plants were young and small, though robust; there is, therefore, every probability that, as adults, they will rank with the most remarkable, as well as more beautiful Ferns in existence. It is a new and unparalleled "break," as charming as unexpected.

A vote of thanks to the officers, the President, and Mr. Druery for their services and papers, and highly satisfactory reports from Secretary and Treasurer as to the progress and funds of the Society, completed the proceedings.

The Secretary of the Society is Mr. Geo. Whitwell, Serpentine Cottage, Kendal; the subscription is small, and the Society, as a means of bringing together, at least once a year, a body of British Fern-ers merits the hearty support of all admirers of these beautiful native plants in their varietal forms. *Chas. T. Druery, F.L.S.*

HORTICULTURAL SHOW AT LEICESTER.

August 4.—This annual exhibition is managed by the Parks Committee of the Leicester Municipal Council, the Secretary being Mr. John Burn, the Curator of the Abbey Park. Five large tents were required to accommodate the exhibits, the cut flowers especially being very numerous. Each year the show increases in extent and quality, and it is probable that another year the show will be continued for two days. Specimen plants were decidedly better than we had before seen them at Leicester, and the groups of plants also.

The best group, filling a space 100 feet, was a circular one, and came from Mr. C. J. Mee, Nottingham; in the centre was a cone formed of Caladiums, Crotons, Ferns, &c., surmounted by handsome specimen plants, from which radiated lines having at their extremities pretty dot-plants, the ground-work lightly filled with various small plants, contrast and harmony uniting to furnish a very effective arrangement.

Mr. Blakeway was 1st with six stove and greenhouse plants, having good examples of Crotons Queen Victoria and Majestic, a fine Allamanda Hendersoni, Phœnix reclinata, Ixora Fraseri, and Statice profusa.

Some fine specimen exotic Ferns were staged. Mr. C. J. Mee was 1st, and Mr. Bilsom 2nd, but both unnamed; indeed, but few of the plants in the exhibition were named, thus depriving the public of becoming acquainted with the plants they may admire.

Tuberous-rooted Begonias were a good feature, the 1st prize for six single-flowered varieties of the tuberous section going to Mr. James Wright, nurseryman, Leicester, who had admirably-grown and flowered plants of good quality; Mr. H. Rogers being 2nd. The best six double varieties came from Mr. B. R. Davis, nurseryman, Yeovil, who had some excellent specimens.

Coleus were present in the form of attractive bushes, well grown and coloured. Mr. H. Rogers was 1st.

Fuchsias were medium-sized bush specimens, well bloomed. The best four were staged by Mr. H. Rogers.

Table plants contained nothing of a novel character.

Zonal Pelargoniums, excellent in growth and bloom, afforded striking patches of colour. Mr. H. Rogers was 1st with six, and Mr. Jas. Wright 2nd; and these two exhibitors were 1st and 2nd in the same order with six double-flowered specimens. Plants were also shown by amateurs and cottagers, and their contributions filled a large tent.

Cut Flowers.—Roses were both extensively and well shown, the northern growers being in strong force. There were four collections of thirty-six varieties, single blooms. Messrs. James Cocker & Sons, Aberdeen, were placed 1st, with grand blooms of Marie Baumann, Horace Vernet, J. S. Mill, Earl of Dufferin, François Michelou, Madame Hoste, Prince Arthur, Duc de Rohan, Golden Gate, Dr. Andy, General Jacqueminot, Madame de Watteville, Captain Haywood, Cleopatra, Charles Lefebvre, &c.; 2nd, Messrs. D. & W. Croll, Dundee; 3rd, Messrs. Harkness & Sons, Bedale.

With twenty four varieties, Messrs. Cocker & Son were again 1st, having in fine character Marie Baumann, Louis Van Houtte, Mrs. J. Laing, Horace Vernet, Duc de Rohan, Madame Hoste, A. K. Williams, Denmark, Aug. Rigotard, &c.

With twelve Teas and Noisettes, Messrs. James Cocker & Son were again 1st.

The best twelve blooms of any one variety were of Mrs. J. Laing from Messrs. D. & W. Croll; Messrs. Jas Cocker & Sons were 2nd, with Marie Baumann.

In the amateurs' division for twenty-four blooms, The Rev. J. H. Pemberton, Hawering, Romford, was 1st, having Madame Joseph Bonnaire, Horace Vernet, Mrs. John Laing, Charles Lefebvre, Duchess of Bedford, A. K. Williams, Comte Rainbaud, Victor Hugo, Charles Darwin, &c.; Mr. H. V. Machin, Worksop, was 2nd.

Mr. Machin had the best eighteen varieties, The Rev. J. H. Pemberton taking the 2nd prize; while in the class for twelve varieties, Mr. Machin and Mr. Pemberton were placed equal 1st. Mr. Machin had the best six Teas and Noisettes, his four best blooms being Maman Cochet, Ernest Metz, Catherine Mermet, and Madame Hoste; Mr. Pemberton was 2nd. Mr. Pemberton had the best six of any one variety in Charles Lefebvre; Messrs. Machin and H. Rogers taking the 2nd and 3rd prizes, both with Mrs. J. Laing.

Cut blooms of tuberous-rooted Begonias, either double or single, are not effective, however good their quality, when dumped down on moss in boxes, and some better method of showing them is necessary. Messrs. D. & W. Croll's single varieties were bold and striking.

Carnations and Picotees are always a good feature at Leicester, and the popular interest in them was shown by the crowded tables whereon they were staged. Mr. M. Campbell, florist, Blantyre, had the best twelve white-ground Carnations, showing full well-marked varieties; Mr. A. R. Brown, Handsworth, Birmingham, was 2nd; and they held similar positions with twelve Picotees. With twelve yellow-ground, self or fancy, Mr. Brown was 1st, having very good blooms of Monarch, Romulus, Mrs. A. Tate, Cardinal Wolsey, Ladas, and Mrs. Douglas, six excellent varieties; Mr. M. Campbell was 2nd. Carnations and Picotees were also shown as single blooms in several classes, and a good many collections of six bunches were staged.

Mr. M. Campbell was 1st with twenty-four, and also with twelve blooms of fancy Pansies, having blooms of fine development. Mr. Campbell also had the best twelve bunches of Violas, set up in handsome sprays.

FRUIT AND VEGETABLES.

There were three entries of a collection of eight distinct varieties, the 1st prize going to Mr. J. H. Goodacre, The Gardens, Elvaston Castle, Derby, who had finely-finished Black Hamburgh and Gros Maroc Grapes; Muscat of Alexandria, long in the bunch, but lacking colour; a very fine Queen Pine, Royal George Peach and Pine-apple, Nectarines, Negro Lago Figs, and Cashmere Melon; Mr. A. McCulloch gr. to W. J. Webb, Esq., Newstead Abbey, Notts, was 2nd.

There were three collections of four dishes, Mr. J. H. Goodacre being 1st, with long, tapering, well-coloured bunches of Muscat of Alexandria Grapes, Bellegarde Peach, Spencer Nectarine, and Countess Melon; 2nd, Mr. A. McCulloch.

The best Pine-apple was an excellent Queen, from Mr. C. J. Mee, Nottingham.

With two bunches of Black Hamburgh Grapes, Mr. McKinnish was 1st, his being good in berry and bunch; 2nd, Mr. Shaw, gr. to R. L. Tooth, Esq., Garrenden Park, Loughboro'; and Mr. A. McCulloch was 3rd.

The best two bunches of Muscat of Alexandria Grapes came from Mr. McKinnish; Mr. Goodacre was 2nd. Any other black Grape was represented by two bunches of Madresfield Court, from Mr. McCulloch.

With two bunches of white Grapes, other than Muscat, Mr. J. H. Goodacre was 1st with capital Foster's Seedling; Mr. Jas. Read, Burton-on-Trent, was 2nd, with Mrs. Pearson, very good.

The best dish of Peaches was Bellegarde, from Mr. John Wallis, The Gardens, Keele Hall; Mr. H. Blakeway was 2nd, with Royal George.

Mr. John Read had the best dish of Nectarines; Mr. Goodacre being 2nd Figs, Morello Cherries, Currants, and Gooseberries were also shown.

The best dish of dessert Apples was Beauty of Bath, from Mr. Garaway; Mr. W. Emerton, Buckingham, was 2nd, with Quarrenden.

The best dessert Plum was Transparent Gage, from Mr John Wallis; Mr. Goodacre 2nd, with De Montfort.

Mr. A. Geary was 1st for Tomatos, with a fine dish of the Perfection type; Mr. J. H. Goodacre 2nd, with Ham Green Favourite.

There were three collections of vegetables competing for Messrs. Sutton & Sons' special Prizes. Mr. A. McKinnish was 1st, with a very fine lot—Onions, Tomatos, Satisfaction Potatos, Runner Beans, and Celery, being especially good.

With six dishes, Mr. W. Burrow was 1st, being the only exhibitor, but having some finely grown samples. With ten varieties, Mr. W. Burrow was again 1st, having Cauliflowers, Runner Beans, Potatos, Onions, Tomatos, &c., in fine character.

In competition for the special prizes offered by Mr. Charles Warner for unlimited dishes; Mr. J. Green was 1st. Cauliflowers, Turnips, Carrots, Onions, &c., were in fine character as single dishes. Messrs. Yarde & Co., Northampton, also offered special prizes for eight dishes. Mr. Thos. E. Poxon, Lockington, was 1st, and Mr. W. Emerton 2nd. Autumn Onions were very fine, also Broad and Runner Beans. Potatos, shown in collections of six dishes were good. Vegetable Marrows appeared rather old, but Cucumbers good.

HONORARY EXHIBITS.

Prominent among these was a splendid group of Caladiums from Messrs. J. Peed & Son, Roupell Park Nurseries, Lower Norwood, London. Silver Medals were awarded to Messrs. Edwards & Son, Sherwood, for Ferns; Messrs. Clibran & Son, Oldfield Nurseries, Altrincham, for cut flowers and small table plants, Dahlias, Asters, &c.; to Mr. Henry Rogers for a collection mainly of foliage plants; to Messrs. Yarde & Co. for the same; Messrs. Pearson & Son, Chilwell Nurseries, Notts, for a striking collection of

very fine cut zonal Pelargoniums; Mr. C. J. Eccles for Ferns; Messrs. Harrison & Son, Leicester, for a collection of farm and garden produce; and Bronze Medals to Messrs. W. & J. Brown, Stamford, for various cut flowers; Messrs. Carter & Co., High Holborn, for the same; and Mr. B. R. Davis, for a large crown formed of Begonia blooms.

A special prize was awarded to Messrs. B. S. Williams & Son, Victoria Nurseries, Holloway, for a very interesting collection of new and choice plants.

ROYAL SCOTTISH ARBORICULTURAL.

On August 4 the members of this society left Edinburgh by an early train for Stirling, where they were met by a number of members from east, west, and north of Scotland. Enthusiasm was exceedingly high when the "jolly foresters" drove off in brakes to visit some of Scotland's most beautiful scenery, rendered popular by the minute details pourtrayed in Scott's *Lady of the Lake*, *Rob Roy*, &c. Tourists from all parts of the world have visited these districts, and have admired the unique pictures of nature there to be seen. The first place of visit was

AIRTHREY CASTLE,

the beautiful seat of Donald Graham, Esq. Entering by the main lodge, and passing along the beautiful drive, some fine Beeches are seen, between the trunks of which the lake visibly glitters with excellent effect. The park throughout is rich in landscape beauty, but when seen from the hills north of the castle the picture is truly charming. By a steep walk one is led to the Hermitage (some buildings that are said to have been the cave of a hermit), 400 feet above the ground level. From this point views in which Stirling Castle, Abbey Craig, with the Wallace Monument on the top, and adjacent seats rich in arboricultural interest are most attractive. The company had too little time at their disposal, otherwise the gardens now in such high class condition under the management of Mr. Rutherford, the gardener, were to have been visited. Muscat and Black Hamburgh Grapes here are said, by capital judges, to be second to none in Scotland, plants, vegetables, and hardy herbaceous plants are also leading features in the gardens at Airthrey. The best thanks of the visitors were expressed to Mr. Graham, and the courtesy of Mr. Dempster, factor, Mr. Murray, forester, and Mr. Rutherford, gardener, was acknowledged. Onward to

KEIR

was then the order of the indefatigable leader, Mr. Malcolm Dunn, Dalkeith. The whistle sounded, and soon the hundred or more members were being driven westward to the fine seat of Archibald Stirling, Esq. The grounds are entered by a fine avenue of Limes, and passing onward toward the spacious mansion there is seen a wealth of trees and shrubs, some of them representing the choicest species, in addition to the great number of homely Scotch Fir, Beech, Oak, Ash, and others. Many of the latter are handsome specimens of large dimensions. The visitors spent their limited time in the pleasure-grounds among the multitude of trees and shrubs. The 9 miles of evergreen hedges, hundreds of clipped Yews, the "battlements" near to the mansion, consisting of Yews, &c., cut into forms representing defensive and offensive masonry; long lines of Golden Holly hedges, and choice specimens of Coniferæ, give a very diversified picture to this grand old place. A famous old Spanish Chestnut, with huge limbs widely spread, and kept together by bands and chains, was an object of special interest. The old Monarch was measured at 6 feet from the ground; the girth of trunk is 26 feet. A handsome Larch, with clean stem, measured 12 feet 9 inches, and is 75 feet high, with branches spreading outward, and in a somewhat peculiar fashion. Cupressus sempervirens, like pillars round the walls of the mansion, are objects which were closely inspected; some fine trees of Abies grandis and Cedrus Deodora were also admired. In some parts of the grounds many gross-growing herbaceous plants have been planted with exceeding care, to suggest natural wildness.

Most of the company expressing a wish to see the gardens were conducted through them by Mr. Lunt, the well-known gardener. Much has been done of late years in the various departments to improve them. By careful degrees new fruit-houses are taking the place of old ones. The young Vines look very promising, and others in boxes are doing good service in maintaining serviceable crops until the permanent Vines are established. The plant-houses were never better filled than at present. Palms, splendid Crotons, Caladiums, Ferns, and New Holland plants are among the specialties, and some of them are well remembered—have been frequently prize-winners at the northern exhibitions. The homestead on the farm was another object of interest, for all that pertained to beauty or usefulness was liberally encouraged by the late Sir Wm. Stirling Maxwell. The usual votes of thanks were passed by acclamation.

DOUNE CASTLE

was the next place of interest. It is the property of Earl Moray, and is visited by a great number of tourists. Its historical associations renders Doune one of the most interesting ruins in Scotland. The massive masonry is surrounded by wide, grassy, undulating ground, upon which large spreading trees of Ash, Oak, Beech, &c., grow as isolated specimens. Though Lord Moray regretted he could not be present, his lordship endeavoured to make amends by the provision of a substantial luncheon. The thanks of the company was strongly evinced in the toast of his lordship's health. Mr. McLachlan, the factor, was also specially thanked. The party then drove off to—

BLAIR DRUMMOND.

They were cordially received by Mr. Ballingall, Colonel Home-Drummond's factor. This is a splendid domain, containing many grand trees, some of them standing singly in prominent positions, displaying their stately outlines to advantage. The arborists had an enjoyable time calculating, measuring, and commenting upon the specimens. Beeches and Oaks are particularly fine. One Beech tree is 16 feet, another 18 feet, in circumference. An Oak has a clean stem of 25 feet, is over a 100 feet high, and has a girth of 16 feet 10 inches. A Sycamore, possessing a splendid head of branches, measured 19 feet 6 inches in girth; a Beech tree, close by, is 15 feet 3 inches, and a black Italian Poplar is 14 feet 7 inches in girth. There are some handsome Spanish Chestnuts and fine Larches in this spacious park. Many of the visitors regretted that time would not allow of a visit to the gardens. Thanks were expressed, and steps were again taken to the brakes, which in a short time took us to—

LANRICK CASTLE,

the seat of Sir R. Fardine. It is such an one as any proprietor might be proud of. The undulations, long glades of finely-kept grass, the clean smooth walks, cheery running stream, are all indications of good taste and a love of order. Tsuga Mertensiana in fine groups are beautiful in outline, and in robust health; Mr. Begg, the gardener, raised them from seed brought from America in 1861. Some of the heights, from measurement, are 67, 65, and 62 feet; 5½, 4½, and 4 feet 10 inches in girth 4 feet up the stems. The specimens were feathered to the ground. Some splendid trees of Cupressus Lawsoniana and Douglas Firs were admired. Many fine trees were destroyed here by the storm of 1895. In the well-kept gardens—extensive bedding, capitally done, was noted—especially the Begonias, which are as fine as may be seen anywhere. The vegetable garden is particularly well managed here. The company was supplied with a sumptuous tea, and a refreshment peculiarly grateful to Scotsmen. The party was, therefore, in capital order for their journey to Callander, but thanks were first given to Sir Robert and his courteous staff. At 7·30

THE ANNUAL DINNER

was held in the spacious "Dreadnought" Hotel, Callander, Professor Bayley Balfour in the chair, and Mr. Dunn vice-chairman. After the loyal toasts were honoured, that of the Society was proposed by the chairman, when the Professor insisted on the desirability of the Government establishing a forest area where the best tuition could be acquired, and the best systems of forestry could be demonstrated. Professor Schwa pach, who was the distinguished guest of the society, replying, expressed his admiration of the magnificent parks and trees which he had seen; but his opinion is, that forestry should be carried out on different principles than he had seen in Scotland, meaning that it was of great importance to enter now thoroughly into commercial forestry. Such, of course, may be done on waste and inferior land, but should not be allowed to encroach on our fine pastoral land. The Professor had won the good opinion of many of the company at the Royal Botanic Garden on the day previous. An early start the following morning (Wednesday) was made for—

ON THE WAY TO BUCHANAN CASTLE,

the princely seat of the Duke of Montrose. The clear air blue canopy overhead, bright sunshine, and bracing highland breezes, seemed to fill the whole company with vigour after the hard day's work on the Tuesday. The journey westward was in every respect delightful. The Trossachs, richer in poetical lore and romantic scenery than arboreal interest, were soon reached.

> "Wondrous wild the whole might seem,
> The scenery of a fairy dream."

It would appear that in the portions clothed with trees, generally Hazel, that the roots must be of great antiquity. The stocks seem to have sent up suckers from time to time as the tops have decayed. The passage up Loch Katrine, in swift, light steamboats, was almost beyond description; every forester was in the best of humour, and never was the beauty of a scene more vivid. Ellen's Isle was eagerly scanned to note the trees growing thereon—much cannot be expected—"on shingles dry," but a variety of shades of colour in the foliage gives the picture a peculiar beauty. The scenery, changing at every turn, created something like excitement among the admiring passengers. Coaches were waiting at Stronachlachar pier, which were soon loaded and despatched to Inversnaid, Rob Roy's country. A steamer was soon conveying the party down Loch Lomond. Singing was now indulged in to relieve our pent-up feelings; the sound of "The Bonny Banks of Loch Lomond," sung from 100 or more voices, must have been heard far inland, and would ascend over Ben Lomond itself! No doubt the genial German professor thought these Scotsmen "afa chaps;" he soon afterwards took farewell of the party. Then the singing of "Auld Lang Syne," with "Here's a hand, my trusty friend" in demonstrative fashion will no doubt belong remembered by the German *savant*, who went northward, accompanied by Prof. Balfour to inspect the commercial forestry of the northern districts of Scotland. Landing at Balmaha, many of the party crossed in boats to the Island of Inch Cailloch, where many stirring stories of fiction have had their foundation. Two high peaks in the island are covered with Scotch Firs—other parts have dotted about in favoured spots thriving Oaks, Larches, Birches, and Hazels. The burying ground of the MacGregors is still marked by a crumbling stone and lime. Returning to the mainland the company were much interested in the Pyroligneous Acid Works of Messrs. Turnbull & Co., Glasgow, which have been established over 100 years: a chemical factory distilling the most unlikely portions of wood, which is cut from Oak coppices, into pyroligneous acid which when purified by lime gives wood spirit, and this is used in the manufacture of methylated spirits.

After a careful inspection the company were entertained by Mr. Turnbull, who gave a sumptuous entertainment, which was heartily partaken of. After thanking the gentleman for his kindness, the party drove to—

BUCHANAN,

where Mr. Murray, factor, and Mr. McCullum, forester, acted as guides through the beautiful park and woods. An inspection of the home nursery was made, which is well filled with forest trees in capital health. Many Oaks and Beeches were passed in the plantations; Spanish Chestnuts were fine. A plantation of eight acres or more of Douglas Firs was seen. This is a grand feature—with an outline of graceful branches of glaucous hue, and trees 75 feet high, and girths of trunks averaging 6 to 6½ feet—is an imposing feature on this truly ducal domain. In the Park—Oaks, Ash, and Sycamores, dotted irregularly, have a charming effect. Fine Larches measured over 10 feet in girth of trunk, clean stems 30 feet or more high, and 75 feet in height to the top. Many fine Douglas Firs were seen in the ordinary woods, large and vigorous. Wellingtonias were noted; Thuia gigantea, and other choice Coniferæ, were passed. One Douglas Fir measured 12 feet 7 inches in girth, and had a height of 90 feet; a fine spreading Yew, with a trunk 12 feet in girth; an Oak, close by, with fine stem 17 feet in circumference. The company was conducted by the guides to the Castle, where His Grace gave all a cordial welcome. Refreshment was placed for the visitors in a tent, to which His Grace directed them in the most kindly manner. A visit to the highest tower of the castle was made, and here one of the grandest views in Scotland is had, the whole landscape being like one vast park. The specimens of Abies nobilis, Cedrus atlantica glauca, Cupressus, Oaks and Birches, make a beautiful picture when looked down upon from the tower.

The spacious gardens under the charge of Mr. Crosbie, who has been gardener at Buchanan over thirty years, are in fine order. The gay terraces, the long borders of flowers, and the vegetable-garden, are most creditable. The number of glass-houses is considerable, and includes a range of over 400 feet long. Fruits outside, Apples in particular, are a good crop.

Mr. Dunn having expressed the thanks of the company to His Grace for the great kindness extended, the party left, full of happy remembrances, for their respective homes.

A VIOLA CONFERENCE.

August 8.—This gathering took place in the Museum of the Royal Botanic Society on the above date, Mr. A. J. Rowberry, the Chairman of the Conference, presiding. There was a fairly good attendance, mainly of members of the National Viola Society, a special summons having been issued by the Secretary. After reading some apologies for non-attendance, the Chairman, in his opening address, stated that two Conference meetings had been held in Birmingham, one in 1894, and one in 1895; and being fully reported in the gardening papers, had attracted a good deal of attention. This led to the conviction that a Conference held in London would command a still greater support. In London and its suburbs there has been during the past few years a great stride made in the cultivation of the Viola, and a successful Conference could be made the means of extending its culture. The Council of the Royal Botanic Society had thrown open their gardens to the Conference, and given facilities for a comprehensive trial of Violas, the results of which would be laid before that meeting. The careful inspection made by a Committee of experts occupied several hours; and their attention was directed to the value of the Viola for general decorative purposes in the garden, quite apart from any considerations as to its uses for exhibition.

The report of the Inspection Committee was then read by Mr. R. Dean, the Secretary of the Conference, from which it appeared that the following varieties had been awarded marks equivalent to a Certificate of Merit:—Princess Louise (A. Irvine), Rosea pallida, Wm. Niel, Bridegroom, J. B. Riding, Pencaitland, Acme, Rose Queen, 217 S., A. Irvine; 596 S., A. Irvine; the Mearns, Archie Grant, Ardwell Gem, Countess of Hopetoun, Princess Ida, Duchess of Sutherland, Sylvia, Rosine, Countess of Wharncliffe, Snowflake, Border Witch, Lord Elcho, Niphetos (syn. Marchioness), Bullion, Lemon Queen, Norah May, Mrs. C. Turner, Luteola, True Blue, Princess Beatrice, Countess of Kintore, and Ivanhoe.

The Committee next proceeded to make selections of the best varieties of different types and colours, dividing them into two main sections—firstly, dwarf-growing, having closer, compact, tufted habits; and secondly, those of a taller and more spreading growth, well adapted for association with other plants which could afford them a certain amount of support—

White.—Niphetos (syn. Marchioness), Countess of Hopetoun, Pencaitland, Snowflake, all dwarf growing. Countess of Wharncliffe and Gigantea (Crane), tall or spreading.

Cream White.—Sylvia and Lemon Queen, dwarf growing. Abington and Nellie, tall growing or spreading.

Primrose or Sulphur.—Ardwell Gem and Luteola, dwarf growing. Sulphurea, tall or spreading.

Deep Yellow. Princess Louise (Irvine), Lord Elcho and Bullion, dwarf growing. Mary Gilbert and A. J. Rowberry, tall or spreading.

Dark Blue. True Blue and Mrs C. Turner, dwarf growing. Archie Grant and Max Kolb, tall growing or spreading.

Blue.—Roland Graeme, dwarf growing; and Ivanhoe, tall or spreading.

Light Blue.—Diana and Blue Gown, dwarf growing; and Favourite, tall growing.

Lavender or Lilac.—Roseapallida and Lottie McNiel, dwarf growing. Duchess of Sutherland, Bridegroom and Nabob, tall or spreading.

Purple.—Acme and Mrs. Gordon, dwarf growing. J. B. Riding and Dorothy Tennant, tall or spreading.

Rose.—Princess Ida and Rose Queen, dwarf growing. Wm Niel, Rosine and Magie, tall or spreading.

Blush. Charm and Norah May, tall or spreading

There were no dwarf growing varieties of this colour.

Edged or Bordered.—Duchess of Fife, Border Witch and Blue Cloud, dwarf growing. Cissy Thornley and Colleen Bawn, tall or spreading.

Fancy: Countess of Kintore type, &c.—The Mearns, Bethune, Cissy Mellowes and Columba, dwarf growing. Countess of Kintore, Isabel Spencer, Princess Beatrice, Lady Amory and Mrs. Bellamy, tall or spreading.

Striped.—Lily Langtry and H. W. Stewart.

VIOLAS FOR LONDON PLANTING.

The Chairman having inquired if any one desired to discuss the selection made by the Investigation Committee, Mr. P. G. Sinclair referred to Violas which had stood well in London, near to Highgate Hill, in a smoky atmosphere, instancing the following varieties as most valuable for London planting, viz., Lady Isabel, Ardwell Gem, Goldfinch, Lemon Queen, Charm, Duchess of Fife, Countess of Kintore, J. B. Riding and White Duchess. The plants were put out in March last. Violas were a leading feature of his garden, but he always made a point of changing every year the spot upon which the Violas grew. Mr. W. Cuthberison (Dobbie & Co.) pointed out that all the Violas, except Lady Isabel, mentioned by Mr. Sinclair, were in the selection of Violas made by the Committee. Dr. Shackleton, as residing in the South of London, said that Iona had done well with him, in addition to most of the Violas named by Mr. Sinclair. He thought the Conference might turn its attention to the causes of Viola plants dying off suddenly, and especially those planted out previous to the winter. He had endeavoured to discover the cause, but had not yet succeeded to his satisfaction. Duchess of Fife generally does well in his garden, but many had died off this year from some cause.

VIOLA ILLUSTRATIONS.

The Secretary, Mr. R. Dean, then laid upon the table copies of Viola studies Nos. 1 and 2, the former being a series of diagrams and coloured illustrations, dealing with "Tricolores," which had been presented to him by Dr. Veit B. Wittrock, Director of the Botanical Garden, Bergisland, Stockholm, in order that the Conference might gain some idea of the work in which Dr. Wittrock was engaged. No. 2 was "A Contribution to the History of the Pansies," with an English abridgment, which Mr. Dean stated had appeared in two consecutive editions of the *Gardeners' Chronicle* in June last. In a communication from Dr. Wittrock he stated that the plates belong to a paper upon Violas, of the Section "Tricolores," that will be published in some weeks. They contain figures, with microscopic analyses, of almost all the parent species of the cultivated Pansies. Viola tricolor L. is represented on the plates I—IV, and partly also on the plates X—XII, by numerous, mostly new, subspecies, varieties and forms; Viola lutea, Huds., on the plates VI, VIII, and IX; Viola cornuta, L., is depicted on the plate VII, and V. calcarata on VII and VIII. Besides these there are Bosnian Viola latisepala, on plate VII; the Hungarian V. declinata, Waldst & Kit., the French V. hispida, Lam. (=rothomagensis), and the Algerian V. Mumbyana, on plate XI. Of Viola arvensis, Murr. (which seems to Dr. Wittrock to be a very "good species"), there exists some figures, showing different new subspecies, on the plates V, VI, X, and XII. Hybrids of the species Viola cornuta, V. latisepala, V. lutea, V. tricolor, and V. arvensis, on plates VII, VIII, IX and X. "All the figures were drawn, under my direction, most accurately by skilful artists, after living specimens, which for the most part have been cultivated in our Botanic Garden, or have been collected wild here in Sweden." On the motion of Mr. Sinclair, the Secretary was requested to convey to Dr. Wittrock the thanks of the Conference, and also to express him their hearty appreciation of the importance and value of the work he is accomplishing.

(To be continued.

CLAY CROSS FLORAL AND HORTICULTURAL.

August 11.—Annual exhibitions have been held at Clay Cross continuously for thirty-nine years, and it is still the best in the county of Derbyshire, owing to the action of the committee in increasing their prize money beyond that offered by their keen rivals at Tibshelf and Chesterfield. The attendance at the exhibition on Tuesday last was very large.

In the class for groups, Mr. J. Ward, gr. to Mr. T. H. Oakes, J.P., of Riddings House (where some most remarkable Crotons have been cultivated), has held his own for eight years in succession. It is doubtful if a finer group than Mr. Ward put up on this occasion has been seen in England this year. This is probable from the fact that Mr. J. Edmonds, gr. to the Duke of St. Albans, who was 2nd, showed the same group which was awarded 1st prize and the Silver Cup at Chester last week; and Mr. C. Mee, of Daybrook Vale, who was 5th here, was 1st at Leicester with a similar arrangement. Mr. Ward also received the premier award for the smaller group, occupying 100 feet; and Mr. M. W. Haslam, of Hardstoft, who was not noticed at Chesterfield, secured the 2nd prize. Mr. Ward's group, covering an area of 200 feet, contained a most comprehensive variety of plants; the quality and growth were superb, and the arrangement most artistic. The centre piece was a Kentia Palm, which was surrounded in hill and dale with Lilium auratum, beautifully-coloured Crotons, lovely salmon coloured Ixoras, Orchids, Eulalias, Ferns, and Mosses.

Bouquets produced a lively competition, the exhibits running the whole length of one of the three large marquees. In the end, Messrs. Proctor & Sons, of Chesterfield, triumphed over Messrs. Pearson & Sons, of Chilwell Nurseries, for the bride and bridesmaid's bouquets.

The fruit throughout called for many comments, and the Melons, Peaches, and Nectarines were specially fine.

CARDIFF HORTICULTURAL.

August 12.—This was the eighth annual Exhibition of this Society, and by a happy arrangement with the promoters of the Cardiff Exhibition, now in course of being held, the Flower Show was associated with it, the marquees being pitched on the western side of the ground. The entries were numerous, some £300 being offered in prizes, besides cups and medals, and the classes were generally well filled. On the whole the show was a very good one, and the weather being fine there was a very large attendance.

In the division for Plants open to all, stove and greenhouse plants played an important feature, though the flowering specimens were included in another division. Mr. T. Clark, gr. to Sir E. S. Hill, M.P., had the best four Fuchsias, fairly good, though not equal to what we are accustomed to see in the West of England. Mr. W. L. Blake, Cardiff, was 2nd.

Stove and Greenhouse Ferns, shown in sixes, were a leading feature, and some very fine specimens were staged; the best six came from J. Gunn, Esq., J.P., Llandaff, Mr. R. McLeod, gr., chief among them being Davallia Mooreana, a splendid piece; Asplenium nidus, very fine; Gymnogramma chrysophylla, Adiantum Farleyense, a fine Cibotium, and Adiantum trapeziforme. Mr. Hockey, gr. to Col. Page, Cardiff, was 2nd; he had also Davallia Mooreana, very fine; Adiantum tenerum, and Davallia solida.

Zonal Pelargoniums were in good specimens, though not so good as we have seen them at Cardiff. Some fairly good Begonias, double and single, were staged, but they are susceptible of improvement.

Groups of Plants were shown in three or four classes; the principal one, filling a space of 100 superficial feet, came from Messrs. Cave Bros., Florists, Cardiff, and like the others competing in this class, it was arranged in a circle, and was composed of Palms, bright Crotons, Lilies, &c., rising out of a bed of fern; the whole edged with Panicum and other plants of like character.

The smaller groups, occupying a space of fifty feet, were arranged at the side as semicircles. Here Mr. R. McLew, gr. to J. Gunn, Esq., J.P., Llandaff, was 1st. The best group, occupying twenty-five feet, came from Mr. Rix, gr. to C. Wallbon, Esq., Llandaff; Mr. G. Hall, gr. to E. Lyle, Esq., Llandaff, was 2nd.

There was also a class for a collection of Tuberous-rooted Begonias in flower, Mr. T. Clarke being 1st, and Mr. T. Malpas, gr. to J. L. Thorne, Esq., Cardiff, 2nd; both being very gay with colour.

In the division for amateurs and gentlemen's gardeners, the best six stove and greenhouse plants came from Mr. T. Lockyer, Pontypool Park Gardens, who had six finely-grown and flowered examples of Bougainvillea Sanderiana in very fine condition; a capital piece of Gloriosa superba, Allamandas Hendersoni and nobilis, Anthurium Scherzerianum, and Statice profusa; 2nd, Mr. T. Clarke, who had good specimens of Justicia carnea, Allamandas Hendersoni and grandiflora, Bougainvillea glabra, and others. Tuberous Begonias were shown in sixes, and Zonal Pelargoniums in fours, all fairly grown and bloomed.

Mr. W. J. Buckley, Llanelly, had the best four fine foliaged plants, staging a huge Latania borbonica, a fine Cycas circinalis, and two highly-coloured Crotons; Mr. Mabbott, gr. to E. P. Martin, Esq., Dowlais, was 2nd.

With four ferns Mr. J. Gunn was first, an excellent even quartette, fresh and bright, consisting of Adiantums tenerum, Farleyense, and cuneatum, and Microlepia hirta cristata; Colonel Page was 2nd, having a good piece of Davallia Mooreana, with Adiantum tenerum.

The best specimen stove and greenhouse plant was a grand piece of Clerodendron Balfourianum from Mr. Locker, and this was also awarded the Williams Memorial Medal as the best specimen plant in the show.

In the Cut Flower Division Roses made a very pleasing feature indeed, being so much better than could have been expected. The best twelve trebles came from Mr. Stephen Treseder, Cardiff, who had Duchess of Bedford, Dupuy Jamain, Mrs. J. Laing, Alfred Colomb, Madame Victor Verdier, Mons. E. Y. Teas, Dr. Audry, François Michelon, Fisher Holmes, &c.; 2nd, Mr. R. Crossling, Penarth, who had Dupuy Jamain, Victor Hugo, very fine, Duchess of Bedford, Jean Soupert, Prince Arthur, and Capt. Christy.

For twelve Teas in trebles Mr. S. Treseder was again 1st, having in fine character Maréchal Niel, Madame Hoste, The Bride, Media, Pelè des Jardins, Maman Cochet, Bridesmaid, François Kruger, &c.; 2nd, Mr. R. Crossling, his best blooms being François Kruger, Media, Madame Lanbard, and Rubens.

With twenty-four distinct varieties Messrs. Townsend & Son, nurserymen, Worcester, were 1st, having very good blooms of A. K. Williams, Madame E. Verdier, Mons. E. Y. Teas, Etienne Levet, Alfred Colomb, Star of Waltham, Charles Lefebvre, &c. Mr. S. Treseder was 2nd, his leading blooms being Victor Hugo, Madame Eug. Verdier, A. K. Williams, Mons. E. Y. Teas, Eugene Verdier, &c.

With eighteen varieties of Teas, Mr. S. Treseder was 1st, with excellent blooms of Maman Cochet, Mrs. S. Treseder, a sport from Anna Olivier, Madame H. Jamain, The Bride, Bridesmaid, Rubens, Hon. H. E. Gifford, and Mr. James Wilson, being his best; Messrs. Townsend & Son were 2nd. Messrs. Townsend & Son were 1st with 12 blooms of any one variety, having Mrs. J. Laing in superb condition; and the best twelve Teas of any one variety also came from Messrs. Townsend, they having The Bride.

Dahlias in twelves were fairly well shown. Mr. W. Treseder, nurseryman, Cardiff, was 1st with twenty-four, and Messrs. W. Heath & Son, nurserymen, Cheltenham, were 2nd. The best twelve bunches of Cactus varieties were also from Mr. W. Treseder. He had, in capital condition, Mrs. Wilson Noble, Bertha Mawley, Cannell's Gem, Harmony, and Miss A. Jones. Mr. John Basham was 2nd. Dahlias were also shown by gentlemen's gardeners and amateurs.

Asters and Phloxes were much below their usual form. There were some good collections of twelve bunches of hardy perennials, also of cut zonal Pelargoniums, stove and greenhouse cut flowers, and Carnations.

Fruit made a good feature also. The best six bunches of Grapes, in not fewer than three varieties, came from Mr. R. Grimrod, who had finely-finished examples of Gros Maroc, Bowood Muscat, Black Hamburgh, and Foster's Seedling. Mr. T. M. Franklen Hilary was 2nd with Gros Maroc, Muscat of Alexandria, and Alicante—two bunches of each. Grapes were in stands of three bunches, and also in single bunches, but owing to the crowded tents it was difficult to get particulars.

Mr. R. Grimrod had the best six dishes of fruit, staging good examples of Muscat of Alexandria Grapes, fine Peaches, Nectarines, Figs, &c.

Apples, both dessert and culinary, were very fine; Mr. G. Garraway, Bath, being 1st with six dishes of dessert, as well as the same number of culinary varieties. Cherries, Gooseberries, Pears, &c., were very good, but the act of gathering up particulars was physically impossible.

The Vegetable tent was No. 5, and in the open class there were four collections, all very even and well selected. The 1st prize was won by Mr. S. Williams, Glyn Neath, who had remarkably good examples; and Mr. G. Garraway, Bath, was 2nd.

Seven collections competed for Messrs. Sutton & Sons' Special Prizes, and here also high quality was conspicuous. The 1st prize went to Mr. C. Foster, gr. to Gen. Lee, Denis Powis.

Messrs. Garraway & Co.'s Special Prizes also brought very good results. 1st, Mr. E. P. Martin (gr., W. Mabbott); 2nd, Mr. D. Powell, gr. to Col. Waldy, Newport.

Potatos in six dishes were very good indeed for the season, white and coloured. There were eleven collections of six dishes, and three or four of them came very close together.

Beet was in plenty and of several varieties, and Cauliflowers, Turnips, Potatos in dishes or half pecks; very fine Celery, Carrots, Onions, Parsnips, Leeks, Peas very good for so late. Grand Scarlet Runners, excellent Broad Beans, Cucumbers, Tomatos, Lettuce and Vegetable Marrow.

Cottagers' Productions filled one spacious tent. Among the leading plants were zonal Pelargoniums, double and single, but in very large pots, generally very good specimens variegated; capital bush Fuchsias; some highly creditable Begonia Weltoniensis, tuberous Begonia, one good specimen of the Rex type. Good Musks, Harrison's especially; Myrtle, Mignonette, collections of six plants, very good; the best two Fuchsias and two zonal Pelargoniums, and two double Petunias, all grown in windows.

Collections of cut flowers, in six bunches, were remarkably good: Salpiglossis, Sweet Peas, Gaillardia Lorenziana, Drummond's Phlox, Gladiolus, Anemone japonica alba, tuberous Begonias, Asters, Malope grandiflora, Roses, Stocks, Verbena, &c. Then there were Dahlias in sixes, one half-dozen in particular being very good. Phloxes, rather poor and past their best, with classes for Carnations, Asters, Stocks, African Marigolds; some very fine orange-coloured blooms being staged. French Marigolds, a few handsomely striped Pansies, and baskets of wild flowers.

Then of vegetables, there were excellent collections of nine dishes, worthy of any gardener. Potatos, clean, bright and handsome; good Cauliflowers, superb Celery, highly-coloured clean Carrots, the Nantes and new red intermediate being prominent; capital Parsnips, fine Onions, autumn and spring, with Peas, Scarlet and French Beans, very good Broad Beans for the season, Cucumbers; Cabbages, red and green, in great abundance, and all very good; Turnips, Leeks, some admirable for the season; Vegetable Marrows, though rather large; Rhubarb, Shallots, most of them very fine and well selected, and baskets of Parsley.

Enquiry.

"He that questioneth much shall learn much."—Bacon.

Can any reader give me the address of a firm who makes or supplies a hand-machine for filling small seed pockets? *G. B.* [Dealers should advertise their wares. Ed.]



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (−) the Mean for the week ending August 8.	Temperature. Accumulated. Above 42° for the Week.	Below 42° for the Week.	Above 42°, difference from Mean since December 29, 1895.	Below 42°, difference from Mean since December 29, 1895.	Rainfall. More (+) or less (−) than Mean for the Week.	No. of Rainy Days since Dec. 29, 1895.	Total Fall since Jan. 1, 1896.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Dec. 29, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch		Ins.		
0	2 —	73	0	+ 243	− 318	8 —	147	31·0	25	24
1	3 —	85	0	+ 244	− 241	5 —	115	14·0	24	31
2	3 —	95	0	+ 285	− 222	1 —	94	10·2	13	31
3	5 —	99	0	+ 236	− 229	0 aver	96	10·8	24	37
4	4 —	97	0	+ 277	− 247	3	91	10·5	22	34
5	3 —	120	0	+ 308	− 240	1 —	83	9·2	31	39
6	2 —	96	0	+ 277	− 228	9 —	120	24·3	41	33
7	3 —	102	0	+ 304	− 258	7	106	16·7	26	35
8	2 —	116	0	+ 306	− 206	6 —	90	12·3	48	43
9	3 —	99	0	+ 298	− 233	8 —	126	21·3	37	29
10	1 —	109	0	+ 384	− 210	8 —	104	17·5	45	35
*0	aver	138	0	+ 502	− 109	1 +	98	9·8	58	48

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London. S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

Markets.

COVENT GARDEN, AUGUST 13.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. Ed.]

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Arums, p. 12 blooms	2 0	4 0	Marguerites, per 12 bunches	1 0	2 0
Asters, French, bun.	1 0	1 3	Orchids:—		
— English, dozen bunches ...	3 0	6 0	Cattleya, 12 blms.	6 0	12 0
Bouvardias, per bn.	0 4	0 6	Odontoglossum crispum, 12 bm.	2 0	6 0
Carnations, 12 bun.	4 0	6 0	Pelargoniums, scarlet, per 12 bun.	2 0	4 0
— 12 blooms ...	0 6	2 0	— per 12 sprays...	4 0	6 0
Chrysanthemums, doz. bun.	4 0	6 0	Pyrethrums, 12 bn.	2 0	4 0
— doz. blooms	0 6	1 6	Roses, Tea, per doz.	0 9	1 6
Eucharis, per dozen	1 6	2 0	— coloured, doz.	0 9	1 6
Forget-me-nots, p. doz. bunches ...	1 6	3 0	— yellow (Marechal), per doz.	2 0	4 0
Gardenias, per doz.	1 0	3 0	— red, per dozen	0 6	1 0
Gladiolus, coloured, per doz. sprays ...	1 0	1 6	— red, doz. bun.	4 0	6 0
Lavender, doz. bun.	6 0	9 0	— Gloire, doz. bn.	4 0	6 0
Lilium Harrisii, per doz. bunches...	2 0	4 0	— Safrano, p. doz.	1 0	2 0
Maidenhair Fern, per 12 bunches...	4 0	8 0	Stephanotis, 12 sps.	1 6	2 0
Mignonette, p. doz.	2 0	4 0	Stocks, p. doz. bun	2 0	4 0
			Sweet Peas, 12 bun.	1 6	3 0
			Tuberoses, 12 blms.	0 2	0 4

Orchid-bloom in variety.

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Adiantum, per doz.	4 0	12 0	Ferns, various, doz.	5 0	12 0
Aspidistra, per doz.	12 0	30 0	Ficus elastica, each	1 0	7 6
— specimen, each	5 0	15 0	Foliage plants, doz.	12 0	36 0
Asters, doz. pots ...	3 0	5 0	Heliotrope, per doz.	4 0	6 0
Balsams, per doz...	3 0	6 0	Hydrangea, various per doz.	6 0	12 0
Campanula, p. doz.	4 0	9 0	Lilium Lancefolium, p. doz. pots	9 0	18 0
Chrysanthemum, do.	4 0	9 0	Marguerites, p. doz.	6 0	10 0
Cock's-combs, doz.	3 0	4 0	Mignonette, p. doz.	4 0	6 0
Coleus, per doz. ...	2 0	4 0	Palms various, ea.	2 0	10 0
Dracæna, each ...	1 0	7 6	— specimens, ea.	10 6	84 0
— various, p. doz.	12 0	24 0	Pelargoniums, doz.	6 0	9 0
Evergreen Shrubs, in variety, doz...	6 0	24 0	— Scarlets, p. doz.	2 0	4 0
Ferns, small, doz. ...	1 0	2 0	Bedding Plants in variety.		

Fruit.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Apples, cooking, in variety, per sieve...	2 6	4 0	Grapes, Gros Maroc, per lb	1 9	
— dessert, in variety, per ½-sieve	2 6	4 0	Figs, per doz. ...	1 0	1 6
Apricots, per doz.	1 0	2 0	Melons, each ...	1 0	1 6
Grapes, Alicante, 1st quality, per lb.	1 6		Nectarines, 1st size per doz. ...	6 0	
— Hamburgh, 1st quality, per lb.	1 6		— 2nd do., p. doz.	3 0	
— Alicante, 2nd quality, per lb.	1 0		Nuts, Cob, per lb.	0 8	
— Hamburgh, 2nd quality, per lb.	0 9	1 0	— Filberts, do. ...	0 6	
— Gros Colmar, per lb.	1 9		Peaches, 1st size, per doz. ..	6 0	
— Muscats, English, per lb. ...	2 0	2 6	— 2nd do.. doz.	3 0	
— Muscat, Channel Islands, per lb.	1 0	1 6	— 3rd do., doz.	1 6	2 0
			Pears, Williams, p. half-sieve ...	2 6	3 0
			Pine-apples, St. Michael, each ...	5 0	6 0
			Plums, in variety, per ½ sieve ...	2 0	3 0
			— Green Gage, p. ½-sieve ...	4 0	

Vegetables.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Beans, Scarlet Runner, p. sieve ...	2 0		Mushrooms, (Indoor) per lb.	0 6	
Cucumbers, home-grown, per dz.	1 6	2 6	— (Outdoor), per half-sieve ...	3 0	
— Ridge, per pad (about 10 doz.)	5 0		Peas, per sieve ...	5 0	6 0
— Dutch, per doz.	1 0		Tomatos, home-grown, smooth, per doz lb. ..	4 6	5 0
Marrows, Vegetable, per 5 doz. tally ...	4 0		— ord. kinds, do.	3 0	4 0

Potatos.

Best samples do not come to hand quite as freely as last week, and prices for such have a tendency to rise. Inferior samples are still plentiful at last week's prices. *J. B. Thomas.*

FRUIT AND VEGETABLES.

	Borough. Aug. 11.	Spitalfields. Aug. 11.	Stratford Aug 11	Farringdon. Aug. 13.
Vegetables.	s. d. s. d.	s. d. s. d.	s. d. s. d.	s. d. s. d.
Beans, run. p. bus.	2 3 2 6	2 6 3 0	2 2 3 2	2 6 3 0
,, broad p. bus.	2 3 2 6	2 6 3 0	.. ..	.. ..
Cabbages per tally	1 6 3 0	1 4 2 0	0 5 0 10	0 5 0 0
Carrots per 12 buns	2 9 3 1	2 10 3 2	0 10 1 6	2 6 3 0
Cauliflowers				
Lettuce per score	0 2 0 0	0 2 0 0	0 9	0 10 .. ..
Onions per bushel	3 6 4 0	3 0 3 4	0	.. .. ..
Marrows per doz.	1 6 2 0	1 6 2 0	.. ..	.. .. ..
Tomatos per lb	0 4 0 6	0 4 0 6	0 5 0 6	.. .. ..
Fruit.				
Apples per bush.	3 0 4 6	3 0 4 6	2 6 6 6	3 6 5 0
Grapes per lb.	1 0 1 6	1 0 1 6	.. ..	.. .. ..
Green Gages ½-sieve	1 6 2 0	1 6 2 0	0 9 1 6	.. .. ..
Peaches per box	0 8 0 0	0 8 0 0	.....	.. .. ..
Plums half bush.	0 4 0 6	0 4 0 6	0 5 0 6	0 6 0 0

SEEDS.

London: *August* 12.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report a strong inquiry for Trifolium at advancing rates, supplies meantime are rapidly falling off. Fine new home-grown winter Vetches come good and cheap. Choice new crop Essex Giant Seed Rye, is also most reasonable. White Mustard is in brisk request on former terms. Sowing Rapeseed keeps steady. Some extra bold new Spanish Canary seed has just arrived. Buckwheat commands a sudden and substantial advance. Linseed is dearer. Peas and Haricots are this week without feature. The Board of Trade Returns give the imports of Clover and Grass seeds into the United Kingdom for the first seven months of this year as cwts. 275,051, value £489,138, as against cwts. 240,749, value £564,063 for the corresponding period of 1895.

Notices to Correspondents.

Apricots: *Apricot.* Most are sound enough, but one is rotten, and there is nothing in the fruit to show the cause. The names you require are—1, Kaisha; 2, Shipley's.

Cauliflower: *John Adams.* Clubbing, due to a slime-fungus. Burn all the affected plants, and be careful not to grow any of the Cabbage tribe on the same soil. Gas-lime has been used with advantage.

Disused Boxes, &c.: *W. C.* They may or may not be valuable, we cannot tell. You had better advertise them. In regard to the second question, it is impossible to say to what cause the disfigurement to your plants is due, unless we had some knowledge of the conditions under which they have been grown. A check to growth, from whatever cause, would produce the injury you complain of.

Employment in India: *Thea.* Many such positions as you desire are filled by graduates from the Royal Gardens, Kew. We are unable to direct you as to the best means to adopt in order to secure a situation in a private Tea plantation.

Grapes: *Constant Reader.* We imagine from your description that the berries are "shanking," but you should send us specimens. Have you made quite sure that the Vines are not rooted in the outside ground referred to, and that they have not descended too deeply? None need be deeper than 2 feet from the surface. Do not over water the border, neither allow the laterals to grow so long that the removal of them becomes a check.

Interpretation of Schedule: *Hortus.* The difficulty arises from the vague wording adopted by those who are responsible for the compilation of the schedule. "Twelve bunches of cut flowers, distinct, outdoor, not more than one variety in a bunch." Literally, a competitor appears to be entitled to exhibit exotic species which have been cultivated out-of-doors, but which are not necessarily hardy. It is likely, however, that it was intended by "outdoor" to signify hardy flowers, and we are not prepared to say you would not be liable to disqualification were you to exhibit such flowers as Begonias and Pelargoniums. But such a course would hardly be just. "For the best six dishes of fruit, distinct sorts." In this case we are inclined to the opinion that an exhibit would not be disqualified on the score that it contained two dishes of Grapes, one a white and the other a black variety. The schedule, however, should be more explicit and precise. See the *Rules for Judging* issued by the Royal Horticultural Society.

Lilium auratum Stems: *E. P. & Co., Bristol.* Fasciated stems are usually due to over-growth, the result of too abundant nutriment—not uncommon.

Melons Affected by Bacteriosis: *J. F. S.* has sent us specimens of diseased Melon plants, which attacks the stem at the joints, where it becomes brown, soft, and rotten in a very short time. There is no external appearance of mould or pustule, and yet the plants fail, and are killed speedily, whilst beforehand they appeared to be in vigorous health. Microscopical examination showed that all the cells in the diseased spots swarmed with minute bacteria-like bodies about 5 micromillemetres long or more, and in the latter case divided in the centre. From information supplied, we gather that "nineteen plants were lost, when the whole house was cleared out and washed, syringed with a mixture of paraffin, and then a fresh bed was made with fresh loam, but still the disease is there. It is added that the plants have been kept as dry as possible to obviate any chance of damp." Reference may be made to an account published in the *Botanical Gazette*, November, 1891, and quoted in this journal, describing a form of disease in the United States, which attacked Melons, Cucumbers, and Gourds, and was capable of being transferred to Tomato plants. Not only were the stems affected near the roots, but also the fruits. In all cases the bacteria-like bodies were swarming at the affected spots. Shortly after this period, we saw Gourds grown in the open in this country, the stems of which rotted off near the ground, and we attributed the cause somewhat reservedly to this disease. There are one or two facts which must be borne in mind in all efforts to deal with the present pest. Firstly, that it is an endophyte; that it is fully established within the tissues of the plant before there is any external manifestation, so that when the plants are seen to be diseased it is too late to apply outward solutions. Secondly, that it has been shown that by transferring the juice of these decayed spots to healthy plants, these can be inoculated artificially with the same disease. Hence the disease is liable to spread rapidly unless attended to, and all diseased plants rooted up and burnt. We must all regret that this new disease should have made such a definite appearance in this country, but, if its spread is to be prevented, drastic measures will have to be taken, and it will have to be stamped out. It

might possibly be an advantage to apply some copper solution to young and healthy plants as a preventive, perhaps at intervals of three or four days, but we can suggest nothing which would save the plants after there is any external manifestation of the disease (see *Gardeners' Chronicle*, June 3, 1893, p. 668). *M. C. C.*

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to be so good as to consult the following number.—F., Leeds.* 1, Dactylis glomerata variegata; 2, Cyrtomium falcatum; 3, Polystichum angulare; 4, Asplenium bulbiferum; 5, Davallia bullata; 6, Polypodium aureum.—*Wales.* 1, 2, and 3, all varieties of Odontoglossum luteopurpureum; 4, Odontoglossum Lindleyanum.—*S. L.* Epidendrum aciculare.—*A. B.* Cuscuta europæa, Dodder.—*Anemo.* 1, Perhaps Erica arborea; 2, Cotoneaster Simonsi; 3, Escallonia rubra; 4, Cupressus pisifera var. squarrosa (Retinospora of gardens); 5. Euonymus japonicus variegatus.—*W. G.* Syringa Josikæa.—*S. S.* 1, Pastinaca sativa; 2, Symphytum officinale; 3, Stachys sylvatica; 4, Hypochæris radicata; 5, Melilotus alba; 5, Euphrasia officinalis.—*R. J. L.* Scolopendrium vulgare crispum.—*J. O. E.* 1, Lælio-Cattleya × Schilleriana; 2, Lælia crispa; 3, Miltonia spectabilis.—*C. B.* 1, Berberis vulgaris; 2, Hibiscus syriacus, the Althea frutex of gardens. Fruits next week, and further answer.—*J. H. B.* Angelica sylvestris.—*Solanum.* We cannot undertake to name varieties of Potatos.

POTATO: *E. M. B.* The appearance is due to irregular and excessive growth, probably due to the insect puncture, but we will examine and report later on.

RENOVATING VINE BORDER: *J. D.* The treatment you suggest would be beneficial. Do not allow the roots to run under the gravel-path. See note upon Vines in our Calendar in present issue, and by similar treatment recommended there, endeavour to keep the roots near the surface, where you can feed them as occasion requires.

TOMATOS: *A. H.* The foliage shows no trace of disease, and there is little to indicate the cause of failure, except a suggestion of stagnant water at the roots. Nearly all the roots are curiously hypertrophied with nodules resembling the clubbing of Cabbages in miniature. We failed to find in any of the cells the plasmodia of Plasmodiophora, but there is more suggestion of that than of anything else. *M. C. C.—W. W.* We can see no disease in your Tomato foliage, but it is weak, as if deficient in ventilation. Evidently there is some failure in cultivation; possibly too crowded, and with too little ventilation. Any fungus disease would soon show itself on the leaves. *M. C. C.—Market Gardener.* Frogmore Selected, The Polegate, Sutton's Maincrop, and Tender-and-True, are all capital varieties for the purpose you require them, or for gardens generally. They are all free heavy croppers of the Perfection type.

TOMATO, A FRUIT OR VEGETABLE: *W. M.* The Tomato, from a botanical standpoint, is a fruit. It is also used as a dessert fruit by many people. In regard to exhibiting this vegetable product, it has been found convenient by most societies to include it with the vegetables or salads, and the decision of the judges in your case was by no means extraordinary. In the *Rules for Judging*, issued by the Royal Horticultural Society, which for the present should be the recognised authority for the settlement of such points, is the following:—"Tomatos are only recognised as dessert fruits where specifically admitted by the particular schedule, thus: 'Tomatos admissible.'"

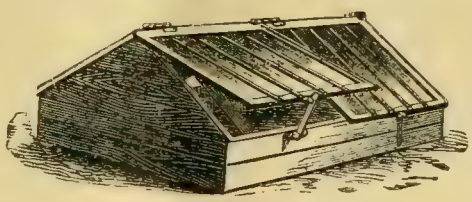
COMMUNICATIONS RECEIVED.—F. H.—H. G., Cardiff.—Torenia, next week.—J. F. S., next week.—W. T. T. D.—Sir C. D.—E. R., Ghent.—M. B., Middleburgh.—E. C.—J. B.—Dundee.—W. C.—Smithsonian Institution.—W. T.—John Cobham.—H. M.—J. B.—C. T. D.—D. R. W.—J. B.—D. R. W.—D. M.—A. D.—Nemo.—W. L.—D. C.—C. B.—G. P.—H. M.—C. W. D.—D. T. F.—G. A. B.—Adnit & Naunton, with thanks.—J. F. S.—A. J. L.—E. M. B.—D. J. H. Amateur, next week.

PHOTOGRAPHS, SPECIMENS, &c., RECEIVED WITH THANKS.—K. D., La Mortola.—*H. D.* Many thanks, but not exactly suitable for reproduction.

MARRIAGE.—On August 6, at Westerham Church, by the Rev. C. H. Thompson, brother of the bride, assisted by the Rev. H. C. Bartlett, Vicar of Westerham, FRANCIS WALL OLIVER, son of Daniel Oliver, Esq., F.R.S., of Kew, to MILDRED ALICE, youngest daughter of the late C. R. Thompson, Esq., Westerham. No cards.

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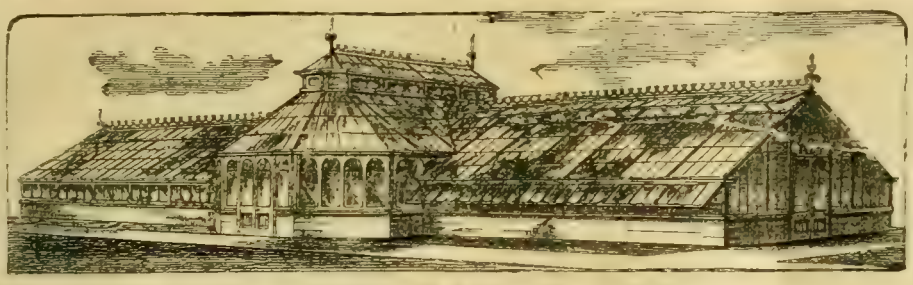
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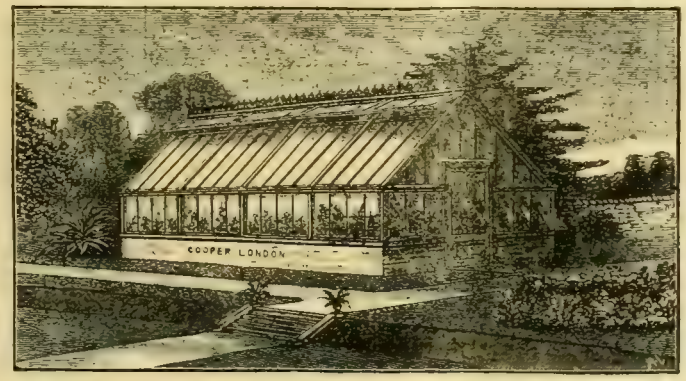
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Mr. FREDK. HARBRON, for the past two-and-a-half years Foreman at the Botanical Gardens, Sheffield, as Gardener to W. CHESTERMAN, Esq., Eastwood Grange, Ashover, near Chesterfield.

Mr. W. BUTTON, late Gardener at Chedington Court, Crewkerne, as Gardener to Major-General R. T. GOODMAN, Highden, Pulborough, Sussex.

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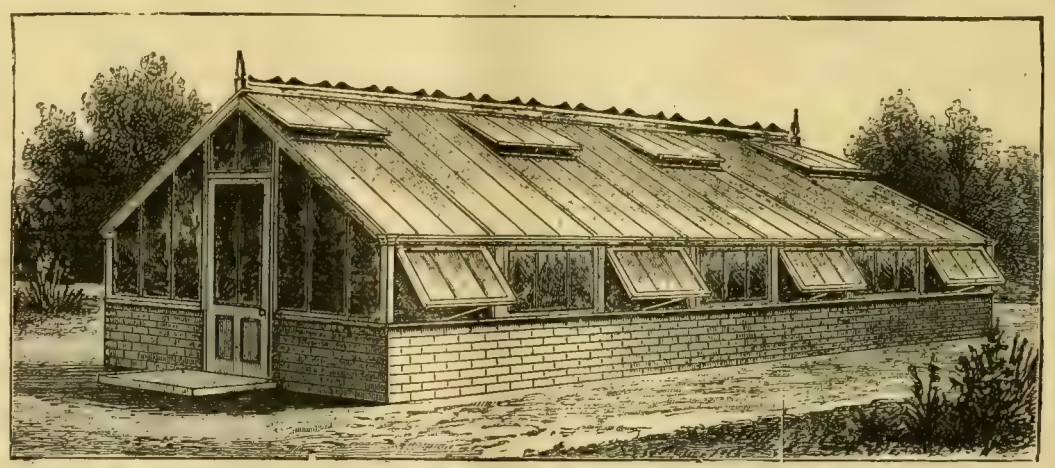
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Editorial communications should be addressed to the "Editor;" Advertisements and Business Letters to "The Publisher," at the Office, 41, Wellington Street, Covent Garden, London, W.C.
Printed for the Proprietors by Messrs. Bradbury, Agnew, & Co. (Limited), Lombard Street, Precinct of Whitefriars, City of London, in the County of Middlesex, and published by Harry Gillard Cove, at the Office, 41, Wellington Street, Parish of St. Paul's, Covent Garden, in the said County.—Saturday, August 15, 1896. Agent for Manchester—John Heywood.

The Gardeners' Chronicle

ESTABLISHED 1841. No. 2904.

No. 504.—Vol. XX. { Third Series. } SATURDAY, AUGUST 22, 1896. { Regt. as a Newspaper. } PRICE 3d. Post-free, 3½d.

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MONDAY and THURSDAY NEXT.

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OF

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WEDNESDAY, September 9.—At the LONGLAND'S NURSERY, SIDCUP, by order of Messrs. Gregory & Evans. First portion.

THURSDAY, September 10.—At the MILL LANE NURSERY, CHESHUNT, by order of Mr. E. Rochford.

FRIDAY, September 11. — At the AVENUE NURSERY, BEXLEY HEATH, by order of Messrs. P. H. & J. Cooper.

MONDAY, September 14.—At the DYSON'S LANE NURSERY, Upper Edmonton, by order of Mr. H. B. May.

TUESDAY, September 15.—At the BURNT ASH LANE NURSERIES, LEE, S.E., by order of Messrs. B. Maller & Sons.

WEDNESDAY, September 16.—At the NURSERIES, SOUTH WOODFORD, by order of Mr. John Fraser.

THURSDAY, September 17.—At the BRIMSDOWN NURSERY, ENFIELD HIGHWAY, by order of Mr. John Maller.

FRIDAY, September 18.—At the LONGLAND'S NURSERY, SIDCUP, by order of Messrs. Gregory & Evans. Second portion.

Further particulars will appear, and Catalogues will be ready in due course, and will be forwarded free by post on application to the Auctioneers, 67 and 68, Cheapside, London.

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- Adiantum elegans, in 60-pots
- 5,000 Genistas, in 48-pots
- 6,000 Maidenhair Ferns
- 5,000 Ferns, in variety
- 2,000 Solanums
- 4,000 Carnations, consisting of Miss Joliffe Improved, Mad. Therese Francon, Malmaison, &c.
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- Clematis, Ampelopsis

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- 2,000 Tree and other Carnations
- 2,500 Solanums, well berried, in 48-pots
- 1,000 Genistas, in 48 pots
- 10,000 Heaths, in 48 and 60-pots
- 1,000 Clematis, of sorts
- 3,000 Pinks, Her Majesty
- 15,000 Ferns, of sorts, in 60 pots
- 500 Asparagus plumosus nanus, in 48-pots
- 200 Asparagus tenuissimus, in 32-pots

Also Ficus elastica, Ficus elastica variegata, Crotons, &c.

May be viewed any day prior to the Sale. Catalogues may be had on the Premises; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Friday Next

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, August 28, at half-past 12 o'Clock, by order of—

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OCTOBER 19, 20, 21, 22, 23, & 24, 1896.

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BAGSHOT, AUGUST, 1896.

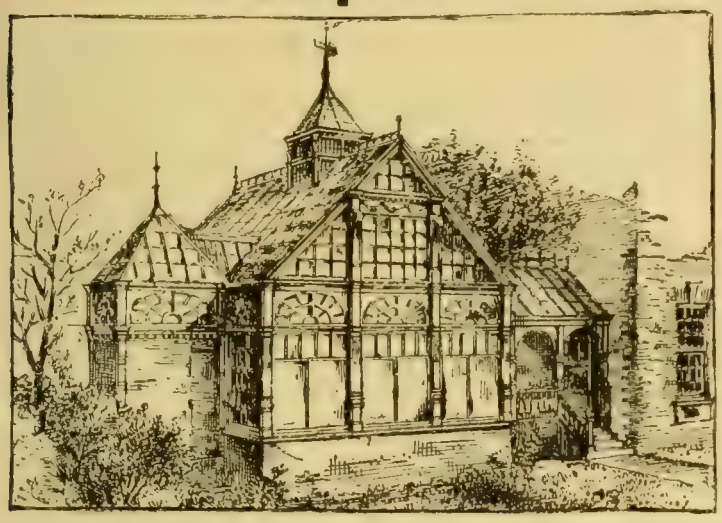
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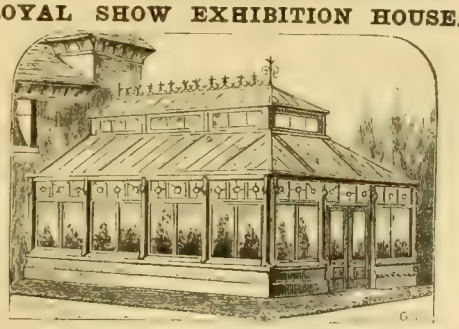
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May 19, 1896.

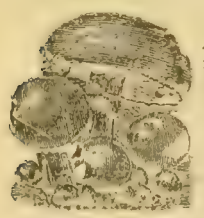
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THE

Gardeners' Chronicle.

SATURDAY, AUGUST 22, 1896.

VIOLA TRIALS.

IN spite of a recent dictum that Violas would not thrive in the neighbourhood of London, there has been during the summer ample evidence in the Royal Botanic Gardens, Regent's Park, that these plants will, when properly cared for, do remarkably well. There in a very hot corner, and on a series of raised beds, conditions at the outset distinctly unfavourable, the trial of Violas has proved to be singularly successful, and all those persons who attended the Conference on Violas held in the Museum on the 8th inst. expressed surprise in finding such admirable results. A very large number of varieties were planted, six plants of each. They were, when put out last spring, indiscriminately commingled, and for picturesque purposes no doubt that was the best.

As the trial is to be continued somewhere in the Gardens next year under Mr. Sowerby's control, it may, perhaps, not be too much to suggest that, for purposes of comparison, it would be better could the varieties be grouped according to their colours. That is a condition that, with better knowledge now, it would not be difficult to carry out. Again, a good deal of consideration was given at the Conference to the question as to the relative values of autumn and spring planting in the metropolitan area and southern counties.

As a trial of Violas is also promised at Chiswick, it would be well if in both gardens simultaneously autumn and spring planting could be adopted, also the blocking of colours as suggested. Mr. Moorman, of Victoria Park, holds that London winters, especially the fogs, kill the plants wholesale; but his district is a peculiarly foul one. In other districts, and possibly in the Regent's Park, the same trouble may not be existent. The plants as a rule are very hardy, but the hardiest things may be killed by the London fogs. For autumn planting, none is better than plants obtained by lifting old cut-back ones, and replanting well-rooted pieces. For spring-planting none is better than those obtained from cuttings taken from root-shoots, set thickly into sandy soil in a cold frame in September. These will furnish plenty of strong-rooted plants to put out in April, or even earlier. With the great stock now at disposal, Mr. Sowerby can do both things admirably. At Chiswick a test of this description can only be carried out this season by growers sending in old plants divided up in September, and others from cuttings in the spring. At the Botanic Gardens, where the trial comes more immediately under the inspection for Awards of the Viola Conference, many varieties are grown that are perhaps more useful for exhibition in spray form than for bedding or massing purposes. That is entirely a matter for the Viola Conference to determine. Of course, a large number have very high merits for garden decoration. At Chiswick the proposal is to have only varieties that are adapted for bedding or massing, and doubtless it will be in reference to such uses they will be regarded by the Floral Committee when called upon to examine the plants. It is well, however, to make it clearly understood

that those who employ Violas largely for bedding purposes, do not limit themselves entirely to varieties that are of dense, compact habit. These are admirable as carpets, edgings, &c., and are of special value in spring-gardening. There is also a most useful—indeed, valuable—section, which, giving looser or taller growth intermix or blend most beautifully with other descriptions of plants in beds and borders. Of these it is but needful to mention for example Duchess of Sutherland, soft mauve. For that reason, in judging bedding Violas, this feature also must have full consideration. It has been truly said that no other bedding plants lend themselves so effectively for bedding in the mixed sense, or for massing singly, as Violas do. They are so hardy, and easy of propagation, that they become literally everybody's flowers.

It is so generally held that the soil for Violas should be changed every year, that it is hardly probable the Botanic Gardens site will be the same next year as now. At Chiswick the long narrow border fronting the cordon Pear tree hedge, affording as it does, not only entirely fresh ground, but also sufficient space for six plants in each row, and some shade behind, whilst a broad footpath runs along the front, seems to present an ideal spot for the ensuing year. The important position that these plants now occupy in spring and summer flower gardening, as also the rapid development found in the production of varieties furnishing varied hues of colour, should give to the Chiswick trial great interest. It is not too much to hope that the trade, as well as numerous amateur growers and raisers, will render every assistance in making the trial a great practical success. I should like to see added to Violas proper, early-blooming Pansies. It is admitted that but very few Violas are to be classed as early bloomers. I fear as much may be said of Pansies; but at least Blue King is very early; indeed, we have not, so far, in the entire range of Pansies or Violas, anything that is so early. I have no doubt I can secure plants, not only of that variety, but also of some other, popular for spring-bedding or market purposes. Pansies or Violas that, planted in the autumn, will give good masses of colour for carpets to bulbs or other plants, or for edgings in the early spring, say March and April, are most valuable. We want them to bloom with the Primroses, Aubrietias, Arabis, Myosotis dissitiflora, &c. It would be well if raisers would strive to obtain such forms rather than spend so much labour in obtaining varieties hardly differing from others, and perhaps only fit to give flowers for exhibition. Returning to the Regent's Park trial, I noted on the 8th as most floriferous and effective, after a very severe ordeal, White's Snowflake, rayless and pure, compact; Pencaitland, same habit, but with a flush of yellow in the flowers. Countess of Hopetoun, always good; Marchioness, compact; Colleen Bawn, taller; Gigantea, fine tall white; and Blanche, violetta type, very free. Nellie was also a charming white. Yellows were plentiful; of these very good were Bullion, the best rich yellow; Lord Elcho, also good; Prince of Orange, excellent; Catherine, straw yellow, soft and good; Ardwell Gem, straw yellow, still one of the best; Lemon Queen, soft lemon; and a seedling, Taylor's Yellow, of rich butter-colour, compact and free. Of what are termed Mannikins, there is great variety, though none excel in beauty Duchess of Sutherland. Rosea pallida is very pale, yet pleasing; Bridegroom is a deeper mauve and effective; Favourite is a bluish mauve, somewhat rayed; Diana, also a pale blue, and rayed, is very pleasing. Of deeper blues, the only one, and still the very best of its section, is True Blue. All the Archie Grant section, including William Haig, very effective; Max Kolb, Joppa, and others, are more purple than blue. The latter more closely resembles Holyrood. Ivanhoe and The Tory are really paler purples, but not blues. There is ample room for more of the True Blue section. Reddish tints are fast developing. Of these, the very best so far seems to be William Niel, and it will be hard to beat, except in depth of colour. Mrs. Gordon is a step in that direction, and is well worthy a wide trial. Border Beauty and Dorothy Tennant are also excellent reds. Of what are termed purples, though more nearly reddish-plum or maroon in colour is Acme, though oddly enough this is almost a reproduction of the old Cliveden Purple. Next come Lillie, pale plum, flaked maroon; and Tiny Millar, dark red, flaked maroon, both of which of their section are very charming. Isabel seems to be the best of the violet and white-blotched section, of which Countess of Kintore is the well-known type. These, however, though beautiful as exhibition flowers, are most useful for outdoor purposes when in mixed beds.

Now that the Conference is past, it would be a capital plan to have all the plants hard cut over, and then in a month's time they would be in fine condition to lift, divide, and re-plant. If they did well, and there is no reason why they should not, in the open space of the Regent's Park, they would serve admirably for spring blooming or otherwise. *A. D.*

NEW OR NOTEWORTHY PLANTS.

CIRRHOPETALUM GRAVEOLENS, *Lindley.**

THE plant now blooming in the Botanic Garden greenhouse, was brought to Brisbane from New Guinea a few years ago by Sir William Macgregor. It is a showy species, but the strong disagreeable odour of its flowers will probably prevent it becoming a favourite in cultivation, except where collections of these curious and beautiful plants are kept. The strong odour of the flowers seems to have the effect of attracting and stupefying flies, so that, when by the turning over of the labellum they become jammed between that organ and the column, they are unable to extricate themselves, and die. This stupefying effect is produced by some other similar strong-scented flowers. *F. M. Bailey, Contributions to Queensland Flora., n.* xiii., 1896.

EPIDENDRUM GLUMIBRACTEUM.†

This is one of the more or less apocryphal Orchids described in scientific or garden papers many years ago, and forgotten since the day of publication. The plant was described by Professor Reichenbach in the *Hamburger Garten Zeitung*, 1863, p. 11, but his description in two lines is quite insufficient. He states that the plant resembles Epidendrum clavatum, Lindl., and adds some remarks about the lip. The plant more closely resembles a somewhat slender form of Epidendrum ciliare, the bulbs of the leaves having nearly the same length, but not half the breadth. The spike arises from the young bulb when the leaves begin to peep out of the sheathing leaflets of the bulb. The flower resembles a little those of Epidendrum falcatum, but they are much smaller, and the lip is quite different, the side-lobes being two-lobed, and the middle one linear, with an ovate or sub-rhomboid apex. The flower-stalk, with the ovary, is very long (7 to 8 cm.), and covered only at the base by the brownish glume-like bracts. The plant was originally detected by Warscewicz in Costa Rica, and the fresh material I received lately was also brought from that country. It flowered probably for the first time many years since in the collection of Mr. Paul Wolter, Magdeburg, Wilhelmstadt, one of the most zealous and the most successful German importers of to-day. Epidendrum, generally speaking, is not in fashion, and this species will not alter the ruling opinion, after all the plant is surely very easy to cultivate in a temperate-house. Finally, if horticulturists are not pleased to see this plant again in Europe, botanists are so. To see the catalogue of doubtful species lessened even by one number is often more agreeable than to describe a new one. *F. Kränzlin.*

* Rhizome thick, shortly creeping. Pseudo-bulbs conical, 3 or 4 inches high, with numerous very prominent angular ribs. Leaves thickly coriaceous, obovate, 12 inches long, 4½ inches broad towards the top, tapering from above the middle and becoming almost petiolate. Scapes about 6 or 7 inches high, bearing a short raceme 7 inches in diameter, composed of about thirteen yellowish, strongly-scented flowers, which are so crowded as to appear almost umbellate. Sheathing scales two, near the base, the lowest very obtuse; bracts subtending the flowers spreading, ovate-lanceolate, about ¾ inch long. Pedicels, with the ovary, which is short and prominently grooved, about 1½ inch long. Flowers glossy, yellow, tinged with green, the inner face of all the segments more or less speckled with red. Dorsal sepal about 1 inch long, ½ inch broad, apiculate, marked with nine nerves, incurved over the column; lateral sepals exceeding 1½ inch in length, coherent nearly throughout, but the one shorter than the other; the two united about seven lines broad and obtuse at the end, or sometimes shortly separated, and the apex of each more or less pointed, each three-nerved. Petals about 5 lines long and 3 lines broad, the midrib exserted in the form of a bristle. Labellum versatile, reddish-brown, turning to deep purple, canaliculate, and curved almost into a circle, apex blunt or somewhat elongated, the base bluntly lobed. Column-wings somewhat rhomboid, the upper point or tooth reaching above the anther. Anther-lid glossy, except for a little tomentum in front.

† *Epidendrum glumibrac'eum*, Rchb. f.—Caulibus e basi tenuissima fusiformi incrassatis ad 25 cm. longis, 1·5 cm. crassis diphyllis, cataphyllis 6 albescentibus vestitis; foliis lineari-loratis acuminatis majore ad 35 cm. longo, 1·5 cm. lato minore paulum diverso, coriaceis: racemo e bulbo nondum maturato oriente distichantho pluriflore (7 to 10); bracteis glumaceis triangulis acuminatis pedicellum tantum nec ovarium longissimum æquantibus pedicello cum ovario 7 to 8 cm. longis; sepalis petalisque lineari-lanceolatis acutis margine revolutis; labelli æquilongi gynostemio adnati lobis lateralibus bipartitis partitione postica rhombea margine exteriore crenulato, partit. antica lineari falcata bidentata, lobo intermedio lineari apice ovato acuto, disco labelli basi bituberculato, androclinii margine denticulato denticulis medianis sublongioribus. — Flores odori virides, labellum album, sepala petalaque 3 cm. longa, 2 to 5 mm. lata, labellum æquilongum 1·5 cm. latum. *F. Kränzlin*

KEW NOTES.

SPATHELIA SIMPLEX.—This is a West Indian Rutaceous plant, unknown outside of botanic gardens, nevertheless those who see it at Kew (where it is now in bloom in the stove) will admit that its decorative qualities are by no means unimportant. It is a tree, but flowers in a young state, and when only of small dimensions. The leaves are pinnate with twenty to thirty pairs of oblong acute serrulate pinnæ, each about ¾ to 1 inch long. The star-shaped flowers are deep rosy lilac colour, individually small, but when grouped in terminal, pyramidal, much-branched panicles, they have a very pretty effect.

ORNITHOGALUM REVOLUTUM

Is in bloom in the Heath-house at Kew. It is somewhat like O. arabicum in habit, but the inner surface of the perianth segments is rich olive coloured, deeply margined with white. It is a native of South Africa.

NEGLECTED CREEPERS.

Among the many beautiful and striking creeping plants which adorn the Water-Lily-house of the Royal Gardens, Kew, at this time are Thunbergia grandiflora, with magnificent white tubular flowers; Solanum Wendlandi, the finest of the Solanums, so fine, that the epithet majestic is hardly out of place. S. Seaforthianum is smaller, but very beautiful. It is strange that gardeners have not found out these two Solanums. One of the most singular plants to be seen now in this house is Mucuna atro-purpurea. Its flowers are so dark that they resemble in size, form, and colour bunches of black Grapes. The leaves are trifoliolate, as in the Scarlet Runners, the leaflets oblong, pointed, glabrous. It is a native of southern India, Malacca and Ceylon.

CYPHOMANDRA FRAGRANS

Is now in bloom at Kew in the Temperate-house. It is a tree with ovate acuminate, dark green leaves, and pendulous racemes of campanulate flowers, each about 1 inch long, at first of a rich violet-colour, afterwards becoming olive-coloured.

THE PALM-STOVE.

The substitution of turf for gravel on the terrace on which the Palm-stove is placed is a vast improvement. The little bays between the projecting buttresses on the outside of the building are now filled with Crinums, fine foliaged Aroideæ, Eucomis of gigantic size, and other plants of interest.

HELMHOLTZIA GLABERRIMA.

Not many of our readers are, we expect, conversant with this plant. It is a native of some of the Pacific Islands, and is a tufted plant, with dense masses of sword-shaped leaves, somewhat after the fashion of

those of the New Zealand Flax, but of a deep green colour, with a prominent mid-rib. From their centre rises a tall pyramidal panicle of ivory-white flowers, individually small, but effective in the mass. The structure of these flowers is very interesting botanically, and shows the plant to be a near ally of the Philydrum, a small stove aquatic of very different habit, and a botanic garden curiosity, whilst the Helmholtzia ranks with Draciænas in decorative character.

Paulownias, etc.

A magnificent effect is produced at Kew by a bed of these plants. The stems have been cut back to the level of the ground, or nearly so. Strong shoots with noble leaves have been formed in consequence, and they form a noble picture, worthy of imitation wherever space is available. A similar bed of green and purple Ricinus is also very effective, but is too close to the Palm-stove to be seen to full advantage.

Tea Roses at Kew.

At this late period of the season it is delightful to see how well the beds of hybrid teas and teas look. Among the best are Grace Darling, Camoens, Fellenberg. Years ago there was an impression that Roses would not, or did not, do well at Kew, but that impression is now wholly obliterated.

REMARKS ON THE FRUIT CROPS.

(*See Tables, pp.* 124 *to* 131.)

(*Continued from p.* 185.)

5. SOUTHERN COUNTIES.

Kent.—Early spring gave great promise of immense crops of fruit of all kinds, but frosts and cold winds during the blooming period did much damage to Apples and Black Currants. Amongst the large number of varieties of Apples here, the best and most reliable kinds are Irish Peach, Golden Spire, Ecklinville, Lord Suffield, Keswick and Lane's Prince Albert. These varieties have hardly ever failed here. Amongst dessert kinds, Early Juneating, Lady Sudeley, Worcester Pearmain (must be eaten almost as soon as gathered), and Irish Peach seldom fail to crop. There are many others, such as Mr. Gladstone, Cox's Orange, and Cockle Pippin, and that highly-flavoured late variety, Adam's Pearmain, one must recommend, but they are not such reliable croppers in my experience as are the former. Plums are a very poor crop, and Damsons little better. Pears are fairly good. We are now gathering Colmar d'Eté, and a delicious Pear it is if gathered and eaten direct from the tree. I would add that Rivers' Early is one of the most satisfactory sorts to be grown. It is a good cropper, and has a splendid constitution. The fruits are good in colour, size, and flavour. *Geo. Woodward, Barham Court Gardens, Maidstone.*

—— The fruit crop this season is the smallest we have had for some seven years. Apples and Plums are especially poor; Gooseberries and Red Currants are an average crop, and the fruit is good; but Black Currants are very scarce. The season has been remarkable for persistent attacks from pests, in spite of repeated washings. *Champion Bros., Molewarth, Maidstone.*

—— Apples in this district are almost a failure this season, and the trees in many instances are much damaged by insects. Plums and Damsons were badly infested with aphis until the recent storms, but the crop in general is heavy. Cobnuts, of which many acres are grown in the neighbourhood, are heavy and exceptionally promising. *G. Fennell, Fairlawn, Tonbridge.*

Middlesex.—There was promise of a grand Apple crop early in the season, but owing to drought many of the fruits have fallen. Most of the Codlin varieties, however, are now heavily laden, King of Pippins has much above an average, but many of the late keeping varieties are under average, though the fruits are good in spite of persistent attacks from insect pests, which have required much attention. A few varieties of Pears are cropping very freely. Cordon-trained trees have good crops. Pitmaston Duchess, Louise Bonne of Jersey, and some half-dozen others, are bearing grand crops, but in the case of some varieties the crops are very poor. Plums are irregular, many varieties bearing poor crops, but drought has affected them. Cherries of all kinds are very good, and I never saw better crops of Peaches, Nectarines, and Apricots; the fruits promise to be a good size, and the wood is clean and good. Small fruits have suffered much on our light soil from heat and drought. Raspberries bore a wonderful crop, but the fruits were not large. Strawberries were very good, after watering and mulching, but we rely upon young plants. *G. Wythes, Syon House Gardens, Brentford, W.*

—— Apples produced an abundance of bloom, but the crop is only an average one, much of the bloom having set imperfectly, or not at all. Prince Albert, Cox's Orange and King of the Pippins, Stirling Castle, and Lord Grosvenor being among the best cropped. Pears did not bloom well at all. Of Plums there is an abundant crop on the walls; bush trees were robbed very much by the birds. Morello Cherries have a heavy crop; sweet Cherries only a light one. Peaches and Nectarines set very well indeed, and are good. Apricots do not usually grow well here, and this year they are a light crop. *Geo. Ringham, Wrotham Park Gardens, Barnet.*

—— The prospects of an excellent fruit crop were good early in the season, but the heat and drought combined caused a very large proportion of the Apples and Pears to fall prematurely. Cherries and Apricots dropped largely also. *S. T. Wright, Royal Horticultural Society's Gardens, Chiswick.*

Surrey.—The great bloom of the spring, seen on all fruit trees, has not been found the precursor of fruit generally. It is not unfrequently the case: a big bloom does not always indicate fertility. We had too, at the blooming time, cold nights, with several keen frosts, followed by drought, which greatly encouraged fruit dropping and the development of insect life. Altogether, fruit trees generally have had a bad time of it. Fair crops of Apples, Pears, and Plums may be seen here and there, but they are few. The Apples and Plums have not swollen well, but Pears have done better. Bush fruits seem to have been generally very good; and Strawberries have been better than was anticipated. Peaches and Nectarines, outside, are good crops, but needing ample watering. Apricots are thin. Walnuts are generally a great crop, but small Nuts are the reverse. *A. Dean, Kingston on Thames.*

—— The earliness this season of stone fruit has been remarkable. Amsden June Peach was ripe in the last week of June, and Alexander Peach and Early Favourite Plum in the first week in July. Aphides and red-spider have been very troublesome, and there is a veritable plague of earwigs. *Edward Burrell, Claremont.*

—— In this district there has never been such a failure of Apples, Pears, and Plums during the twenty-five years I have spent here, and seldom has there been a greater quantity of bloom than there was in spring. We suffered little from spring frosts, but the caterpillar quite denuded the trees of foliage and of fruit. The trees in June were almost as bare of foliage as in February. It is impossible to successfully fight the caterpillar, for Oak trees are so abundant, that the grubs soon infest the fruit trees after cleansing them. From our terrace may be seen about 1000 Oaks quite bare of leaf in June, and each season the devastation is extended by miles. Only some natural remedy will avail. In my opinion, a severe October frost would kill the female moth when laying her eggs. Strawberries, Gooseberries, Raspberries, and Currants are, or have been, excellent. *A. Evans, Lythe Hill, Haslemere.* [Does the same kind of caterpillar attack the Oaks and the fruit trees? Ed.]

—— Of Apples, the following varieties have heavy crops, Warner's King, Stone's, Prince Albert, Duchess of Oldenburgh, Ecklinville, Lord Grosvenor, and Tower of Glamis. The following dessert varieties have average crops, Cox's Orange and Blenheim Pippins, and Brownlee's Russet. Raspberry Superlative has been very good. The crop of Strawberries was under average and soon past. *C. J. Salter, Woodhatch Lodge Gardens, Reigate.*

Surrey.—All fruit trees in this district blossomed remarkably well, but a succession of slight frosts in the beginning of May caused many of the flowers to fail. Red-spider, green and black-fly, and caterpillar have been most troublesome during the continued drought. Some Apples are a full crop, notably Keswick Codlin, Lord Suffield, Stirling Castle, Lane's Prince Albert, and Bismarck. I have never before seen heavier crops on the Crab trees, especially the Siberian. Pears are more plentiful than last year. Damson trees are heavily laden, but the foliage has suffered from the attack of insects. Gooseberries are scarce. Black and Red Currants are plentiful. Cobnuts and Filberts are most promising. *G. W. Cummins, The Grange, Wallington.*

—— In our heavy soil all small fruits have done well, with the exception of Raspberries, which were small. Cherries on walls, protected from birds, were very fine. Apricots, Peaches, and Nectarine-trees are clean, and making good growth. They have splendid crops. Peaches and Nectarines will be of good size and quality. *J. W. Miller, Ruxley Lodge Gardens.*

Sussex.—The fruit crop in early spring promised to be one of the most abundant on record, but May frosts injured the fruits severely in this district. Gooseberries were a splendid crop, but neither Black nor Red Currants were plentiful. Some of the more hardy varieties of Plums, as the Czar, Victoria, Early Rivers, and Diamond, are good. The same may be said of Apples; trees, however, that bore an abundance of fruit last season have none this. Cherries have been an abundant crop, and Pears are quite up to the average. *H. C. Prinsep, Basted Park, Uckfield.*

—— The following varieties of Apples are bearing the best crops—Lord Suffield, Cox's Orange Pippin, Lane's Prince Albert, Blenheim Orange, Old Nonsuch, Warner's King, Stirling Castle, and King of the Pippins. Of Pears—Williams' Bon Chrétien, Louise Bonne of Jersey, Pitmaston Duchess, Doyenné d'Eté, and Jargonelle, are bearing best crops. Strawberry Royal Sovereign has been excellent here, both in pots and out of doors; plants are suffering much for want of rain. *E. Burberry, Castle Gardens, Arundel.*

—— Apples carried a quantity of fine bloom, but in a large measure it failed to set. Pears are fairly good, and the fruits appear to be of good quality, especially Williams' Bon Chrétien, and Marie Louise. Of Plums, Victoria, Kirke's, Coe's Golden Drop, and Jefferson's, all carry good crops. Strawberries have been a grand crop, both in quantity and quality, and there were fine fruits of Royal Sovereign, Sensation, and Noble. The first were ripe on June 9. *Charles H. Jones, Ote Hall Gardens, Burgess Hill.*

—— The foliage of Peaches and Nectarines was badly blistered in the early part of the season, but the trees are now healthy and carry good crops. There is a good crop of Apples on young trees, but very few on older ones. *R. Parker, Goodwood, Chichester.*

—— Apples and Pears are very poor indeed. Cherries were loaded with good fruit. Our trees were never better, and they are quite clean. We used Strawson's Antipest Knapsack and Bentley's Liquid Quassia Extract. Gooseberries were very plentiful, and Raspberries also. *G. Duncan, Warnham Court Gardens, Horsham.*

Wiltshire.—All fruit crops in this district are good. The crop of Strawberries was of rather short duration, owing to the great drought and heat. This was especially felt in the case of plants growing in light soil. Peaches, Nectarines, Apricots, Cherries, Green Gage, and other varieties of choice Plums, Apples and Pears and bush fruits are satisfactory in every respect, with the exception of Apple trees in light shallow soils, which have dropped their fruits freely. *H. W. Ward, Longford Castle, Salisbury.*

—— The fruit crops generally are good, but insect-pests have been very troublesome. Our first Peaches were gathered from open walls on July 6; the variety was Waterloo; Plums, Rivers' Early, on July 2; and Apricots on July 4. *T. Challis, The Gardens, Wilton House.*

7. ENGLAND, N.W.

Lancashire.—Apricot trees have a good crop, and the fruits are fine. Peaches and Nectarines are not so numerous, but the trees are making excellent growth, and are very clean. Plums are a failure. Apples and Pears had an extraordinary show of bloom, but owing to the long drought and hot weather the Pears have nearly all fallen. Apples are a good average crop, and look very clean, the fruit being good. Strawberries were good, but soon over. *R. Doe, The Gardens, Knowsley.*

Westmoreland.—Owing to the hot and dry weather during May and June, the Apple crop suffered much from maggot. In many instances the leaves were quite riddled, and the growth crippled for the season. Cherry trees are very clean, the fruit was fine and of good flavour. Strawberries have been very good, and those that were well mulched and watered have lasted a long time. We commenced to gather ripe fruits fully ten days earlier than we have done for several years past. *F. Clarke, Lowther Castle Gardens.*

8. ENGLAND, S.W.

Cornwall. — Strawberries in some places were a total failure, owing to the dry weather. Gooseberries, Raspberries, and red and white Currants were very plentiful; black Currants scarce. Of Pears there are very few. Damsons and Plums are an extra good crop. The Apples are an average crop, and look fairly well. Until the end of July, the rainfall for the year was only 7 inches. *W. H. Bennett, Menabilly.*

—— The Apple crop in East Cornwall is under average. Cold east winds, when the trees were in bloom, had a blasting effect upon exposed trees. Strawberries have been the crop of the year. We commenced picking Vicomtesse Héricart de Thury from the open on May 26. This variety was closely followed by Laxton's Noble and Royal Sovereign, and the crop ended with Latest of All on July 14. Bush-fruits are abundant and good. Pears are an average crop, and the fruits are swelling well. Until recently, we have had very little rain since April, but owing to a strong soil, we have not suffered much from the drought. *Chas. Page, Boconnoc Gardens.*

—— During the first half of the year the rainfall was nearly 6 inches less than in the same period in 1887. I have never known thrip, red-spider, green-fly, caterpillar, and mildew so rampant and destructive to fruit and vegetable crops as this season. Apples set well, but more than one half have fallen, and the remainder will be very small. Peaches are a grand crop, but the trees have entailed an enormous amount of labour in watering and syringing. Peach Early Beatrice was gathered out-of-doors on June 26. *W. Sangwin, Trelissick, Truro.*

Devonshire.—The fruit crops in this district have suffered considerably from the drought. All kinds of fruit trees bloomed profusely, but set badly. Apples are thin generally, and the fruits will be small and inferior. Pears are an average crop, but small. Strawberries were almost a failure. Plums are irregular, some varieties being plentiful, others, notably Green Gages, none. All fruit is ripening somewhat prematurely, and is consequently of inferior quality. Trees much infested with insects, and making little growth. *A. Eames, Heanton Satchville, Beaford, North Devon.*

—— The early promise of fruits was favourable, as the mild winter was followed by a bright and pleasant spring, and all trees flowered well and set fruit freely. The drought, however, has caused the fruit to shrivel and fall, and that which now remains is poor. The birds would seem to have been more destructive than usual, and if nets had not been used freely, but little small fruit would have been gathered. *W. Swan, Bystock Gardens, Exmouth.*

Gloucestershire.—The Apple crop in this district is much under average, and in many places it is a complete failure. The few Apples that are to be found, are the commonest varieties, which last year were allowed to remain ungathered. It will not be so this year. Peaches and Nectarines were never better, either in growth or fruit. Nuts are most abundant, and bush fruits also. *Thomas Shingles, The Gardens, Falfield.*

—— The promise of the fruit crop was even better in spring than that of 1895, but the frost of May 2 and 3, together with the great drought, has had a prejudicial effect. The trees in these gardens are free from insects generally speaking, but the Cherries were affected by black-fly earlier in the season. The fruit of Apples and Pears will probably be small. There are complaints from some gardens of the Apple-weevil. *T. E. Arnold, Cirencester House.*

(To be continued.

METHODS OF PROPAGATION.

(Continued from p. 159.)

Budding.—In my paper on fruit-tree grafting I alluded to the universal plan of budding in the summer, and afterwards grafting all the stocks where the bud had not taken. There is little more to say on this head, except that Apples, Pears, and Plums, on whatever stock, are budded a few inches from the ground line, while Cherries are usually worked standard high, unless the operator wishes for dwarf trees. As a rule, clean straight stems result from this plan, well adapted for orchard standards; and when on dwarfing stocks, to form the useful and popular "amateurs' standards," which combine in one tree a cordon and a standard.

Peaches, Nectarines, and Apricots.

One class of fruit tree is universally budded in British nurseries, though in America and elsewhere it is increased by grafting—I allude to Peaches, Nectarines, and Apricots. The first two should be budded low on the Mussel Plum stock in July or August, and either left where they stand or lifted early in the autumn, and lined up for convenience of training, great care being taken to get out all the roots uninjured. If left where they are, the growth from the bud the following season is frequently too coarse and sappy, and this wood not maturing is very apt to be damaged by frost in the winter; for this reason too high culture is not advised—the end to be desired is fine but ripe growth. The knife may be used to advantage to remove all superfluous branches, that the sun's rays may enter, and so mature the wood left. Most of the Apricots do on the same stock, but they are also budded on the Brussels and Brompton stocks, and require the same treatment as the first-named; but in budding, the cross cut should be used, as it facilitates the operation. Quickness and lightness of touch are essential, as bruising the wood or bark too frequently causes "gumming," which is very prejudicial.

As the trees of these esteemed stone fruits are mostly required for walls, they are pruned (or "educated," as it is aptly termed in nurseries) accordingly. They are easily trained flat when they have made their summer growth, after being cut back in the winter somewhat hard. There is great difference in the opinion held by knifemen upon this point, some cutting back very close to the stock, others leaving some inches of the lateral growths unpruned. As in most processes connected with horticulture, wisdom here lies in the "happy medium," and I will say, though I closely prune, the other plan may sometimes be better.

The next operation is what we call training, and is effected in nurseries by placing a lattice-work of stakes by the side of the tree to be trained, either diagonally, or in a rectangular fashion, but in gardens the process may be done on the walls or fences, where there are any available. A few may be left to be trained as pyramids for pot-culture in the orchard-house or Peach-house. Leading nurserymen have for the last few years, following the lead of my late lamented friend, Thomas Rivers, exhibited some well-fruited specimens of this type of tree, the art here consisting more in securing a thoroughly ripened wood than in any particular method of training. Avoid crossing the branches, and crowding the shoots, endeavouring to admit all the air and sunlight into your tree possible, and there will be then reasonable expectation of a crop of fruit on even two-years-old trees.

Maples, etc.

Besides Roses and fruit trees, the various trees and shrubs required to decorate our gardens and parks are conveniently propagated by budding. One of the most useful and desirable is the variegated Ash-leaved Maple (Acer Negundo variegatum). It may be budded standard high for standards, or for dwarfs and pyramids, as near the ground line as convenient. This may be done as soon as buds can be taken from the variegated form, and the sap is well up in the stock, which should be the normal green-leaved A. Negundo. The buds may be inserted in lateral branches, as in Rose-budding, or directly into the young wood of the main stem, but on stems not more than 4 to 5 feet high the best heads form, and as the tree is naturally of an erect habit of growth, this height will be found sufficient.

A French firm recommend the golden variegated form for light soils, and state (which is true) that it is more vigorous, does not scald in the sun, and is almost as effective. This is certainly the better of the two for standards, but for dwarfs use the old silver form. The bark of A. Negundo being very tender, I recommend the cross-cut in budding, and advise the operator to be very cautious not to bruise the bark, or allow it to dry, when inserting the bud. Bind with raffia, and examine from time to time to see that the tie does not cut into the bark. This is a most useful shrub, and dwarf and pyramidal plants may be potted for cool conservatory work, or for the winter garden, when gently forced. Associated with any of the ordinary dark foliage plants as Lobelia Queen Victoria, the crimson-leaved Beets, or perhaps still better with the Purple Giant Orach (Atriplex hortensis purpurea), it makes a strikingly handsome bed, or if a permanent bed be desired, plant the purple-leaved Plum (Prunus Pissardi) alternately with them. This desirable foliage Plum may be raised easily by budding into any of the Plum stocks mentioned in the article "Grafting," or it may be budded standard high in a Mussel stock, or close to the ground line on the Myrobalan (Prunus myrobalana), for dwarfs, and pyramids, the best form for pots.

The plan of budding on established trees, is often convenient and desirable, but requires judgment. While we are among the Maples, a fine effect may be compassed by putting a few buds of the Corstorphine Plane, or Golden Sycamore (A. pseudo-Platanus foliis aureis), into the branches of a common Sycamore. These, if encouraged, and the branches of the stock tree are kept thinned, grow up and give a most telling effect, this being much enhanced by planting trees of the purple-leaved Sycamore in close juxtaposition to the golden one, or budding both on the same stock tree. Indeed, there seems no limit to the amount of variety that may be introduced into the shrubberies, for not only have we among this genus many handsome variegated and finely-coloured leaves, but some of great excellence in the conspicuous variation of their foliage, note the deeply laciniated form, Heldreichi, or the very vigorous light-green kind known as A. Lobeli, of all of which buds may be procured from high-class nurseries.

Lest our American cousins should feel slighted, I will just name two among Virginian Maples which may be budded on the Norway Maple (Acer platanoides), and which should claim a place in our Arboretum were it only for the fact of their giving us such lovely tints when they are about to shed their leaves in the autumn. Among these, the Eagle's Claw Maple (A. heterophylla laciniata), and Vier's elegant cut-leaved kind are worthy of cultivation.

The Alder.

Even the lovely Alder gives us some useful forms. Alnus cordata grows to a handsome tree: a good example used to adorn the Exotic Nursery, Canterbury, while the Imperial Fern-leaved variety, alluded to in my article on "Layering," budded standard high, makes a pretty lawn-tree, and there is a lovely pendulous-branched sort of the the silvery "incana"

which, for a moist situation, gives us a weeping tree superior to the Ash. The right stock for these is the common Alder (Alnus glutinosa), on which it buds freely.

ROBINIAS.

The Mock Acacias, touched on in the article on grafting ornamental trees, may be budded, though not easily, the safest plan being to "eye-graft" them, that is, leaving the wood in the

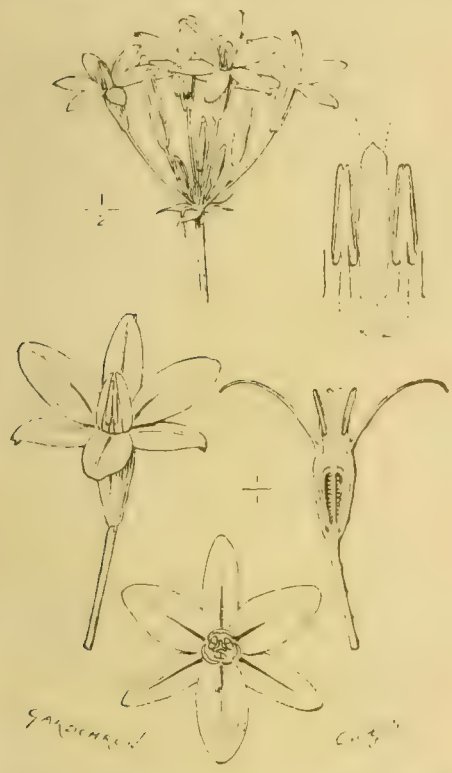


FIG. 36.—BRODIÆA GRANDIFLORA.
Umbel half the size of nature; flowers violet-blue, natural size; two stamens and one staminode magnified two diameters.

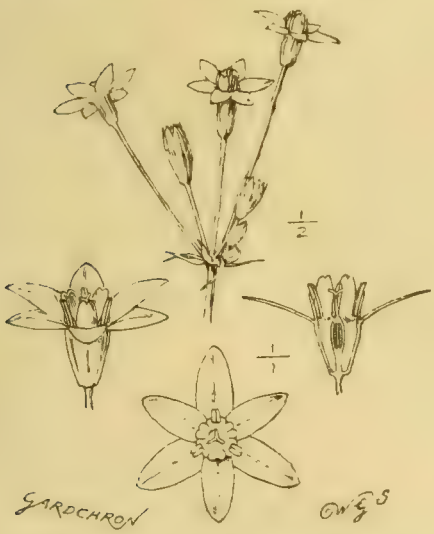


FIG. 38.—BRODIÆA STELLARIS.
Umbel half-size; flowers real size, reddish-purple.

shield of the bud to accurately fit this into a notch cut in the stock, which in this case should be the common White Acacia, and bind up tightly and securely with raffia, smearing on a little clay or grafting wax for further security. Decaine's and Besson's handsome flowering hybrids are the best, while the Rose Acacia, the finest for blossom, may be worked about 4 feet high, when an elegant drooping tree will result. Acacia Bessoniana makes a lovely avenue in sheltered positions. *Experience.*

THE GENUS BRODIÆA AND ITS ALLIES.

[DURING the present summer, Messrs. Wallace & Co., of Colchester, have exhibited a series of specimens of Brodiæa, and allied genera, at successive meetings of the Royal Horticultural Society. The specimens were kindly entrusted to us, and were so numerous that an excellent opportunity seemed to be presented of securing illustrations, which might serve to render the genus better known. The descriptions, and the classification, have been kindly undertaken for us by Mr. J. G. Baker, F.R.S., who has made a special study of the petaloid Monocotyledonous plants. The drawings have been made by Mr. Worthington Smith. The inflorescence is, in almost all cases, shown of half the natural size; the individual flowers, and section are shown of their real dimensions, whilst the details relating to the stamens are magnified two diameters. As to cultivation, a sunny, well drained border, and light rich soil, suits them well, or they may be grown in pots in an ordinary greenhouse. ED.]

There is a considerable number of fine American bulbous Liliaceæ, nearly allied to one another, many of which have been introduced into European gardens, which have been classified so differently by recent authors, that their nomenclature is in a state of great confusion. The older authors, Cavanilles, Smith, Lindley, and Kunth, defined a large number of genera, of which the principal are Milla, Brodiæa, Triteleia, Calliprora, Hesperoscordum, Dichelostemma, and Senbertia. When, in 1870, I monographed the gamophyllous Liliaceæ, in the eleventh volume of the *Journal of the Linnean Society*, I merged all these genera into two, Brodiæa, characterised by having three out of the six stamens imperfect, and Milla, in which all the six are uniform and fertile. In 1879 Dr. Sereno-Watson worked out again the North-American species, and classified them upon a different plan. All the genera above-named he merged in Brodiæa, except Milla, which he kept up as distinct for the single Mexican species on which Cavanilles founded it. This latter plan was followed by Mr. Bentham in the *Genera Plantarum*, and consequently in the *Index Kewensis*. But as Dr. Watson dealt only with the North-American species, those that inhabit South America have never been described under Brodiæa, and, consequently, still stand under Milla in the *Index Kewensis*. In 1886, Mr. James Britten, in the *Journal of Botany*, pointed out that Hookera of Salisbury is an earlier name than Brodiæa of Smith. According to Kuntze, Salisbury's name was published in March, 1808, and Smith's paper was read in April, 1808, and Kuntze in his *Revisio Generum* enumerates under Hookera all the species described under Brodiæa and Milla by Dr. Watson and myself, with the exception of M. uniflora. In 1886, in the *Bulletin of the Californian Academy*, Dr. Greene published a valuable paper, in which all the North American species are carefully described, and several new ones added. For the old series of species he recognises three genera—Hookera, Brodiæa, and Triteleia; and he describes a curious new genus under the name of Behria. Unfortunately, this paper was just too late for the new species to be included in the *Index Kewensis*. What I wish to do now, however, is not to discuss nomenclature, but to enumerate and classify the species as they now stand, taking Brodiæa in the sense in which it is understood and described in the *Genera Plantarum*.

BRODIÆA

SERIES I.—Perfect (antheriferous) stamens three only, the three others being represented by staminodes.

Group 1.—Umbels lax. Flowers comparatively large. Tube of perianth firm and opaque (*Hookera*, Greene).

1. **B. grandiflora,** Smith (*Hookera coronaria*, Salisb.)—The original type species, which is widely spread through California, Oregon, and Washington territory. Flowers bright violet-blue, three to ten in an umbel, 1 to 1¼ inch long, with segments rather longer than the tube. Figured *Bot. Mag.*, t. 2877 (see also fig. 36).

2. **B. californica,** Lindl. (*Hookera californica* Greene).—Very near *B. grandiflora*, but with a longer scape, ten to twenty-five flowers in an umbel, which are 1½ to 2 inches long, and vary from rose colour to deep purple. The finest of all the species for garden purposes (fig 37, p. 215).

Upper part of the Sacramento Valley.

3. **B. minor,** S. Wats. (*Hookera minor*, Greene).—Near *B. grandiflora*, but slender scape only 3 to 6 inches long, two to six flowers in an umbel; flowers an inch or less long, with a more spreading limb.

Southern California.

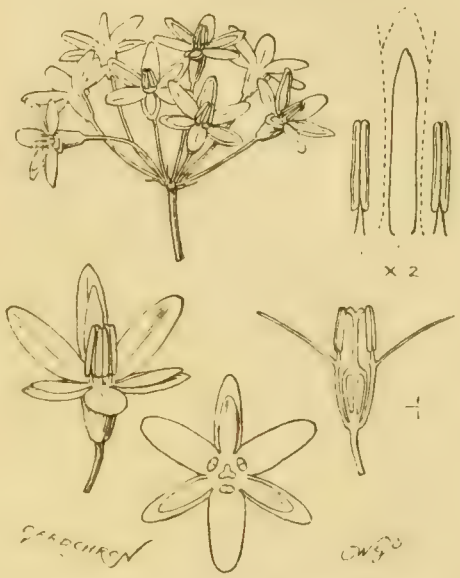


FIG. 39.—BRODIÆA ROSEA.
Umbel half-size; flowers real size, rose-red.



FIG. 41.—BRODIÆA CONGESTA.
Umbel half-size; flowers real size, violet.

4. **B. terrestris,** Kellogg (*Hookera terrestris*, Britten and Greene).—Umbel sessile on the ground, two to ten-flowered. Perianth less than an inch long, with a spreading limb. Staminodia yellow, with involute edges.

Near the coast, San Francisco, northward to Oregon.

5. **B. stellaris,** S. Wats. (*Hookera stellaris*, Greene).—A very rare species, discovered in Mendocino county in 1881, by Mr. Carl Purdy. Leaves subterete. Peduncle 2 to 6 inches long. Flowers three to six in an umbel, under an inch long, reddish-purple. Anthers with an oblong wing behind. Staminodia longer than the stamens, white, emarginate. It has not previously been figured (fig. 38).

6. **B. leptandra** (*Hookera leptandra*, Greene, *Pittonia*, i., 74).—Peduncle 1 foot or less long. Umbel 2-flowered; pedicels 1 to 3 inches long; perianth purple, 1 inch long; segments four times the length

of the campanulate tube. Filaments and anthers each ¼-inch long; staminodes pale, thin, retuse, involute, a little longer than the anthers.

Calistoga, California. Discovered in 1887 by the late Dr. Parry.

7. **B. rosea** (*Hookera rosea*, Greene).—Leaves subterete. Peduncle 3 to 6 inches long. Flowers five to eight in an umbel, under 1 inch long, rose-red. Free portion of fertile filaments dilated; staminodia white, ligulate, obtuse, entire, rather longer than the anthers (fig. 39, p. 213).

Discovered in Lake County in 1884 by Mrs. Curran, and lately introduced by Messrs. Wallace.

8. **B. filifolia**, S. Wats. (*Hookera filifolia*, Greene).—Leaves slightly flattened. Peduncle ½ to 1 foot long. Flowers three to six in an umbel, dark, ½ to ¾ inch long. Anthers nearly twice the length of the triangular staminodia.

There are specimens in the Kew herbarium collected in the San Bernadino Valley by Dr. Vasey and Mr. W. G. Wright, but I have not seen it alive.

9. **B. Orcuttii** (*Hookera Orcuttii*, Greene).—Peduncle stout, 1 foot or more long. Leaves linear, not terete, flat or conduplicate. Flowers five to fifteen in an umbel, under an inch long, bright lilac, with a very short tube. Filaments longer than the anthers; staminodia reduced to a small triangular scale.

Discovered by Mr. C. R. Orcutt in 1884, in San Diego country, and recently introduced into England by Messrs. Wallace. It has not been previously figured (fig. 40, p. 215).

Group 2.—Flowers much smaller and more tender than in the last group, many in a dense umbel. (*Brodiæa*, Greene, pro parte).

10. **B. multiflora**, Benth. (*B. parviflora*, Torrey and Gray).—Flowers six to twenty in an umbel; pedicels short or obsolete. Perianth blue, 8 to 10 lines long; segments oblong, as long as the tube. Anthers sessile; staminodia lanceolate, entire.

Central California to Oregon and Utah, in the mountains. Figured *Bot. Mag.*, t. 6598 and *Gartenflora*, t. 752.

11. **B. congesta**, Smith (*Dichelostemma congesta*, Kunth).—Leaves subterete, evanescent. Peduncle 3 to 5 feet long, flexuose. Flowers six to twelve in an umbel, deep violet, sessile, or nearly so. Perianth 8 to 9 lines long; segments about as long as the tube. Anthers sessile; staminodia bifid, purple, spreading with the segments of the perianth.

Central California to the borders of British Columbia, amongst the lower hills. Exactly resembles *Hookera pulchella*, Salisb., t. 117, but that has six fertile stamens (fig. 41).

This finishes the species of the first series. I must reserve till another issue, the account of those with six perfect anthers. *J. G. Baker.*

(To be continued).

THE HARDY FLOWER BORDER.

STATICES.

In such a season as this, when July flowers were past before their usual time, and when summer Phloxes have narrowly escaped failure through drought, one naturally looks round to see what tenants of the hardy flower border can be relied upon to make a show in another such season. Several members of the genus Statice, or Sea Lavender, are conspicuous, and seem to enjoy such conditions of weather as have prevailed. I am speaking only of the hardy perennials of the genus; and though I am unable to speak with certainty of the names, I have about half-a-dozen kinds here now in flower which contribute largely to the gaiety of the garden. There is a strong family likeness amongst the Sea Lavenders, and it is perhaps not too much to say that all the hardy kinds are good, whether correctly named or not. The finest is one I have always grown as S. latifolia, making a large panicle 2 feet high and nearly a yard across, and lasting in flower a long time—in fact, being everlasting, if cut at an early stage. Other names of tall kinds are S. elata, S. Gmelini, S. Limonium, the last being a native plant, less ornamental than the others. Of smaller kinds, I may mention S. incana, said to be synonymous with S. tatarica. The dwarfer kinds grow readily from seed, and a large number may easily be grown without proving an incumbrance to the flower beds. To do justice to those with spreading heads we must give them ample room to grow without being crowded. This is essential to their ornamental qualities; and it may be remarked in passing, that neglect to provide this necessary room is capable of spoiling the beauty of another plant which is at its best in hot sunny seasons, Gypsophila paniculata. A balloon of this, 4 feet high, and 6 feet through, is an ornament to any garden, but when it is seen struggling to get its head through a mass of tall surroundings, it presents a very ordinary and shabby appearance. *C. Wolley Dod, Edge Hall.*

VERATRUM NIGRUM.

This is one of the best fine-foliaged hardy plants we have for use as isolated specimens on grass. If planted near the edges of shrubbery borders, or at a safe distance from clumps of shrubs, it has a very fine effect all through the early summer months by reason of the foliage alone; but this is increased when its spikes of flowers open. They last in good condition from two to three weeks, and stand erect and stately without need of tying. The flowers are of an unusual colour, being very dark brown. The plant prefers a somewhat shady and moist position, and is by no means difficult to grow, if it gets a fair amount of moisture and nourishment. *W. H. Divers, Belvoir Castle Gardens.*

THE BEDDING IN HYDE PARK.

The flower-beds near Park Lane have looked charming recently, and the rains have encouraged growth and given the plants a fresher appearance. The cooler weather has also had a beneficial influence upon the plants. The system of blending is a great improvement upon the formal carpet bedding which was once so popular, as it allows of the use of a much greater variety of plants. The whole arrangement of the bedding constitutes an object-lesson to those in a position to turn such an experience to useful account.

To refer to some of the beds noted on a recent visit, we saw one filled with Fuchsias, some plants of the yellow Calceolaria amplexicaulis, and Tiger-Lilies, with a ground-work of Alternanthera within a band of the golden Lysimachia. A bed of Palms arranged thinly on a carpet of Alternanthera versicolor, having some smaller plants of Tuberous Begonias and Chamæpeuce diacantha peeping out from amongst them, surrounded by a band of Alternanthera amœna proved an effective and pretty picture. A good bed of Lilium speciosum with a ground-work of Senecio elegans produced a novel and pleasing effect. A bed of Godetias in various colours looked well at a nearlier date, but the hot, dry weather caused the plants to go off early. A good show is being made with Lilium speciosum album, together with some plants of Ivy-leaved Pelargonium, and a dark-flowered Scabious. In the next series there are two beds of white Marguerites, with blue Cornflower interspersed. A pretty sight is promised shortly from two beds of Lilium speciosum, having the yellow Chrysanthemum, Jardin des Plantes, under them. Between these two beds is a charming one composed of Calceolaria amplexicaulis and Campanula pyramidalis, blue and white mixed. The weather has been somewhat against the plants but now they are making headway, and the bed will be a good one during the autumn.

We next note a small bed of Chrysanthemum Gentleness, a pretty pink-flowering variety, which has succeeded Carnation Montague. Araucaria excelsa above a ground-work of mixed Pansies is novel and pleasing.

The two adjoining beds were lately filled with Carnations. These have now been cleared away, and a pretty mixed bed of Liliums, Gaillardias, Maurandya Barclayana, &c., and a carpet of Alternanthera is now seen. The other bed has been filled with Chrysanthemum Harvest Home, which will make a splendid late flowering bed.

Looking very well was an arrangement of mixed Fuchsias and Campanula pyramidalis with Lobelia cardinalis, having a carpet of Godetia and Begonia Princess Beatrice.

On either side of Mount Street Gate there were two very pretty beds of Bronze Pansies with some "dot" plants of White Marguerites, but these have been succeeded by Fuchsia Scarcity, having some white Scabious interspersed, making a very pretty bed. In the next row of beds, from Mount Street Gate to Grosvenor Gate, are some very good combinations. The extreme beds at either end contain standard Fuchsias, Ivy-leaved Pelargoniums, Campanula pyramidalis, Nicotiana affinis, and Papaver nudicaule, the whole making a pretty and varied picture, particularly in the evening. The next pair are full of standard Heliotropes, with Acalypha grandiflora and white Antirrhinums, which have done only moderately well owing to the hot weather, but are now improving.

The carpet of mixed Verbenas has been making a good show all the summer. There are next two beds of the beautiful French Cannas; the plants are now coming into bloom, and promise to make a good show. The centre bed of Plumbago capensis has done very well; the mixed Petunias planted under them have created a grand display, the hot, dry weather suiting them well. Near Grosvenor Gate, the extreme bed has Araucaria excelsa, with a ground-work of Begonia Princess Beatrice, and some dot plants of Ophiopogon variegatus, the light green of the Araucaria contrasting well with the pale flowers of the Begonia.

Turning round and glancing at the pair of beds on our right, the first is a round one, and very pretty. It is planted with Carnation Crimson Clove, interspersed with some plants of Lobelia cardinalis and yellow Salpiglossis.

Fuchsia Scarcity, with a carpet of Ten-week Stocks, in the other one, produces an abundance of bloom and perfume. Crimson Pelargoniums, with a carpet of white Pelargoniums and a band of the bronze Fuchsia Meteor make a good bed. Acacia lophantha, Begonia semperflorens rubra, with Amaranthus tricolor, and Phalangium variegatum, make a varied display in two other beds. There are two beds filled to advantage with large plants of Fuchsia, Mrs. Marshall, over a carpet of Viola Holyrood.

We next notice a pair containing Tuberous Begonias (crimson), producing a splendid display of bloom carpeted with the golden Lysimachia. A very pretty bed is that of crimson flowering Pelargoniums with the Golden Privet, Francoa ramosa, and Statice Suworowi, with its feather lavender-coloured flowers between them.

Another bed has been planted with Fuchsias and a carpet of Ten-week Stocks, surrounded with a band of Fuchsia Earl of Beaconsfield. A very pretty bed is made with Grevillea robusta, Begonia semperflorens (pink), Phalangium variegatum, and Amaranthus tricolor. Two beds of crimson-flowered tuberous Begonias, with a ground-work of Harrison's Musk, make a grand show, and a very pretty pair of beds is composed of pink Pelargoniums having plants of the white-flowered Abutilon Boule de Neige and orange-coloured Salpiglossis interspersed. There are two carpet beds near Mount Street Gate; one has a central figure filled with Alternanthera versicolor, with dot plants of Dracænas, Ophiopogons, and Carex europeus, the other with Alternanthera amœna, surrounded by Echeverias and Alternanthera aurea, having dot plants of Dracæna rubra and succulents.

A large circular bed, having Plumbago capensis, Lantana Queen Victoria, and scarlet Tropæolum, and a carpet of Coleus Crown Jewel, looks well.

Two small circles filled with Cuphea platycentra, grown into pyramids, and carpeted with Alternanthera, make very pretty beds.

Plants have been put in the grass, consisting of groups of Bamboos, Eucalyptus, and Palms, and they make an imposing display, which obtains general approval.

A range of beds from Grosvenor Gate to the Marble Arch is filled with Fuchsias, Pelargoniums, &c.,

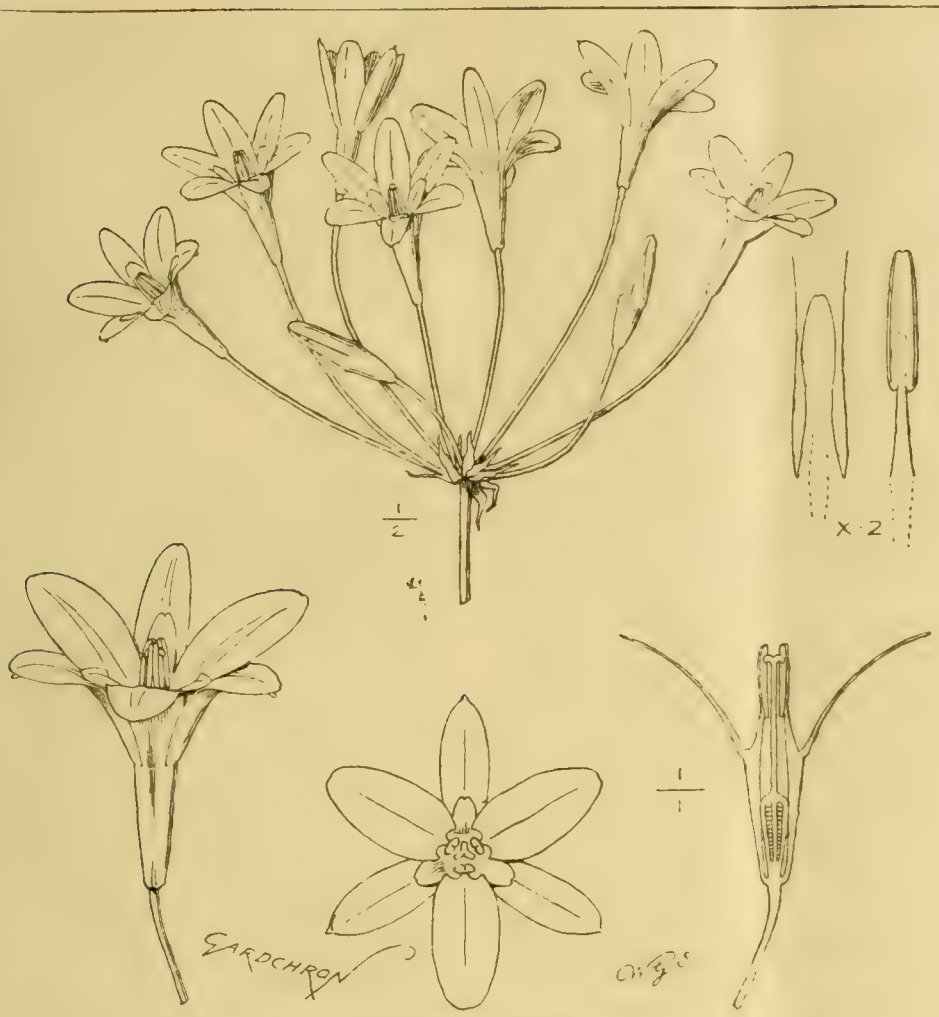


Fig. 37.—Brodiæa californica.
Umbel half-size; flowers of the real size, purplish; stamens, &c., magnified two diameters. (See p. 213.)

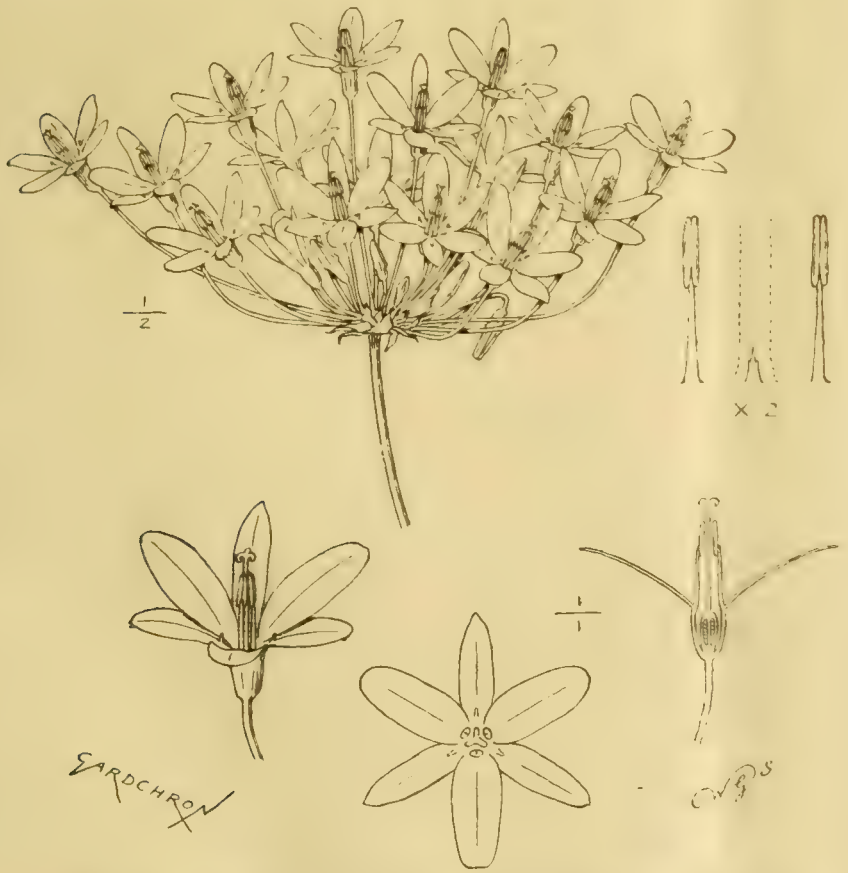


Fig. 40.—Brodiæa orcuttii.
Umbel half-size; flowers real size, lilac; stamens, &c., magnified two diameters. (See p. 214.)

the most conspicuous being occupied by Pelargonium West Brighton Gem, the season having suited Pelargoniums.

Some beds north of Rotten Row near the bandstand are filled with subtropical plants, but two have been filled with the hardy Willow-weed, Epilobium angustifolium, and Lythrum roseum, which have been flowering continuously for the past three months.

The waterfall at the Dell has been improved, the water-space having been enlarged. Water Lilies and aquatic plants near the margin make it an attractive spot. Mr. W. Browne, the Park Superintendent, may be congratulated upon his tasteful arrangements this season. *J. B.*

VEGETABLES.

VEITCH'S MAIN CROP PEA.

This has again been so satisfactory with me this season, that I cannot refrain from calling attention to it in the pages of the *Gardeners' Chronicle*. Its height this year has not exceeded 3 feet. It has maintained its true branching character; the haulm is strong and vigorous, the pods are produced in pairs, in profusion; they are large and handsome in appearance, and contain eight to eleven Peas in each, and they are of excellent colour and flavour when cooked. As a drought-resisting Pea, it has proved itself this season to be one of the very best. It would be interesting to know whether it has done well on hot, sandy ground. Our soil here is a heavy loam. *J. E., Nostell Priory Gardens.*

New Varieties of Dwarf Bean.

By hybridising and selecting, Mr. Smythe has been successful in producing as many as six or eight varieties of Phaseolus multiflorus type, but of dwarf habit, and has for two or three years been testing their character, they having in every way fully justified his estimation of them.

Last year I received test samples of five or six sorts, and they have proved invaluable for supplying the wants of the kitchen in this exceptionally dry season. The seeds of each variety are different in colour, as are also the flowers. The racemes are long, and the height of the plant does not exceed 18 inches, the pods being of a beautiful shape, and of a very crisp, fleshy character, and of splendid flavour when cooked. I have been gathering continually since the last week in June, and have now some rows heavily cropped. It is only necessary to compare them with Runner Bean to see the superiority of these novelties over their parents. At the present time there are here eleven rows of Runner Beans, 12 feet high, in the best of health, yet hundreds of racemes with only two or three Beans developed; all the other flowers have dropped off owing to the dry season, and hundreds have no Beans upon them at all.

Mr. Smythe tells me he has had, and has now, very heavy crops upon plants of the new varieties he has grown for consumption at Basing Park, notwithstanding there has been no rain there for four months, and the garden is situated on a hill. I have no hesitation in saying Mr. Smythe has raised one of the best strains of Beans in cultivation. I shall grow no other myself when I can get a sufficient supply of seed. *G. A. Bishop, Wightwick Manor Gardens.*

PRACTICAL FRUIT-GROWING IN AUSTRALIA.

In New South Wales is to be found a practically unlimited field for fruit-growing enterprise, especially on the part of those conversant with the better kinds of fruit, improved modes of cultivation, and proper methods for packing for the home market or for export, the failure of many experimental shipments of Australian fruit to London and elsewhere being largely due to defective packing. It has been roughly estimated that from one-quarter to one-third of the surface of the colony, representing an area of several million acres, is suitable for fruit-growing purposes, the fruits including almost every description grown in

temperate and sub-tropical countries. Yet the total productive area under orchards and fruit gardens in 1895 was only 21,465 acres, the quantity of fruit obtained being far behind the demand for local consumption, and necessitating the importation of considerable quantities from other countries. The value of these imports in 1895 was considerable, that of Apples and other ordinary fresh fruits, principally from Tasmania, being £100,465. The fruits exported from New South Wales consist almost exclusively of Oranges and Lemons, and it is anticipated that in the near future the export trade in these will become largely augmented, as every known variety of these fruits can be grown with ease in the colony; and, besides, the fruit can be delivered in London, Manchester, and other ports during those months of the year when there is no supply from Spain and other countries in Southern Europe. The area under Orange and Lemon trees in 1895 comprised 12,204 acres; the productive area, 9,242 acres; and the total yield, 8,703,252 dozen, or an average of 940 dozen to the acre. It is estimated that over 3,000 dozen of fruit to the acre can be obtained in an average season from fair-sized trees in full bearing. It is therefore probable that the figures for 1895 included the returns from a considerable number of young trees. Most of the orangeries are situated within a few miles of Sydney—a result, probably, of proximity to the metropolitan market, as there are thousands of acres equally adapted for Orange cultivation in the greater portion of the coastal districts of the colony. The possibilities of Orange cultivation in New South Wales warrant the anticipation that the leading British houses engaged in the marmalade manufacture may see their way, at no remote period, to the establishment of branch works in the colony. The production of candied Citron, Orange, and Lemon-peels, could be undertaken with success by reason, not only of the abundance and cheapness of the necessary fruit, sugar, &c., but also because of there being a fair supply of the requisite labour. All this would have been effected long since, but, as Mr. Coghlan remarks, for "the proverbial antagonism of the Briton to culture of any fruit, cereal, or fabric-plant unknown to the climatic zone of his native land," which "has hitherto injuriously operated against the introduction of many vegetable staples which experiment and experience have amply demonstrated would flourish luxuriantly in Australia, to the advantage both of the individual and of the community." Next in importance to the Citrus fruits is the Grape, the production of which has steadily increased of late years, the total area planted with Vines being now nearly seven times what it was in the year 1862, when it stood at 1130 acres, of which number Grapes from 562 acres were gathered for wine-making, the total production being 85,328 gallons. The yields for the years 1876, 1877, 1880, and 1892 were the best of the series. The total number of Vine-growers in 1895 was 2054. The average area of each vineyard was 3·7 acres, and the area planted with Vines still in an unproductive state was 744 acres. In 1894, the area under cultivation for table Grapes was 2358 acres, producing 4617 tons of Grapes, or an average yield of about 2 tons per acre. Large quantities of Muscatel and other Grapes could be profitably exported by those familiar with the methods of packing practised in Spain, Portugal, and other countries. So far, no effort has been made in New South Wales to prepare Raisin fruits for foreign consumption, although there exist undoubted possibilities for a large export trade in this direction. Experiments made in drying Grapes and Currants of Australian culture have met with success in the London markets, and experts have declared the product to be of the highest quality. These experiments were made in Victoria and South Australia, but New South Wales is, perhaps, even more favourably situated for the prosecution of this industry than either of the sister colonies, and with the extension of settlement, and the falling out of cultivation of the few products more cheaply grown in other and more suitably climatic parts of the world, the building up of a large export trade in Raisins, Muscatels, dried Currants, Figs, and other staples peculiar to the isles of the Levant and the Grecian peninsula may reasonably be expected.

India.

ROYAL BOTANIC GARDEN, CALCUTTA.

The season from October to March was abnormally dry, and many plants and trees perished or were damaged by the drought. Steady progress has, however, been made in improving the Botanic Garden, not only as a scientific centre for botanical students, but also as a pleasure resort for the public. Several garden roads were repaired, and the new road running from the Shalimar Point to the Garden was opened for traffic by the Public Works Department. The steps leading to Colonel Kyd's monument were renovated and paved with marble; and a cutting from the sacred Bo tree at Budh Gaya was presented by Mr. Grierson, late Magistrate of Howrah, and planted in the garden.

Attention was, as usual, given to the cultivation and distribution of plants of economic value. Among these the Sida, a fibre-producing plant, and the Adhatoda Vasica, a decoction of which is popularly believed to be a powerful insecticide in Tea plantations, were cultivated at the instance of the reporter on economic products. The decoction of Adhatoda Vasica was submitted to a test, but the results are reported to have been of a somewhat doubtful nature.

The collection in the Herbarium was increased by more than 17,000 specimens, the chief contributors being the Director of the Royal Gardens, Kew, and the Keeper of the Botanical Department of the National History Museum, London.

A gigantic specimen of the beautiful Australian Fern, Todea barbara, weighing upwards of half a ton, was presented to the garden by the distinguished botanist, Baron Sir Ferdinand von Mueller, K.C.M.G., F.R.S.

Orchid Notes and Gleanings.

CATTLEYA (LÆLIA) CRISPA.

The largest specimen of this that has yet come under my notice is now in flower in the Orchid-houses of R. le Doux, Esq., Marlfield, West Derby, Liverpool. It is a plant with nearly 300 bulbs, and has a large number of leads, growing strongly on a huge Teak-wood raft at one end of the Cattleya-house. The plant has been in this collection a number of years, and has increased in vigour and floriferousness year after year. At the present time it has ten spikes, each bearing five or six beautifully-marked flowers of large size and substance. It is a credit to Mr. Thomas Archer, the head gardener.

Renanthera (Vanda) Lowii

is also flowering in the above collection, and bears a spike over 4 feet long, which is still extending. At the present time there are thirty flowers and buds; this number will be greatly increased before the extremity of the spike is visible. *I. I.*

The Week's Work.

THE FLOWER GARDEN.

By Hedley Warren, *Gardener, Aston Clinton, Tring.*

GENERAL WORK.—The mowing, sweeping, and rolling of lawns and walks will require a great deal of time and attention. Evergreen hedges that have not yet been clipped, should be attended to without delay. In districts where the rainfall has been moderate only, continue to water recently-planted trees and shrubs. The mulching placed over the roots when planted should not be removed. Propagation should be pushed on as rapidly as possible. Some varieties of Pelargonium have made but little growth, and most of it late in the season. Select the best cuttings for present propagation, and next month lift the plants and pot them into 60-sized pots, in which they may be wintered. They will then afford an abundance of growths early in the spring suitable for propagation. Lobelias that are flowering less freely than formerly will make renewed growth if all decaying flowers be clipped off the plants. In beds where dot plants have been used, care is necessary that the surrounding plants be kept within their proper limits, so that the outline of the former may be evident. Remove any decaying stems or foliage from the beds frequently, that the beds may be kept in good condition as long as possible. Dahlias, whether planted singly or in beds, will require frequent attention in the matter of securing the growths against high winds. Earwigs are doing considerable damage among Dahlias, and should be looked for constantly. Flower-seeds of any particular variety of plant it may be desirable to save should be gathered as fast as they ripen.

ROSES are still suffering from the effects of the drought, and it is not likely they will afford a great quantity of bloom during the coming autumn. Where, however, the rainfall has been sufficient to thoroughly moisten the roots, or artificial watering has been persisted in, better results may be obtained. The plants may be helped a little by removing all dead or decaying leaves and flowers, and weak or exhausted wood. Where the late growths are already showing flower-buds, in such varieties as Gloire de Dijon, La France, Souvenir de la Malmaison, and other strong growers, these should be thinned out to one or two buds, which will give them a better chance to mature. If it be possible to afford the plants a good soaking with weak farmyard-manure liquid, it should be given them without delay.

ANTIRRHINUMS have this season been exceptionally useful, having produced a wealth of bloom both in beds and borders. For cutting purposes the taller varieties are to be recommended, but for planting in beds or front lines of ribbon borders, the dwarf varieties are preferable (see fig. 43).

ZINNIAS are deservedly popular, as they afford such a variety of colour in the flowers. For small beds or borders the dwarf varieties are undoubtedly to be preferred; but where a bold show of colour is desirable, the tall, large-flowering varieties should be employed.

PLANTS UNDER GLASS.

By Jno. McIntyre, *Gardener, Woodside, Darlington.*

PELARGONIUMS.—Zonal varieties intended for autumn and winter blooming, having filled their pots with roots, may now be given weak dilutions of liquid-manure from the farm-yard, or an occasional sprinkling with a good fertiliser. A portion of the plants may now be allowed to flower for autumn use, but continue to remove the flower-buds from the others until another month or six weeks has past in order that they may bloom well during winter. Those of the Regal type which have finished flowering should be given less water preparatory to their annual rest. At the present time, a quantity may be propagated to form young stock. We generally find that Pelargoniums older than two years are less satisfactory than younger plants. Take off the shoots about 4 inches long, and insert them singly in thumb-pots, filled with a light compost of loam, leaf-soil, and silver-sand. The latter should dribble into the hole where the cutting is inserted. If the weather be favourable, place them out-of-doors, but be careful to protect them from rains. As soon as the old plants are sufficiently ripened, they may be placed on their sides, and after a time be cut hard back.

LILIUM AURATUM.—Imported bulbs of this grand Lily can be had so cheaply that it should be grown in quantity. We place one bulb in a 5 or 6-inch pot, and this year they have been exceptionally fine, one of them bearing twenty-two excellent blooms. Obtain the bulbs as early in the season as possible, pot them up in 5 or 6-inch pots, using a compost of good loam and leaf-soil in equal parts, and place a little sharp river-sand where the bulb is to rest. Plunge them in the same manner as Hyacinths are plunged, and as soon as they are well rooted remove them to a cold frame, and protect from severe frosts.

EUCHARIS.—Plants that have flowered during June and July should be encouraged to make new growth. If this be done now, and the plants obtain a rest early, a good number of flowers may be had by Christmas. As soon as Eucharis plants have finished flowering, we repot any that are starving for pot-room, but this is never more than one-third of the collection, for if Eucharis are healthy, they ought not to be repotted more often than once in three years. The plants bloom best when pot-bound, and those that are repotted seldom bloom freely until the following season. In the case of large specimens of Eucharis that are used for exhibition, it is best to shake them entirely out of the pots, and to separate the flowering bulbs from the weaker ones. They can then be re-

potted separately, and every large bulb will usually produce a spike of flowers. If this be done, the plants should be almost at rest before the operation is commenced. After the bulbs have been repotted, they must be placed in a warm house to encourage them to make fresh growth. Great care must be exercised in watering. Give them a good soaking with moderately warm water to settle the soil about the bulbs, and then if the plants are sprayed overhead night and morning with the syringe, it will be sufficient until the plants take good hold of the new soil. A temperature of 70° at night, rising to 85° in the day, will suit them well during re-establishment. If Eucharis be grown for furnishing or cutting purposes only, the best system is to pot them into 8 and 9-inch pots, which will easily contain ten or a dozen good bulbs. After a couple of seasons, each pot may produce from fifteen to twenty spikes of flowers. If the mite should make its appearance, the safest and the only effectual practice is to destroy the plants and commence with a fresh stock.

REPOTTING IN AUTUMN.—Any plants that still require to be repotted before winter must not be given large shifts; a pot one size larger will be ample, unless in the case of very strong-growing plants. At this late season of the year it is better not to disturb the roots. First look over the collection, and select all that really require to be done; you will then be able to prepare the various soils best suited to the wants of the different plants, and the work can be more easily carried out.

FRUITS UNDER GLASS.

By W. Pope, *Gardener, Highclere Castle, Newbury.*

CUCUMBERS FOR WINTER.—Seed may be sown for producing plants for winter fruiting, or if it be preferred to raise the plants from cuttings, these should be inserted during the early part of September. It is important that the plants should be well-established and strong before winter, to crop satisfactorily during the short, dark days. Of varieties suitable for this purpose, a good selection of Telegraph cannot be surpassed. Cardiff Castle is also reliable and good. Plants that have been bearing heavily, and show signs of exhaustion, may now be well-thinned, and the shoots partially cut back, removing all remaining fruits at the same time. Take away a little of the surface soil, and apply a good top-dressing of fresh rich loam over the roots. Keep the house close and warm for a time, and if the plants are in a healthy condition young wood will soon be freely produced, and a good supply of fruit be afforded through the autumn. As the nights become colder a little fire-heat will be necessary to prevent the temperature falling below 65° or 70° to 75° through the day. Syringe and close the house early in the afternoon, but if mildew should put in an appearance, give rather more ventilation, and dust the affected parts with flowers-of-sulphur.

FIGS.—Trees planted out in houses frequently make an abundant growth instead of fruiting satisfactorily, the result, probably, of an unlimited root-run; where this is the case, root-pruning and a restricted rooting area are the proper remedies, and they should be carried out as soon as the foliage gives indications of becoming fully matured in the autumn. If the drainage be not perfect, it should be made so, and a proper fall and outlet provided to carry off surplus water, 9 inches or a foot of chalk or brick-rubble being placed over the bottom, with a few inches of finer material at the top, to prevent the drainage becoming choked with the finer particles of soil. If the old border be fairly good, it will not be needful to remove it, but if it be deficient in calcareous matter, simply mix in a sixth part of old lime and mortar rubbish, or chalk broken fine. The width of the border may be determined by the height of wall or trellis, from 4 to 6 feet being in most cases ample; the depth of soil should not be more than 24 inches, and in replanting take care to ram the compost firmly about the roots, this being conducive to the production of short-jointed and fruitful wood.

MELONS.—Plants for the latest crop having been planted out, should be encouraged to make a stout sturdy growth, by affording them plenty of light and ventilation, with a temperature of 65° to 70° at night, and 70° to 75° by day, with an increase of 10° by sunheat. Plants swelling their fruits in pits and frames need careful attention now in watering &c., very little water being required after this date, especially where growing on heaps of manure. Sprinkle overhead only on fine afternoons, withholding this altogether as soon as the fruits give indications of ripening. Maintain a good warmth by frequent renewal of the linings, and keep a little air on constantly.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

MILTONIA VEXILLARIA having commenced to grow should now be repotted, for this species when in full growth needs such large quantities of water that by the end of the season the compost has become exhausted. Make quite sure that they are perfectly free from insects, small yellow thrips conceal themselves low down in the growths, and it is exceedingly difficult to eradicate them with either brush or sponge without injuring the tender growths. The most effectual remedy is to dip the plants into some safe insecticide. The mixture may remain on the plants for several minutes, during which time they should be laid on their sides, that the insecticide may drain off from the base of the plant to the tips of the leaves instead of into the roots, then thoroughly rinse it off in clear soft water at a temperature of about 80°. Another method is to dust sulphur or fine tobacco-powder well down into the growths; this will drive them on to the surface of the leaves, and then by using the XL All Vaporiser they may soon be destroyed. After the plants have been cleansed it is necessary to shade them from strong sunlight for a few days. When repotting a plant turn it carefully out of the pot, and pick out all the decayed compost, and cut off all dead roots. M. vexillaria being a surface-rooting plant, it does not require much depth of soil. The pots or pans used should be rather large, in proportion to the size of the plants, and to about three-fourths of their depth, fill them with clean crocks, then to preserve the drainage place a thin layer of sphagnum-moss upon it. Elevate the plants well above the rim of the pot, as by so doing additional rooting surface is afforded, spread the old roots well out towards the rim, taking care not to bury them too deeply, or they will decay. Work in amongst them the following compost: three-fourths of clean picked sphagnum-moss, one-fourth fibry peat, and a quantity of small broken crocks well mixed together. Until the new growths begin to root freely, merely sprinkle the surface of the compost with a fine watering-can to induce the sphagnum to grow. As the roots lengthen and commence to take hold of the sides of the pot, so should the supply of water be gradually increased. The Odontoglossum-house will suit them for the present, but when the nights become cold they should be removed to the intermediate-house. The pretty summer flowering varieties as Miltonia vexillaria rubella and M. v. r. superba will not require repotting until the middle of next month. The beautiful hybrid M. Bleuana and its distinct variety nobilior, now in full growth, should be in the intermediate-house. Afford them plenty of fresh air at all times.

VANDAS.—Plants of the rare Vanda Sanderiana are now rooting freely and showing their flower-spikes. Every care must be taken to preserve both roots and flower-spikes from the attacks of cockroaches. Keep the plants isolated, and in such a position that they may be easily looked over every night by lamp-light. Vanda Kimballiana is also producing its spikes, and should be suspended close to the roof-glass of the intermediate-house, where it will obtain plenty of sunlight to bring the spikes to perfection. Both species will require plenty of root moisture until their flowers fade.

MASDEVALLIAS of the Harryana, Veitchiana, and ignea section will soon require attention as to potting, therefore, in the meantime, the plants should be thoroughly overhauled and cleansed from all dirt and insect pests.

THE HARDY FRUIT GARDEN.

By G. Woodgate, *Gardener, Rolleston Hall, Burton-on-Trent.*

PEACHES AND NECTARINES.—In cases where the fruit has been gathered from Peach and Nectarine-trees, the old fruiting wood may be cut away, and at the same time it is necessary to stop to one leaf all laterals upon the young growths. Remove entirely all extra gross growths; the young wood will then be exposed to the full sunshine and air. Use the syringe daily, that the foliage may be kept clean and healthy for as long a period as possible.

PLUM AND SWEET CHERRY-TREES from which the fruit has been cleared require attention in regard to securing the shoots left for extension, and the cutting-back or removal of breastwood to expose the spurs and next year's bearing wood. Examine the trees for any insect pest, and if any are found, wash the trees with some good insecticide, and keep them clean afterwards by forcible syringings of clean water. See that the soil in the borders does not lack moisture, or the maturation of the wood and fruit-buds will be hindered.

APPLES AND PEARS.—The earlier varieties, such as Duchess of Oldenburg, Lord Suffield, Stirling Castle, and Devonshire Quarrenden, and of Pears, Doyenné d'Eté, Jargonelle, and Williams' Bon Chrétien, will soon need to be gathered and stored. The fruit-room should therefore be prepared for them by thoroughly cleansing the various stages, shelves, and floors. Allow the doors and windows to remain open afterwards, until the whole of the interior is quite dry. Then close the shutters to exclude the light, but leave sufficient air on to keep the temperature as nearly 45° as possible, the chief point to observe being to keep the room dark, cool, and even in temperature. Early Pears do not remain long, after being gathered, in good condition; it is therefore a good practice to gather a few fruits daily, according to the demand, as soon as they begin to change colour, and thus prolong the supply.

PROTECTION OF THE FRUITS.—Small birds are becoming very troublesome in attacking Apples and Pears as soon as they show signs of ripening. Place nets over trees that can be conveniently covered, and in the case of larger trees, place in them some material to scare the birds, such as pieces of paper tied at the end of short strings, and attached to the outer branches, where they can be blown about by the wind. Notwithstanding the nests destroyed, and the number trapped in bottles, wasps are still sufficiently numerous to necessitate the use of wasp netting over Red and White Currants, Morello Cherries, and Red Warrington, and other late kinds of Gooseberries, where these fruits are required to hang on the trees for some time longer.

THE KITCHEN GARDEN.

By C. Herrin, *Gardener, Dropmore, Maidenhead*

ASPARAGUS.—In districts where dry weather still obtains Asparagus beds (especially those raised with deep alleys between), should be afforded further supplies of weak liquid-manure. On light soils this is very important that the plants may be able to make strong crowns for the production of good heads next season. If liquid-manure cannot conveniently be given, some fish guano sprinkled over the beds and afterwards washed in with clear water forms an excellent substitute. The beds should be kept clean by hand-weeding.

SEAKALE requires very similar treatment to the above, and where the leaves have not already covered the allotted space, continue to use the Dutch hoe. Weeds may be easily kept down during the dry weather, and it should be done before any autumn rains make the operation more difficult. Soot is an excellent manure for Seakale, and it may be scattered thinly all over the plants and soil; then give plenty of water to carry it into the soil.

POTATOS.—Mid-season varieties, such as Snowdrop, Windsor Castle, and Satisfaction, are ripening fast. In all cases where the tops are becoming yellow, thus indicating maturity, I would lift them without further delay. At present the Potato-disease is absent from many gardens, but should there be a change to dull, wet weather, the fungus may appear and spread rapidly. If they are lifted in fine weather expose the tubers on the surface of the ground for a few hours, until they are thoroughly dry, and the skins hardened. Those for use may then be stored in a cool dark place, and the seed-sets should be laid out somewhat thinly on shelves.

GENERAL WORK will consist chiefly in supplying water to the various crops. Celery plants require copious supplies to keep them growing, and Peas must be thoroughly attended to in this respect. Once the haulm receives a check in growth, subsequent watering is of little use. Another small sowing of Cabbage and Lettuce seeds may be made, also of Radishes for succession, including the French Breakfast and Red and White Turnip-rooted varieties. As portions of the ground become vacant, plant some kind of winter green stuff, Colewort, &c. Thin and transplant the earliest sown Cabbage plants into nursery-beds, giving a space of about 4 inches apart. This will ensure the plants growing stout and stocky, a condition to be desired when planting out into permanent quarters later on.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the **PUBLISHER.**

Letters for Publication, *as well as specimens and plants for naming, should be addressed to the* **EDITOR, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY,	AUG. 25	Royal Horticultural Society, Meeting at Drill Hall, Westminster. Brighton Horticultural Show.
WEDNESDAY,	AUG. 26	Horticultural Shows at Bath, Harpenden, and Reading.
THURSDAY,	AUG. 27	Willesden Show (four days). Horticultural Show at Sandy.
FRIDAY,	AUG. 28	Falkirk Horticultural Dunfermline Autumn Show (two days)
SATURDAY,	AUG. 29	—Buchlyne Horticultural Show.

SALES.

MONDAY,	AUG. 24	Great Trade Sale of Dutch Bulbs at Messrs. Protheroe & Morris' Rooms.
THURSDAY,	AUG. 27	Great Trade Sale of Dutch Bulbs at Messrs. Protheroe & Morris' Rooms.
FRIDAY,	AUG. 28	Important Sale of Established and Imported Orchids at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK —61·1°.

Fire in Covent Garden Market.

BEFORE many of our readers could have had the last issue of the *Gardeners' Chronicle*, the contingency to which we therein alluded happened. Fortunately the outbreak took place in the forenoon, when the market work was practically over for the day, so that it was soon discovered, but as the subjoined extracts from the *Times* show, it was not easily extinguished. Those familiar with the Foreign Fruit Market will agree with us that were it not for the free use of iron and concrete in its construction the necessary conditions for a big fire are abundantly provided in the building, and specially in the neighbouring premises. It shows well for the watchfulness of the custodians that such a fire has not long since happened. Perhaps now precautions will be taken to lessen the risk by the speedy removal of inflammable material and the adoption of all reasonable and obvious precautions.

"A fire of an alarming character broke out at half-past 11 o'clock on Friday morning in the Floral Hall of Covent Garden Market. The hall stands by the side of Covent Garden Theatre, extending backwards from Bow Street nearly 100 yards. It is about 40 yards wide, and has a glass roof. Inside, on the ground floor, are rows of wooden stalls, &c., rented by the market salesmen, and these lie well back on each side, while the centre of the great hall is generally piled up with masses of every kind of fruit in baskets and boxes, and on flower market days with tiers of flowers. The building, which is of red brick, was supposed to be fireproof, and the ground floor is of solid concrete. Underneath are extensive cellars, also rented by the market salesmen, and used chiefly for the storage of thousands of empty crates and baskets. The sales were proceeding actively in the body of the Floral Hall, when smoke was observed curling up from the Bow Street end of the structure, apparently from the north-eastern corner. Gradually the volumes of smoke increased in density, and a sharp breeze from the south-east blew the smoke well into the interior of the building. Measures were taken to remove the great masses of fruit, &c., which were contained within the building, and messengers were despatched to ring the fire-alarms in the neighbourhood and to call the firemen. At 11·35 the alarm communicating with the Scotland Yard Fire Station was pulled from Long Acre, and as the engine was turned out of the station and was galloped along the Strand, the clouds of smoke rising from the direction of the market could be seen. Smoke was now pouring out of every door in the building in thick clouds. It was obvious that the fire had obtained a very strong hold of the basement, and the difficult task which had to be performed was to localise the actual seat of the outbreak. A message from the fire was telephoned all over London to the effect that the Floral Hall of Covent Garden Market was well alight. Although a strong force soon gathered at the scene, the work was of the most puzzling description, and at the same time had to be carried out under extremely difficult circumstances. In the front of the building, as well as inside, there were large square 'sun-lights' in the floor, consisting of iron frameworks, divided into minute squares, which in their turn were filled in with thick glass of peculiar shape. The glass was hastily hammered in and the water poured down through the framework; but soon afterwards the frameworks were taken out, and the firemen stood at the square holes, from which came clouds of pungent, suffocating smoke, and steadily directed the hydrants into the basement. After six hydrants had been set to work five steamers were brought into play, but by this time the firemen were working in what seemed to be a thick fog, which had extended over the whole of the great hall, and was temporarily choking and blinding all concerned. When the brigade had been at work for an hour it was declared that the fire was still extending, and it was decided to call up aid from other districts in London. Firemen were sent up on the roof to hack away the glass, and so give vent to some of the smoke. The holes thus made soon had a very beneficial effect. Mr. GAMBLE, finding that his men were still baffled in their efforts to reach the heart of the fire, and were quite unable to get down into the basement, determined to try an American patent in the shape of a respirator with eye-glasses fitted, for which the merit was claimed that a fireman can enter the densest smoke without inconvenience. Fireman ALLSHORN, who is attached to the Southwark headquarters, put on the apparatus, and, a rope being tied round him, he was lowered into the basement at the Bow Street end. He presently returned, and was able to indicate the exact position of the fire, which was in the north-eastern corner of the building and close to the Covent Garden Theatre. The appliances were then concentrated in this direction, and it was soon obvious that the deliveries were having an effective result. The smoke momentarily decreased in volume, and at a quarter past 1 o'clock the brigade had reached the centre of the fire, and were enabled half an hour later to complete the work of extinction. How the fire originated is unknown."

A "JADOO" CONSERVATORY.—The conservatory at Eastcliff, Teignmouth, of which we on p. 219 give an illustration (from a photograph by DENNY, of Exeter and Teignmouth), differs from all others that have hitherto come under our notice, in that all the pot-plants used in it are grown, not in soil or earth of any kind, but in Jadoo fibre, which, as many of our readers know, is peat-moss boiled in certain chemicals. The plants grown in the hanging-baskets are in the same material, which, being only half the weight of ordinary mould, permits of baskets being used in conservatories, the rafters of which would not be strong enough to bear the weight of baskets filled in the usual way. There is nothing particularly novel or uncommon about the plants used, if we except a basket filled with Asparagus Sprengeri, which has an exceedingly light, graceful character. A portion of the roof is covered with a profusion of flowers of Ipomœa Learii. This and the old specimen of Heliotrope which luxuriates over one of the walls are the only plants not growing in Jadoo. The others consist of Fuchsias, Cannas, Tuberoses, Gladioli, Liliums lancifolium and tigrinum, white Marguerites, Begonias red, white, and yellow, self-coloured Carnations, Streptocarpus, Kalosanthes, Abutilons, Ivy-leaved Pelargonium (Souvenir de Charles Turner), and Lobelias. These, mixed with green and coloured foliage of Ferns of many kinds, Coleus, Strobilanthes, Ophiopogon, Panicum, Isolepis, and Selaginellas, have been well arranged by the gardener, Mr. SYMES, who has produced a very pleasing effect. Jadoo fibre is reputed to improve the colour of flowers grown in it; this was very noticeable in the display of blooms in this conservatory, where the purity and brightness of the colours were very unusual. Colonel HALFORD THOMPSON may be congratulated upon this desirable result of growing flowers in Jadoo.

HORTICULTURAL DEPARTMENT OF THE ANTWERP ZOOLOGICAL [GARDENS.—Among the various fine groups of plants here is a very interesting collection of Agaves. Among them are Agaves Victoria Regina (A. consideranti), rare and little known; Beguini, a novelty; Ponettii, also new; Ousselghemiana, mitræformis, cœrulescens, an excellent variety; univittata obscura, Gibeyi, also new, as is Bilmondii. I would mention, further, the beautiful Fourcroya Lindeniæ, Euphorbia cœrulescens, grandis, mamillaris, and grandicornis. The peat plants include species of Andromeda, Skimmia, Vaccinium, Rhododendron, Kalmia, Azalea, and Ledum. The collection of Ericas includes all the species known in Belgium. Very fine also are Andromeda tetragona, Lyonia, and Pernettya angustifolia. Among the species and varieties of perennials, I noticed Cypripedium calceolus and spectabile, which flower annually; Spigelia marylandica, fine varieties of Iris Kæmpferi, of Liatris spicata, Statice, Spiræa Bumalda Anthony Waterer, and Phlox Snowball. Alpines are well represented. I saw Caucasian Primulas which had seeded, Campanula Zouckii (Zoysii ?), Edelweiss, Aquilegia Bertoloni, Gentiana gelida, asclepiadea, septentrionalis, Acæna microphylla, Scutellaria alpina, Erica mediterranea, Aster alpinus, a fine specimen of Juniperus tamariscifolia, and pretty species of Epimedium and Saxifrage. In a small stream grow and flower Nymphæa rosea, alba, and Marliacea macrotella fol. marmoratis. A tree Heliotrope here is very fine; it measures about 12 feet high by 6 feet across, and was grown from a cutting made in 1849. Five of its descendants are now nearly 5 feet high; all the plants bloom freely. One very effective decorative group is composed of fine specimens of Chamærops Fortunei, Phœnix tenuis, Areca Baueri, Chamærops excelsa, C. e. pumila, Musa ensete, Dracæna indivisa, Phormium Colensoi, Dracæna australis, Fourcroya Lindeni, and Caladium esculentum. The base of this bed is enlivened with hardy perennials and Alternanthera amœna and paronychnoides, tuberous Begonias, Viola azurea, Ophiopogon jaburan, Phalangium angustifolium, Cineraria argentea plumosa, Lobelia, and other plants. There are also here baskets of tuberous Begonias, giant summer Stocks, and Roses; clumps of Tritoma (Kniphofia), Lilium auratum, Montbretia crocosmæflora, and Gladiolus; arrangements with fringed double Petunias, Canna, Erythrina cristagalli, Zonal Pelargonium var. Foucard, Zinnia, and Heliotropum peruvianum. The excellent order in which the garden is kept is owing to the skill of the Director, M. L'HÖEST, and the intelligence and zeal of the gardener, M. LOUIS BLOCKX. *Ch. De B.*

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Fruit and Floral Committees will be held in the Drill Hall, James' Street, Westminster, on Tuesday, August 25. A lecture will be given at 3 o'clock by Mr. T. JANNOCH, F.R.H.S., Dersingham, on "Forcing Lily of the Valley."

RECORDS OF THE PAST.—We take the following extract from *Jackson's Oxford Journal*, it being a reprint from one of the back numbers of that journal for 1767:—"BEYOND DESCRIPTION.—Advt., May 20, 1767. To be sold at Bloxham, Oxfordshire, by EDWARD NELDER, gardener, his entirely new and true both Cabbage and Winter Green miraculous plants (so called from their different forms) which, when they are at their full growth, are innumerable; nor can the like be produced by all Europe. The abovesaid forms, which appear on the leaves when at their full growth, are from 5 to 9 inches in length, and not only the finest pickle, but also the most noble garnish that ever were made use of, and when boiled (which is done in a few minutes) they are of the most agreeable flavour. The Cabbage plants, when in perfection, measure, at the extremity of their leaves, from 3 to 20 feet in circumference. They stand the winter exceeding stout, and are in short, both pleasing and profitable, affording more variety than a hundred flowering shrubs, nor can the most exquisite workman delineate the same either with pen or pencil, they being beyond all description. Price from one shilling to two shillings and six pence each plant."



FIG. 12.—COLONEL HALFORD THOMPSON'S CONSERVATORY, AT TEIGNMOUTH, DEVON. (SEE P. 218.)

Hamburgh Exhibition, 1897.—We have received official information from the Government, through the Director of the Royal Gardens, Kew, of this show. We learn also that the Council of the Royal Horticultural Society has formed a committee to co-operate in England with the Committee of Management of the great Hamburgh Horticultural Exhibition of 1897. The following gentlemen have been requested to act on this committee, with power to add to their number:—Sir Trevor Lawrence, Bart. (Chairman); Messrs. H. J. Veitch, W. T. Thiselton Dyer, C.M.G., Dr. Morris, Baron Schröder, Owen Thomas, Geo. Bunyard, J. T. Bennett Poë, H. Selfe, Leonard, Chas. E. Shea, W. Marshall, Philip Crowley, and the Rev. W. Wilks, M.A. The committee will meet as soon as the holiday season is over.

A Gardeners' Re-union.—A pleasant gathering of gardeners took place on August 13 at Park Place, Henley-on-Thames, on the occasion of the annual meeting of past and present *employés* of Mrs. Noble. Some few years ago it was suggested that all past gardeners who could be found should be invited to spend a day at Park Place, and meet the present members at a game of cricket. So heartily were the invitations accepted, and so many were the expressions of pleasure at revisiting old scenes and meeting old friends, that the gathering has now become an annual one. At the meeting on the 13th inst. occasion was taken to present Mr. Stanton, the gardener, with a token of the esteem and affection in which he is held by all who have had the privilege of working with him. The presents constituted portraits of Mr. Stanton himself, his son, and his daughter, also an illuminated address containing the names of nearly one hundred subscribers.

Bunyard's Centenary Show.—In order to celebrate the centenary of the establishment of the firm of Messrs. Geo. Bunyard & Co., of Maidstone, an exhibition of horticultural products will be held in the Corn Exchange, Maidstone, on Sept. 15 and 16. Cash prizes to the extent of £150 are offered for fruits and vegetables, and besides gardeners' classes, there will be some arranged for cottagers and cottage-garden societies.

Pulborough and District Horticultural Society.—The annual show was held in the Vicarage Grounds on August 12, and a fine collection of flowers, fruit, and vegetables was brought together, the quality of the Potatos being of unusual merit. The non-competitive groups from Heywood Johnstone, Esq., M.P., Sir Walter Barttelott, and other local gentlemen, added greatly to the attractions of the show. Mr. Jenner, Horsham; Miss McRonald, Chichester; and Messrs. Cheal, Crawley, sent specimens of the various specialities grown in their nurseries.

Wood Pulp for the Production of Paper, as an item in our import trade, continues to increase in importance. In June of 1894, there were brought to this country 21,681 tons of wood pulp; in June of the present year, the quantity had increased to 27,180 tons—an increase of 5,499 tons. In the first six months of the present year we imported 146,752 tons—by the close of 1896 we may reckon on having imported a quarter of a million of tons, if not more. We thus get the foreign producers to compete with each other in sending the raw material to our market, enabling us to successfully compete with him for the manufactured article. A certain French daily newspaper states that it prints and issues every day over a million copies—"the largest circulation," doubtless—in twelve months "working up" 120,000 Fir trees averaging 60 feet in height, and equalling the thinning of 25,000 acres of forest. We do not vouch—because we have not the means of doing so—for the correctness of this statement; but we give publicity to the above figures as they show how greatly the wood-pulp made paper trade is increasing.

Epping Forest.—In an article on this forest in a recent number of *Garden and Forest* occurs the following passage, presumably written by one who occupies the foremost position in America as an authority on such matters, and this is what he says: "The people who insist that the forest must remain just as it is ought to know that these mutilated Pollards are anything but natural, that they are permanently disfigured, and will never make respectable upright trees. The managers of the forest are aware of this, and they know that the Pollards stand too thickly for their own wholesome development, while the dense growth of their spindling branches will destroy the beautiful undergrowth which took possession of the ground when the lopping of the trees let in the light and air. They are aware that these clipped and artificial trees should be severely thinned out, and although some of the gnarled and twisted trunks should be left for their picturesque qualities, a vigorous use of the axe is the one thing which the forest most needs. And yet in England, as in America, whenever a tree is felled the people raise a clamour as if it were a desecration, when really this is only helping nature to reassert herself and encourage genuine woods to take the place of an unnatural growth. Young trees in abundance are coming up, and if an opportunity were only given to them the whole territory could be renovated in fifty years, and be a thousand times more lovely than it would be if let alone. And another problem will soon be pressing. Many parts of the forest are now thronged with visitors, but other parts are often so lonely that one can find in them almost the solitude of some of our primeval woods. As the giant city sweeps to the north and envelops the forest, the numbers of people who come to refresh themselves in its dark recesses will multiply. It will then be more difficult to preserve the charm of natural forest conditions. The undergrowth will be trampled to death; there will be need of drainage to make dry walks, and this will sap the life of some of the trees; the by-paths will be worn wider; the turf in the green roads will be ruined. Then will come the same problem which presents itself to the park-makers in our own country, where land is set apart for refreshing the bodies and the minds of invading multitudes—the problem how to provide for human convenience most completely, and yet save as much of the poetic beauty of the wood as possible.

Hardness of Wheat-grains.—We find in the *Agricultural Gazette* of New South Wales for May an elaborate and valuable article on this subject, representing the results of some 8,000 tests made during a series of years on various kinds of Wheat. The grain was placed between a pair of cutting-pliers attached to a spring balance, worked by a crank, regulated by a pendulum, and provided with means whereby the maximum amount of strain endured by the wheat-grain before crushing is registered. The number of ounces registered on each trial indicates therefore the amount of pressure exerted. Forty grains of each variety were taken, and an average drawn from the forty. The variation ranges between 123 oz. and 297 oz. Mr. Cobb, who conducted the experiments at the Wagga Experimental Farm, calls attention to the indefiniteness of nomenclature in the case of varieties of Wheat—an indefiniteness that renders much of the work that has been done formerly worthless. Want of purity is another source of confusion and inaccuracy. Mr. Cobb took special pains to ensure that his Wheats were properly named, and that the sample was pure and unmixed. The paper is one which we cannot say more about in this place, but that it is of great value may be gleaned from what we have said.

"The Students' Handbook of British Mosses."—Under this name Messrs. Williams & Norgate publish a thick octavo volume, prepared by Mr. H. N. Dixon, and with illustrations and keys to the genera and species supplied by Rev. H. G. Jameson. The subject is not sufficiently horticultural to allow us to devote much space to it, but a perusal of the introduction and preface, and of many of the notes to the species, leads us to recommend the book with much cordiality to students of mosses. The classification is based on that of Schimper, with sundry modifications, necessitated by modern research. The author shows himself by no means oblivious of modern innovations, but manifests also prudence in not disturbing more than is requisite the generally-accepted limitations. The finality he speaks of, we fear, is not in the nature of things. The full synonymy is not attempted, but the omission of any indication of the date and place of publication of the original species is unfortunate. The plan of calling attention to the salient points of any particular species by means of italics is helpful to a student, if he takes care not to attribute to it greater significance than the author intends. Mr. Dixon thinks this plan has not been employed in any of our British works on the subject. Perhaps not in the case of mosses—but has the author forgotten his Babington? There are no fewer than sixty plates, each comprising several species, the details concerning which are all drawn to scale.

A New Insecticide.—A substance recommended as a substitute for Paris Green in spraying mixtures for destroying insects on plants, and alleged to be non-injurious to foliage, has been found by F. T. Shutt to consist of lead arsenate. The insecticide is prepared by dissolving 3 ounces of sodium arsenate in a quart of water, and 4¾ ounces of lead acetate in a similar quantity of water, then pouring both solutions into a barrel containing about 45 gallons of water, and stirring well. The volume may then be made up to 50 gallons. The white amorphous lead arsenate formed remains longer in suspension when thus precipitated in a large volume of water than when concentrated solutions are mixed and subsequently diluted. A slight excess of lead acetate remains in solution, thus preventing risk of injury to foliage that might result if sodium arsenate were in excess. *Pharmaceutical Journal.*

A DWARF TYPE OF ANTIRRHINUM.

During such a season as the present one has been, remarkable for great heat, and not less so for continued absence of rain, it is seen that there are certain plants in the flower-garden that withstand these adverse circumstances much better than others. In another column Mr. Wolley Dod calls attention to the remarkable manner in which Statices have bloomed, and have shown themselves to be desirable plants for hot, dry soils. Another type of plant that has flowered exceedingly well this season, and which generally does, when circumstances are similar, is the Antirrhinum. In fig. 43 is represented a plant of a very dwarf type shown by Messrs. H. Cannell & Sons, Swanley, at a meeting of the Royal Horticultural Society on July 28th. Of course taller varieties are preferable for some purposes, but in small gardens, or for forming edgings, and similar uses, the dwarf type is an excellent one. At the meeting already mentioned, Messrs. Cannell's plants bore clear, distinct, self-coloured flowers, or variously striped or mottled ones.

Home Correspondence.

The Gardeners' Orphan Fund: Some Suggestions.—At the present time, when many suggestions are being made as to the most fitting manner of celebrating Her Majesty's long reign, it may not be inappropriate to suggest some ideas that, if carried into effect, would be the means of materially benefiting the Fund which owes its inception to British gardeners on the occasion of Her Majesty's Jubilee in 1887. Much has happened in the time which has transpired since the formation of the Gardeners' Orphan Fund. It is well to look facts in the face, and if this is done, it will be found that the Fund is not supported by the craft to the extent it deserves to be. Let us see if in 1897 we can help the beneficent work begun in 1887. In the early days of the Fund there attended at the annual dinners a large number of gardeners. The tickets for this event were procurable at a reasonable price, and even those on the lower rungs of the gardening profession could attend it, became warmly interested in the good cause which called them together, and probably determined to become subscribers to the Fund. It may be that the guinea dinner (a sum which does not represent the actual cost of attendance) ensures a good subscription list; but such a "list" is purchased at a very dear price if it shuts out

—as it must do—the very class who by reason of their pecuniary position cannot, but ought to and would, be present were the price such as they could afford. As a means then of enkindling some enthusiasm in the breasts of gardeners towards this Fund, let a truly representative gardeners' dinner be organised in 1897, if on June the 20th, all the more appropriate. It might also be a good idea to send a collecting-card to every head gardener in the United Kingdom, with an earnest request from the executive committee that he should collect as much as possible before the memorable day. As showing what may be possible, I might refer to what was achieved recently by the *employés* of "Harrod's Stores." As the result of the collection and *fête* given on the 8th inst. at Barnes, a sum of £2,000 will be handed over to Guy's Hospital for the purpose of endowing two beds in perpetuity. This suggests a further thought, although it may not be possible to carry it into practical effect next year. It may, in fact often does, happen, that some of the present recipients of the Funds' allowance are ill, and the mother by her very poverty is precluded from getting them proper medical advice and attention. Could not the gardeners of the United Kingdom combine, and by their contributions be the means of "endowing" one or more Gardeners' Orphan Fund beds in perpetuity? The holding of concerts, which has in the past been of good service to the Fund, seems to have become less common. Would not the Queen's Celebration in 1897 be an opportune time for its vigorous resuscitation? I am sorry to see that Chiswick, which very successfully led the way in the matter of concerts for some years, has abandoned the work. The Chiswick Gardeners' Association, under whose auspices these concerts were held, might take the hint, and follow the example of a similar association at Ealing, which organised, last Autumn, a very successful smoking concert in aid of the fund. *J. B.*



Fig. 43.—Cannell's dwarf type of antirrhinum. (see p. 220.)

CELOSIAS AT THE REGENT'S PARK.—To those who have not previously seen these singularly beautiful plants as employed by Mr. Jordan at the Regent's Park, the first view undoubtedly creates surprise and admiration. Apart altogether from the novelty attached to the employment of such tender annuals for outdoor bedding or decoration, great admiration has also to be given to the strain, which is a glorious one. Every plant has been well grown, and forms a little bushy pyramid; each plant has perfect pointed spikes of bloom, either of rich orange or apricot, or of crimson and scarlet. Planted in treble rows on the north and sheltered side of one of the central footpaths leading from the Portland Place Gate to the Botanic Gardens, these Celosias are indeed beautiful. The intensely rich colours of the tufts quite outvie those of the richest of Begonias. Of course, the strain is said to be one of Mr. Jordan's own development. Most certainly it is a good one. We may not merely marvel to see such plants in a flower garden in this way, but equally feel surprised that such singularly elegant decorative plants, so easily raised from seed, are not found in every garden. There can be no question but that fine strains are in commerce, and some may be as good if as well treated as is the one at the Regent's Park. *A. D.*

THE VICTORIA REGIA IN THE ROYAL BOTANIC SOCIETY'S GARDENS.—This Regal Water-Lily is now in splendid condition in Regent's Park; the specimen has put forth seven enormous leaves, and flowers quickly succeed each other. There must be thousands of persons in London alone who have never seen this magnificent plant, and as, in all probability it can be looked upon only at the Royal Gardens, Kew, and in the Regent's Park, the opportunities for seeing it in the metropolis are few. During August, and early in September, the Victoria Regia will be at its best, and well worthy of a visit. *R. D.*

GOVERNOR WOOD CHERRY.—I endorse Mr. Wythes' views on Cherries in general, and especially his high estimate of Governor Wood. Permit me to repeat it, and add to it, "The variety most favoured among the lighter-coloured is Governor Wood, a large pale-red fruit, and the tree a grand cropper; indeed, I have never known it to fail here (that is, at Syon), and on a west wall it is in season in the middle of June. This variety may be called one of the best; it is worth the trouble of making a special border for it by draining and adding lighter soils, as well as mortar rubble, and charred earth." I should think it is, indeed, and wherever a yard or two can be found for a Cherry-tree under glass or out of doors, on walls or hoardings, south, north, east, or west, or in open gardens or orchard, let it be filled with Governor Wood. Were I limited to one Cherry, Governor Wood should be chosen without a moment's hesitation. *D. T. Fish.*

PHALÆNOPSIS AT NOSTELL PRIORY GARDENS.—Some few weeks ago, when calling at the above place, a plant of P. Schilleriana was pointed out to me by Mr. Easter, which had made a leaf 20 inches long by 4 broad. Is not this an unusual size? I have not seen one of these dimensions anywhere before. There are in the same house some fine plants of P. amabilis, P. Sanderiana, P. grandiflora, P. violacea, P. Stuartiana, and several others, all in the picture of health. *J. T.*

FORMALDEHYDE.—Those who propose to experiment with this substance (see *Gard. Chron.*, Aug. 15, p. 193), may obtain it readily, perhaps, as "Formaline," under which name a 40 per cent. solution, in water, is largely sold. It is an oxidation product of methyl alcohol, obtained by passing the vapour, with air, over hot platinum spiral or hot copper gauze. It has been claimed that formaldehyde occurs in the chlorophyll cells of certain plants, representing the first stage in the synthesis of sugar, by the plant, from CO_2 and H_2O. Of this I find no confirmation, either in the works of Vines, Darwin, or Acton, but in the latter work reference is made to its poisonous character to plants even in very dilute solutions. *R. J. L.*

THE NON-WARRANTY CLAUSE.—We noticed in your recent issue a paragraph in reference to the above. For the first time in many years' experience of the seed trade, we have recently had occasion to feel the hardship of this objectionable clause. A wholesale seed merchant sold us, and invoiced a particular variety of field Turnip-seed, which was in turn retailed by us as the variety invoiced. When too late, we discovered that an entirely different sort was sent—a well-known garden variety worth 30*s.* to 40*s.* per acre less to the farmer. The sellers on being advised of the matter, expressed regret for their mistake, but on the question of compensation being mentioned they very curtly referred us to the non-warranty clause on their invoice, leaving to us the entire responsibility of settling with our customers. We have not yet been able to ascertain whether with this clause on an invoice a man may legally invoice Turnip-seed, and send Rape, or not; but if such is the law, it is high time retail seedsmen combined to put an end to such an iniquitous system of doing business. *A Seed Merchant.*

STREPTOCARPUS.—Although various growers of these very charming greenhouse plants have accomplished a good deal in developing habit, form, and colour, yet no one seems to have been more successful than has Mr. Salter, gr. to T. B. Haywood, Esq., Woodhatch, Reigate. Not only has he materially developed form of flower and colour, but he has also produced some of the finest specimens yet seen. Many of these now resting quietly in a cool frame, were for Streptocarpuses almost huge examples. When in bloom earlier in the summer, they excited the surprise and admiration of eminent florists. But the chief interest just now is found in a batch of seedlings raised from a January sowing from last year's saved seed. Here may be seen the richest colours yet presented, the deep indigo or violet blues being singularly attractive; there are also very deep maroon, violet, and rose reds, and one of a terra-cotta hue is specially pleasing; there are fine whites, having heavy maroon bars of colour in the throats, and others pure white throughout. Some of a French or creamy-white with very fine lines are striking. In one flower there is distinct splashing of white on a reddish ground indicative of a possible flaked puce. Some of the light blues show marbling of white. This batch of seedlings when put into larger pots and well grown next year will make a very beautiful group. They also serve to show that if slowly there is yet distinct advance being made in Streptocarpuses, quite apart from any intercrossing with other forms. It is much in the favour of these plants that they can be grown and flowered easily in an ordinary greenhouse, that they bloom over a long season, are easily preserved from year to year, and furnish when strong plants so much material for small glass or vase decoration. *D.*

SOCIETIES.

A VIOLA CONFERENCE.

(*Continued from p.* 198.)

AUGUST 8.—VIOLAS FOR BEDDING.

Mr. C. JORDAN, of the Regent's Park, next read a carefully prepared and able paper on "Violas for bedding, with special reference to their adaptability for association with other plants." After some introductory remarks, in which the reader bore testimony to the value of the labours of the pioneers of Viola culture, he went on to say that it was not advisable to form large patches or lines of any one variety of Viola; the plant associates most readily with other subjects, the diversity of its colouring admitting of fanciful as well as simple arrangements. In whatever way Violas are used, good plants, proper soil, sufficient space, and ordinary attention are requisite; and also watering during dry weather. After some months of blooming some stimulating manure is necessary to maintain the succession. Gardening operations in the London parks are so arranged that the main results are looked for in spring and summer, one season overlapping the other. The subsoil in the Regent's Park is a cold clay, and therefore Violas are treated simply as summer bedding-plants, as it is risking the stock too much to allow them to remain in the open all the winter. Still the Viola is an excellent plant for town gardens. In the park large quantities are used, and the number required is obtained by division of the old plants after removal from the beds; they divide into a great many. About midsummer the plants are lifted, cut down, and planted in the nursery-garden, and in the autumn divided and planted, so that they can have protection during winter, and be planted out early in the year for spring and early summer work. The supply for the summer display is obtained from cuttings struck in September. Proper transplanting to the beds and borders is of the greatest importance, and it should be carefully done. In spring Violas are used as a ground for beds of Hyacinths, Tulips, Narcissi, &c. Blue Bell is the best employed for the purpose, when planted in masses it produces an effect not unlike that of the wild Hyacinth; in the woodland Countess of Kintore is frequently seen to advantage from its rambling habit. It is associated in spring with East Lothian Stocks, Dielytras, Spanish and English Iris, &c., and it is one of the best varieties for blooming early. The scrambling habit seen in some of the Violas is valuable for association purposes. Grievei has, in a favourable season, overgrown the Canterbury Bells, and at the height of 2 feet filled the whole bed, and flowered freely during the greater part of the summer season.

To associate with the early growth of hardy Ferns, and to heighten the effect of their delicate greenery, nothing is more suitable than the Viola; it is an excellent successor to the common Primrose. A garnishing of our English Ivy with a setting of bright Violas forms an effective combination. In the wild garden the simplest method is to sow the seeds, and allow the plants to look after themselves, but during dry weather a certain amount of moisture must be provided for them. It is necessary to note that the Viola has a decided preference for fresh ground, and this is a matter of so much importance that in the Regent's Park it is thought necessary to record all the positions where Violas are planted each season. If by accident they are placed in succeeding seasons in the same bed, a distinct falling off in results is noticeable, and there is difficulty in securing healthy stock. Further, the sunniest positions in a confined garden should not be selected for Violas, except for spring service, nor should they be planted on the edge of a raised bed or border where the position is dry, the sun's rays would endanger the well-being of the plants, drawing the moisture from the soil. Lastly, Violas should not be planted in positions where the flowers turn their backs to the spectator; their blossoms should be drawn to the front to be effective. The following is a list of the varieties employed in the Regent's Park for the spring and summer display:—

Ardwell Gem, Archie Grant, Blue Bell, Clevedon Purple, Bullion, Countess of Kintore, Countess of Hopetoun, Countess of Wharncliffe, Grievei, J. B. Riding, Lilacina, Sylvia, and Violetta.

These are usually arranged in beds and borders associated with Carnations in considerable variety, Ivy-leaved Pelargoniums, Fuchias, Begonias, tuberous and fibrous rooted; Phloxes, Chrysanthemums, Lilies, Celosias, &c.

A discussion followed on the reading of this paper, Mr. A. DEAN stating that he found the old Blue Bell mentioned by Mr. JORDAN still very popular in many places. It was not subject to dying out, as was the case with other varieties. Raisers should make a study of the characteristics of Blue Bell, and seek to approach them in raising new varieties. Violas had an excellent effect when massed, and there was no plant which better harmonised with other subjects. A variety named Acme, growing in the trial of Violas, he thought, was simply a reproduction of the old Cliveden Purple. True Blue he considered the truest blue, and a dwarf compact variety of this colour was needed, to be used for edgings, as in the case of the blue Lobelia. In the South it was found necessary to plant in the autumn for summer display, and especially so when employed for spring bedding. Early flowering varieties, which will bloom about the same time as the Primrose, are very necessary.

The Chairman said he had lost two-thirds of his stock, which he attributed to growing them on the same spot year after year; but as his garden was almost all Violas, he unfortunately could not change the ground, as the whole of his garden was occupied by them.

Mr. J. W. MOORMAN, the Superintendent of Victoria Park read a paper on VIOLAS FOR BEDDING. After referring to the many uses to which the Viola could be put, Mr. MOORMAN said the self-coloured varieties are the most suitable for bedding, though some of the blotched varieties, such as the Mearus, are strikingly effective when associated with white variegated or bronze-leaved Pelargoniums; of white varieties, Countess of Hopetoun and Sylvia are two very reliable; Bullion and Ardwell Gem are well-known among the yellows, and will hold their own for earliness and continuity of bloom, their habit of growth and constitution being all that could be desired. Bullion is admirable for massing; Ardwell Gem, owing to its creeping habit of growth, makes a good front edging to beds; Lord Elcho and George Lord are desirable yellows for bedding. True Blue, Archie Grant, Holyrood, and Blue Bell are varieties whose constitution and habit fit them for association with other plants. Wm. Niel, J. B. Riding, and Duchess of Sutherland are indispensable; their small well-formed blooms are very effective. Wm. Niel and Duchess of Sutherland are perhaps of greater usefulness than the more defined self flowers. The blotched or Countess of Kintore type are most pleasing, also Border Witch, Duchess of Fife, Gold Finch, and White Duchess. Violas, to associate with other plants, require a hardy constitution, free blooming, and the flowers of good substance, well thrown upon long foot-stalks, so that they may appear above the foliage. Archie Grant, Ardwell Gem, and Duchess of Fife may be cited as varieties having long foot-stalks. Violas, to do well need deep cultivation, especially in dry seasons; well manured ground, and frequent soakings of water from a rose watering pot. Watering by means of a hose is highly objectionable. Watering overhead does not disfigure the blossoms, as in the case of other plants. Violas are easily propagated by means of cuttings; late autumn-struck cuttings are the best for summer bedding. At Victoria Park plants in the open will not live through the winter, no doubt owing to the vitiated atmosphere in the East-End. It sometimes happens that the plants become sickly, and appear to be affected by canker, and it is more perceptible when the plants occupy the same ground the following season. Red-spider is troublesome: the best remedy is high cultivation. Fuchsias associate well with Violas, especially the red-flowered varieties with white and yellow Violas; light Fuchsias with a deep blue or lilac variety. Wm. Niel is charming when used with bronze-leaved Pelargoniums; the lavender-blue Duchess of Sutherland is always attractive, allied with any contrasting variegation. Yellow Marguerites and the blue Cornflower, with a carpet of white varieties, are excellent; blue Violas go well with white Marguerites; Wm. Niel and J. B. Riding with Ivy-leaved Pelargoniums are charming.

In discussing the paper by Mr. MOORMAN, Dr. SHACKLETON pointed out that the merits of the Violetta type had been overlooked, as the varieties remained in bloom a long time, and they were particularly well-adapted for small beds. In replying to some observations, Mr. MOORMAN stated, that when he had charge of Dulwich Park, he was able to lift Violas in the autumn, winter them under some protection, and replant them in spring; but he could not do so at Victoria Park.

Papers were then given by Messrs. W. BAXTER and H. A. NEEDS on Violas for exhibition.

Mr R. DEAN then read a short paper on

VIOLA SPORTS

prepared by Mr. J. D. STUART, a well-known raiser at Belfast. The writer stated that he proposed to use the term only in that limited sense in which it is applied to those variations in colour, either temporary or permanent to which some Violas are subject. Heat and moisture frequently affect the colours of flowers, and these are inaccurately termed "Sports." In Violas in which the ground colour is white, with purple of some shade as a lacing, or in flakes, the purple is apt to disappear during hot, dry weather, while it extends beyond the normal area when atmospheric moisture is abundant. It is curious to observe that watering, however generous, does not produce the same effects; the colours seem to depend more on a saturated atmosphere than on a saturated soil. Such temporary sporting is, no doubt, to some extent dependent on soils and manures, a rich soil, or the application of manure, natural or artificial, causing the plants to throw up tints of blue or purple, which are entirely absent when the plants are grown in poor soil. Sports, properly so-called, are not of this character, but can be proved to be independent of conditions of soil or atmosphere. One of the best-known and most charming Violas in cultivation is Goldfinch. This originated as a sport from Ardwell Gem; it has the same habit and character as the type, and the proof that it originated from Ardwell Gem is found in the fact that it reverts to the type. Mr. STUART referred to sports from Goldfinch, and concluded by saying he had come to the conclusion that in sports there is a reversion either to the type or to a remote parent, in greater or less degree. Cases were quoted, such as Amy Barr, reverting to Wm. Niel, of which it is a seedling; J. B. Riding, sports back to Wm. Niel, also from which it originates. Other cases were mentioned, Mr. STUART stating he is not aware there is a single sport in cultivation that he has not found reverting to the type, or a remote parent. An interesting discussion followed upon the reading of this paper. Dr. SHACKLETON said the subject of sports was a very interesting one; the influence of soils or manures upon sports was difficult to determine; it was like the influence of drugs on human beings, varying with each individual. He noticed there did not seem to be so many sports from the darker Violas. Quaker Maid had given him a permanent sport he continued to grow, while Duchess of Fife had produced a sport intermediate between the Duchess and Quaker Maid. As to whether they could produce sports artificially, he had heard it recommended to water the plants well with permanganate of potash, but he did not think it had proved successful. Mr. W. BAXTER said that Wm. Niel often sported to J. B. Riding, but he had never known the latter to revert. Mr. G. MCLEOD said that Duchess of Fife, Goldfinch, and Ardwell Gem, were constantly sporting one into the other, Wm. Niel had sported with him several times, and might be taken as a sportive variety; but the cause of sports he could not explain. Mr. ALLISON said he had tried Wm. Niel in three different gardens, but had never seen it sport. Dr. SHACKLETON further stated that he thought the production of sports had more to do with the stems of the plants: as a plant, though having several stems, would probably only produce a sport on one or more stems, the rest bearing normal blooms. He did not think the originating cause came from the roots, as they supported the whole of the plants.

WILTS HORTICULTURAL.

AUGUST 12.—By permission of the Lord Bishop of Salisbury, the Wilts Horticultural Society held its annual exhibition in the episcopal grounds, Salisbury, on the above-mentioned date. Taken on the whole the show compared favourably with any of its predecessors, a fact which speaks well for the management of the committee and courteous Hon. Secretary, Mr. CHAS. GEO. WYATT.

Plants.—Prizes to the value of £15, £10, and £5 were offered for twelve stove and greenhouse plants, distinct, six foliage and six flowering. Messrs. JAMES CYPHER, Cheltenham; Mr. Wilkins, gr. to Lady THEODORE GUEST, Inwood; HENSTRIDGE, and H. PEEL, Shirley, took the prizes in the order in which their names appear. The 1st prize collection consisted of Statice profusa, Erica obbata purpurea, Bougainvillea Sanderiana, profusely flowered; Phænocoma prolifera Barnesii, Pancratium fragrans, of great size and grandly flowered; Dipladenia hybrida, Croton Chelsoni, well-coloured; Kentia Fosteriana, Cycas circinalis, Phœnix rupicola and Latania borbonica.

Messrs. PEEL and WILKINS secured 1st and 2nd prizes, respectively, for nine stove and greenhouse plants, four in bloom and five foliage. Mr. George Hall, gr. to Lady ASHBURTON, Melchet Court, Romsey, was a good 1st for six exotic Ferns, including a fine plant of Dicksonia antarctica; Mr. PEEL was 2nd. Mr. A. Robey, gr. to Major LLOYD, Barnham Cliff, Salisbury, had the best half-dozen tuberous-rooted Begonias.

Groups.—Several good groups were arranged in the three classes set apart for them. In the open class Mr. WILKINS, Mr. Carr, gr. to A. GILLETT, Esq., Bishopstoke, and Mr. BEDFORD, secured the prizes in that order for excellent arrangements, all three being very close to each other in point of merit, the ground-work, as usual, consisting of Maidenhair Fern, with a gracefully-growing Palm in the background, and "dot" plants of brightly-coloured Crotons, Dracæ as, variegated grasses, small Palms, Francoa ramosa, Cattleya imperialis, Oncidium incurvum, &c., the whole being enclosed by an edging of Panicum variegatum.

In the class confined to gentlemen's gardeners, the plants being arranged in a semi-circle of 12 feet (the same space as in the previous class), Messrs. CARR, A. ROBEY, and J. WILKINS, were the successful competitors with capital arrangements. In the amateurs class, Mr. J. C. Scamell, gr. to G. R. KENDLE, Esq., Wilton, won the Silver Cup, value £5, given by the Mayor of Salisbury, his group well deserving the honour bestowed upon it; Mr. F. E. PEARCE, Salisbury, taking 2nd place for an excellent arrangement.

Fruit.—Several good collections of eight kinds were staged. Mr. H. W. WARD, Longford Castle Gardens, Salisbury, being easily 1st, with good shaped bunches of Black Hamburgh and Muscat of Alexandria Grapes, fine in berry, and beautifully coloured; good Charlotte Rothschild Pine-apple, large well-netted Earl's Favourite Melon, extra good Sea Eagles Peaches, Dryden Nectarines, large Castle Kennedy Figs, and Williams' Bon Chrétien Pear; Mr. G. Inglefield, gr. to Sir JOHN KELK, Bart., Tedworth, Marlborough, taking 2nd place.

Mr. H. W. WARD had the best three bunches of Muscat of Alexandria Grapes, as well as the best three bunches of any other white, staging fine examples of Buckland Sweetwater, the berries in both varieties being large, even, and well-coloured. Mr. H. W. MITCHELL, Chilworth Manor, Romsey, was a good 1st for three bunches of Black Hamburgh in a good class, the bunches fine in size, and the berries grandly coloured. Mr. Chalk, gr. to GEORGE READ, Esq., Westwood, Wilton Road, Salisbury, was awarded 1 t prize for any other black Grape than Hamburgh, having large, handsome bunches of Gros Maroc, fine in berry, and fairly coloured; while handsome bunches of Madresfield Court, fine in berry and finish, and perfectly ripe, were, singularly, accorded only a 2nd place.

Mr. Fulford, gr. to G. B. WORTHINGTON, Esq, Dawerham, had the best Melon, and Mr. MITCHELL the best dish of Peaches. Mr. F. SMITH scored a victory in the class for three dishes of dessert Apples, showing perfect fruits of Beauty of Bath, Irish Peach, and Worcester Pearmain; the same exhibitor was 1st for culinary varieties. Mr. INGLEFIELD had the best dish of Apricots, with good fruits of Moor Park; and Mr. R. West, gr. to H. W. WYGRAM, Esq., Northlands, Salisbury, took premier position for four dishes of Pears.

Vegetables.—Three excellent collections of twelve kinds were staged by Messrs. T. Wilkins, H. Brown, gr. to Hon. Percy Wyndham, The Clouds, Salisbury; and E. Ford, The Island, Willon, who took the prizes in that order. The 1st prize collection, which was well ahead of the other two, included fine specimens of Autumn Giant Cauliflowers, Perfection Tomatos, Ailsa Craig Onions, Telegraph Cucumbers, Duke of Albany Pea, Matchless Carrot, Ne Plus Ultra Runner Beans, Satisfaction Potatos, Giant White Celery, and Prayнell's Beet.

Honorary Exhibits.—Collections of Dahlias (including many promising seedlings), Roses, and Asters were shown by Keynes, Williams & Co., Salisbury. Mr. Ladhams, Shirley, Southampton, had a fine display of choice herbaceous cut flowers, and Mr. Bedford a collection of Fuchsias.

HASTINGS AND ST. LEONARDS HORTICULTURAL.

August 12.—The great legitimate floral event of the season—for we cannot call the decoration of go-carts, and the pelting of the mob with Nature's most beautiful offerings legitimate—was held on the above date, amid the lovely surroundings of Alexandra Park. It was doubtless a success, being favoured with lovely weather.

Gigantic specimen plants have been the rule at this show for years, but these are happily replaced by smaller but equally meritorious examples of stove, greenhouse, and foliage plants; indeed, one seldom meets with higher coloured Crotons, or with Bougainvilleas with brighter-coloured bracts (an effect perhaps attributable to the sea breezes) than are here staged.

Grand specimen Ferns, being more portable, are still to the fore in examples of Davallia Mooreana, Microlepia hirta cristata, Adiantum Sancta Catherina, Blechnum brasiliense all clean and healthy, showing evidence of good culture.

Cut flowers were not numerous, or of very high merit, the continued drought having spoiled the Roses and many other open-air species, but there were some good stands of decorative Dahlias, though the introduction of Asparagus among the premier exhibit was surely overlooked by the judges, and can hardly be admissible; while, on the other hand, the foliage and buds introduced by a well-known Crawley firm was both appropriate and legitimate.

Stove and greenhouse cut flowers are always a feature here, and were quite up to their average excellence. The same may be said of the table decorations, epergnes, and baskets, almost all shown by local florists—chaste colouring, and an almost aërial lightness being the distinguishing features. This was enhanced by a few "first attempts," we may charitably hope, of other exhibitors, who, if they aspire to prizes, have much to learn.

MAIDENHEAD HORTICULTURAL.

August 13. The nineteenth annual exhibition was held on the above date in the grounds of St. Ive's Place. The severe drought is responsible for a slight falling off in the number of entries in the vegetable classes, but taken collectively the exhibits were of high quality. The arrangement of the exhibition has also been very much improved, groups for effect and specimen plants being arranged on the grass instead of on ugly staging, as was the case formerly. On this occasion the effect would have been greater could a little more room have been given the specimen plants and Ferns. The special features of the show comprised the groups of plants arranged for effect, and some magnificent fruit and vegetables staged by several exhibitors, especially those staged by Mr. G. Goodman, gr. to Miss Hammersley, Bourne End, who carried off the chief prizes for these.

Plants (Open).—In class 1, for twelve handsome foliage plants in 8-inch pots the competition was keen, and the subjects exhibited in each instance very good. Mr. J. Fulford, gr. to J. Lambert, Esq., Cookham, was awarded 1st prize for twelve good specimens, the best being Crotons Lady Zetland and Andreanus, Dracænas Cooperi and Amabilis, Cycas revoluta and Acalypha Macfeeana.

With six stove and greenhouse plants, three flower and three foliage, there were only two competitors, Mr. Aitken coming 1st with good plants of Allamanda Schottii, Crotons Queen Victoria and Prince of Wales, and Phœnix rupicola, among others.

Stove and greenhouse Ferns in fine condition came from Mr. Aitken, Microlepia hirta cristata, Adiantum Farleyense, Davallia Mooreana, Gymnogrammas Peruviana and Alstonii being good.

For a single specimen foliage plant, also a flowering one, Mr. Aitken was 1st, the foliage specimen being Croton Queen Victoria; the flowering plant being Allamanda Hendersoni.

Fuchsias were not so excellent as usual. There was only one exhibitor of six specimens, Mr. D. Paxton, gr. to the Hon. C. J. Irby, Hitcham Grange, Taplow, who was awarded 1st prize.

Tuberous Begonias made a good display, six exhibitors entering, with as many plants. Mr. Goodman, gr. to Miss Hammersley, Abney House, Bourne End, was a good 1st, with large plants, well flowered; 2nd, Mr. Richardson, gr. to G. Herring, Esq.

Zonal Pelargoniums, shown in sixes, made an imposing bank of colour; 1st, Mr. Aitken, with plants over a yard in diameter, and well bloomed.

Classes for Cockscombs, Coleus, Gloxinias, &c., were fairly well filled, but call for no special comment.

Undoubtedly the most interesting in the plant classes was a group of plants arranged for effect to occupy a space of 12 feet by 10 feet. Here the competition was very keen between Messrs. Aitken and Phillips, the prizes being eventually awarded in the order of their names. Both of their groups had a groundwork of Adiantum cuneatum, and a raised central plant of Cocos Weddeliana, while in the 1st prize group, the lower leaf-stalks of the Palm were draped with flowering sprays of Dipladenia Brearleyana. Mr. Aitken had arising from his groundwork handsome Pancratiums, Campanulas (white), Crotons, Liliums, Francoa ramosa, Gloxinias, Gladiolus, &c., all very bright and effective.

Smaller groups, half the size of the above, were put up by four exhibitors, Mr. Fulford being an easy 1st. Mr. Fulford was also 1st for six table plants, admirable specimens.

Cut Flowers.—Nurserymen: 24 Roses, distinct varieties. 1st, Mr. F. J. Fletcher, Lowbrook Fruit and Flower Farm, Maidenhead; 2nd, Mr. Walker, Thame. With twelve Dahlias, Mr. Walker was 1st; 2nd, Mr. Tranter, Henley-on-Thames. The same two exhibitors occupied similar positions also in the two classes for Zinnias and Asters.

Roses, nurserymen excluded, twelve varieties, 1st, Miss Bailey Denton, Winkfield. For six bunches of Cactus Dahlias, distinct varieties, three blooms of each, six competitors entered, the 1st award going to Mr. H. G. Morris, Thame. Zinnias were largely shown, eight competitors staging good examples, 1st, Mr. D. Phillips; 2nd, Mr. C. Young, gr. to the Rev. T. Coney. Asters were also fairly good, six competitors entering with twelve varieties, Mr. Pond being 1st.

Fruits.—As before mentioned, the display of fruit was very good, some excellent Grapes, &c., being staged. For a collection of "six dishes (twelve fruits) of distinct kinds (Pines excluded), and only one of Grapes," Mr. Goodman, gr. to Miss Hammersley, Bourne End, scored an easy 1st, with every dish good and very nicely set up. It comprised White Muscat Grapes, Bellegarde Peaches, Stanwick Elruge Nectarines (very fine), Brown Ischia Figs, The Countess Melon and Jefferson Plums; 2nd, Mr. Johnson, gr. to A. Gillet, Esq., Stoke Green, Slough.

For four dishes there was only one exhibitor, Mr. D. Paxton, who was awarded a 1st prize. For a similar number grown in the open air, equal 1sts were awarded to Mr. Wood, and Mr. T. Dennes, gr. to W. R. Cookson, Esq.

Black Hamburgh Grapes were very good, the 1st and 2nd prize stands being almost of equal merit. Mr. Cole was awarded the 1st position, and Mr. G. Lane, gr. to Miss S. A. Ridge, 2nd.

For any other black variety, Mr. Dennes was an easy 1st, with superb bunches of Muscat Hamburgh; 2nd, Mr. Cole, with Madresfield Court.

Of five competitors with White Muscats, Mr. Dennes was also 1st; and for any other white Grape, showing Buckland's Sweetwater.

Mr. Johnson was a good 1st with Grosse Mignonne Peaches, and Mr. Dennes with Nectarines. Mr. Johnson was also 1st with a green-fleshed Melon, and Mr. Austin with a scarlet-fleshed.

Plums, Apples, Cherries, and Pears were exhibited in good numbers, the principal winners being Messrs. Goodman, Davis, Paxton, and Johnson.

Vegetables.—Here the best produce was undoubtedly found in the competition for the special prizes offered by Messrs. Sutton & Sons. Mr. Goodman was well 1st, having fine samples of Giant Rocca Onion, Autocrat Peas, Sutton's Perfection Tomato, Autumn Mammoth Cauliflowers, Satisfaction Potatos, and New Red Intermediate Carrots, 2nd, Mr. Johnson. Mr. Goodman was also 1st for the best display of vegetables (the prizes given by Messrs. Carter & Co.); he staged twenty-seven varieties in good condition; 2nd, Mr. Young. Prizes were also offered by Messrs. Webb & Sons, for which Mr. Johnson was 1st. A large number of single dish classes brought out, in most instances, strong competition.

Honorary Exhibits.—Messrs. Laing & Sons, Forest Hill, had a group of Begonias, Cannas, &c. Mrs. Broughton contributed wreaths, crosses, and a group of plants; Mr. Fletcher, Roses and herbaceous flowers; Mr. E. F. Such, Maidenhead, floral decorations; and Mr. W. H. Fitt, Windsor, wreaths and crosses.

TAUNTON DEANE HORTICULTURAL.

August 13.—This was the twenty-ninth annual exhibition, and it took place, as usual, in Vivary Park, which, since it became the property of the town, has been considerably improved, and made a public recreation ground. Altogether the purposes of the flower show has been greatly assisted by the change. The arrangements were excellent, the new Secretary, Mr. J. S. Winsor, deserving great credit.

Two large tents were occupied by Divisions I. and II., consisting of plants and cut flowers; one was set apart for floral decorations, one to fruit and vegetables, and another to cottagers, and there was a honey tent in addition. There was a very fine display all round.

Chief among the open classes was the collection of twelve *stove and greenhouse plants*, Mr. James Cypher, of Chelt nham, taking the 1st prize with an excellent lot, having Ericas Aitoniana, Austiniana, and Thompsoni; Ixoras salicifolia and regina; Phœnocoma prolifera Barnesii, very fine; Statices Gilbertii and profusa; Clerodendron Balfourianum, Bougainvillea Sanderiana, Allamanda Hendersoni, and Rondeletia speciosa major. Mr. W. Finch, Coventry, who was 2nd, was stronger in Heaths than Mr. Cypher.

With six specimens, Mr. Cypher was again 1st; Mr. W. Rowland was 2nd, his chief plants being Allamanda nobilis and Clerodendron Balfourianum.

Some very fine collections of eight fine foliaged plants were staged, Mr. Cypher taking 1st honours with splendid Kentias Fosteriana and australis; Latania borbonica, Crotons Sunset, Thompson's, and Queen Victoria; a fine Pine of Cordyline indivisa and Cycas revoluta; Mr. Finch was a very good 2nd.

In the open class for a group, Mr. Rowland took the 1st prize with a light and elegant arrangement, but the narrowness of the tent interfered with a thoroughly effective display. Mr. V. Slade, Taunton, was 2nd; and these exhibitors were 1st and 2nd with eight exotic Ferns, which were by no means up to the usual mark at Taunton.

With eight varieties of tuberous Begonias Mr. Thorne, gr. to W. Marshall, Esq., Taunton, was 1st with finely-grown and bloomed specimens of excellent quality; Mr. H. Godding was a good 2nd. Capital specimens of zonal Pelargoniums were shown in the open classes, excellently grown, and carrying heads of bloom of fine quality, Mr. H. Godding taking the 1st prizes with six single and four double; Mr. A. J. Spiller was 2nd.

The best newly-introduced plant with ornamental foliage was Croton Duke of Buccleuch, from Mr. Cypher, the broad golden leaves having five side lobes. The best newly-introduced flowering plant was Aërides Lawrenceanum, also from Mr. Cypher. The best Orchids were from Mr. W. Marshall. They consisted of Cattleya eldorado virginale, Cypripedium Morganiæ, C. Spicerianum, and Cattleya intermedia; Mr. J. Cypher was 2nd, with Cycnoches chlorochilum, Vanda cærulea, Odontoglossum Harryanum, and Cattleya Harrisoni.

Open Class, Cut Flowers.—Mr. J. Mattock, nurseryman, Oxford, took the 1st prize with thirty-six Roses, staging some very good blooms for the season, of which the chief among them were La France, Marie Baumann, Horace Vernet, Duchess of Bedford, Mr. J. Laing, and Ulrich Brunner; 2nd, Messrs. Townsend & Sons, nurserymen, Worcester.

With eighteen varieties, Mr. Mattock was again 1st; and Messrs. Jarman & Co., Ltd., Chard, were 2nd.

With twelve Dahlias, Messrs. Townsend & Son were 1st; and Mr. W. Smith 2nd; Mr. H. Godding had the best six bunches of Cactus, and decorative varieties; Messrs. Townsend & Son 2nd. The best nine bunches of Pompons came from Mr. J. Cording, gr. to W. Figg, Esq., a very good collection indeed; Mr. W. James, gr. to Mrs. Macalester, was 2nd. Herbaceous Phloxes were also shown, but they were smaller than usual. German Asters were small, though nice and clean. Mr. C. H. Vickery took the 1st prize for twenty-four French Asters; Mr. A. A. Walters, florist, Bath, was 2nd.

Some very good spikes of Gladioli were shown by Mr. S. Bird, gr. to F. H. Fox, Esq. Phlox Drummondii, shown in bunches, were charming—a long way better than the Verbenas one is accustomed to see; and Hollyhocks are an improving feature in the West.

Mr. W. Marshall was 1st with twelve bunches of stove and greenhouse cut flowers; W. K. Wait, Esq., was 2nd. Collections of hardy perennials and bulbous plants were also a good feature.

Amateurs.—In the division for amateurs only, which also includes gentlemen's gardeners, Mr. Rowland again took the 1st prize with a tastefully-arranged group. He was also 1st with twelve stove and greenhouse plants, staging some good specimens, chief among them Clerodendron Balfourianum, Stephanotis floribunda, Dipladenia amabilis, and some good specimen foliaged plants; Miss Todd, Southampton, was 2nd, Ixora Duffii being one of her most striking plants. With six specimens, Mr. W. Marshall took the 1st prize; and Mr. Rowland was 2nd. With four stove and greenhouse plants in flower, Miss Todd was 1st, having good examples of Allamanda Hendersoni, Bougainvillea glabra, Clerodendron Balfourianum, and a Dipladenia; Mr. W. Brock was 2nd.

Some good specimen foliaged plants were also shown in the class for six. Miss Todd came 1st with four Ferns, having in fine condition Dicksonia antarctica, Davallias Mooreana and Fijiensis, and Gymnogramma chrysophylla. Mr. W. Marshall was again 1st with four Orchids; Miss Todd taking the 2nd prize.

Japanese Lilies and Fuchsias were fairly well shown. Begonias, single and double, made a good display here as in the open division, and zonal Pelargoniums were very gay. Coleus were represented by nice bushes; Gloxinias were good for the time of year; and there were classes for Petunias, Caladiums, Balsams, Cockscombs, &c.

The Cut-flower Classes were mainly similar to those in the open division. Mr. J. Lloyd, gr. to V. Stuckey, Esq., was 1st, with twelve good spikes of Gladioli; and for German and French Asters.

Mr. Macallister was 1st with twelve bunches of hardy perennials and bulbous plants, staging some subjects not often seen in such collections.

Dr. Budd had the best twenty-four Roses, staging in good condition Mrs. J. Laing, Charles Lefebvre, Marie Verdier, Alfred Colomb, Marie Baumann, Madame Hoste, and Maréchal Niel; 2nd, Mr. Thomas Hobbs, Lower Euston.

FRUIT, Etc.

The *Fruit Tent* is always a centre of great interest at Taunton. The best collection of eight dishes came from Mr. J. Lloyd, who had Muscat of Alexandria and Madresfield Court Grapes, Hero of Lockinge Melon, Bellegarde Peaches,

Pine-apple Nectarine, Brown Turkey Figs, and Jefferson's Plum. Mr. H. W. Ward, gr. to the Earl of RADNOR, Longford Castle, Salisbury, was 2nd, having Muscat of Alexandria and Black Hamburgh Grapes, in good form; fine Sea Eagle Peaches, and Castle Kennedy Figs. With six dishes, Mr. J. Webber, gr. to J. T LUTTRELL, Esq., was 1st, with black and white Grapes, Melon, Crawford Early Peach, Pine-apple Nectarines, and Figs; 2nd, Mr. J. LLOYD. Mr. W. Carpenter, gr. to A. R. BAILEY, Esq., was 1st with three fine bunches of White Muscats; Mr. WARD was 2nd, with beautifully-finished examples. Mr. LLOYD had the best three bunches of Black Hamburgh; Mr. S. Kidley, gr to W. A SANDFORD, Esq., was 2nd; both exhibits somewhat poor in colour. Other white Grapes were mainly Foster's Seedling; any other black was represented by Madresfield Court, all good; Mr. R. CARTER 1st, and Mr. A. Crosseman, gr. to J. BRUTTON, Esq., 2nd. The best dish of Peaches was Crawford's Early. Plums, both dessert and culinary, were in plenty; and there were good Apples, Pears, and Cherries, as well as bush fruits.

Vegetables were shown well. Mr. Wilkins, gr. to Lady T. GUEST, Hemsbridge House, was 1st with eight dishes, showing specimens of the finest quality; Mr. J. ALDWORTH was 2nd. Mr. WILKINS also won the 1st Messrs. Sutton & Sons' special prizes for six dishes; Mr. E. S. DAAS was 2nd, and he was also 1st in Messrs. Jarman & Co.'s class for twelve dishes; Mr. DRAX was again 2nd. There were a great many classes for single dishes, Runner Beans, Carrots, Parsnips, and Cauliflowers were especially fine. Potatos were largely in evidence, and were shown in several classes, but generally over-large, yet smooth and clean.

Among miscellaneous collections, Messrs. KELWAY & SON, Langport, had a very fine collection of sixty spikes of Gladioli. Mr. R. T. VEITCH, of the Exeter Nurseries, a large collection of plants, cut flowers, &c., of a very interesting character; and Messrs. JARMAN & Co., Chard, one of a similar character.

SEVENOAKS HORTICULTURAL.

AUGUST 12.—The twenty-ninth annual exhibition in connection with the Sevenoaks Horticultural Society was held on the above date in the historic grounds surrounding Knole House, the residence of Lord Sackville. The private gardens of Knole were also thrown open, and proved a great source of attraction. The show itself was a very great success, the exhibits being of excellent quality.

A large tent set apart for groups of plants arranged for effect contained many exhibits of a pleasing and satisfactory nature. The table decorations were also graceful and effective. Fruit in all classes was exceptionally fine. Competition ruled keen all through the cottagers' classes. The Town Band supplied the musical programme.

Amongst the principal prize-winners were Mr. C. Sutton, gr. to Earl STANHOPE; Mr. Heath, gr. to Mrs. PETLEY; Mr. Fennell, gr. to Mr. W. CAZALET, Fairlawn; Mr. Potter, gr. to Sir MARK COLLETT; and Mr. Hatton, gr. to Mrs. SWANZY. Mr. HATTON won the Star of Honour awarded by Messrs. Cannell, of Swanley, for the best collection of vegetables, fruit, flowers.

TROWBRIDGE HORTICULTURAL.

AUGUST 19.—This, one of the oldest societies in the district, held its yearly exhibition on the above date in the flower show-field adjoining the railway station; and, as is customary, the town was gaily decorated, and at certain points triumphal arches spanned the streets. It is always a very popular gathering. Unfortunately for the Show Committee, though happily for the county of Wilts, which sorely needs moisture, rain began to fall about noon, and continued all the afternoon. Notwithstanding, the attendance was good. Fuchsias, hitherto a prime feature at Trowbridge, this season, owing to various causes, fell below their usual level of quality, much to the regret of the Trowbridge folk.

Stove and Greenhouse Plants were well represented, though the prizes are low. There were three collections of nine specimens in flower. Mr. H. Matthews, gr. to Sir W. R. BROWN, Bt., Trowbridge, was 1st with well-developed Ericas Eweriana elegans, and Austiniana; Bougainvillea glabra, Dipladenias Brearleyana and amabilis, both finely grown and bloomed. Clerodendron Balfourianum, Ixora coccinea, very fine, and I. Pilgrimii, and others. Mr. Geo. Tucker, gr. to W. P. CLARK, Esq., Trowbridge, was 2nd, having excellent specimens of Ericas Aitoniana turgida, and McNabiana; Ixoras Morsei and Fraseri, very fine; Dipladenia Brearleyana, Allamandas Hendersoni and nobilis, Bougainvillea glabra, &c. Mr. Geo. Tucker was 1st with six specmens, chief among them Allamanda Hendersoni, Bougainvillea glabra, Eucharis grandiflora, &c.; Mr. H. Matthews was 2nd; Mr. Tucker was also 1st with three plants. The best specimen plant was a capital Croton Sunset, from Messrs. E. COLE & SONS, Nurserymen, Bath.

Groups arranged for effect showed a marked improvement; it is a feature of the Trowbridge show which needed development. Mr. G. Pymm, gr. to Mrs. GOULDSMITH, Trowbridge, set up an arrangement, light and graceful, which exhibitors in the future will be certain to copy; better grown stuff could scarcely be used for the purpose. A large flowered form of Browallia afforded some charming touches of blue.

Flowering plants in pots included Fuchsias, Mr. G. TUCKER being 1st with six, and also with four, the specimen much finer than is usually seen at shows; Heaths not so good as usual; Achimenes, Gloxinias, Zonal Pelargoniums, very finely grown and bloomed, and Petunias. Some remarkably good Tuberous Begonias were shown by Mr. C. Rickman, gr. to W. G. PALMER, Esq., Trowbridge, who was 1st with the best six single specimens, and also with six doubles, which we have seen this season. Mr. H. MATTHEWS had the best four Orchids, having two Cattleyas and Phalænopsis amabilis and Schilleriana, all well flowered.

Of *Foliaged Plants*, Messrs. E. COLE & SONS had the best nine, which were admirably staged; they consisted of fine Kentias australis and Forsteriana, Areca sapida, Crotons Williamsii and nobilis, &c. Mr. H. MATTHEWS was 2nd, his leading specimens being well-coloured Crotons excelsa, Kentia Forsteriana, &c. Collections of fifteen Ferns and Mosses, were not large but in the form of good useful decorative specimens, Mr. GEO. TUCKER was 1st, and Mr. J. Coke, gr. to A. P. STANCOME, Trowbridge, 2nd.

Cut Flowers are always well represented at Trowbridge, and Roses were especially good. With twelve trebles, Mr. J. MATTOCK, Nurseryman, Oxford, was 1st; chief among them were Marie Van Houtte, A. K. Williams, Souvenir d'Elise Vardon, he Bride, Horace Vernet, Alfred Colomb, Mr. J. Laing, &c.; the Tea Roses being especially good. Dr. BUDD, Bath, was 2nd. Mr. MATTOCK was also 1st with twenty-four varieties, having some remarkably good flowers for the third week in August; among them were Ernest Metz in excellent form, Star of Waltham, Souvenir d'Elise Vardon, The Bride, Horace Vernet, Alfred Colomb, Pierre Notting, Innocente Pirola, Marie Van Houtte, &c. Messrs. GEO. COOLING & SONS, Nurserymen, Bath, were 2nd. With twenty-four blooms of Tea Scented (duplicates permitted), Mr. MATTOCK was again 1st with charming flowers In the amateur division Dr. BUDD was 1st with twelve treb'e and twelve single blooms; Mr. W. BATES, Chippenham, being 2nd in both classes.

Dahlias were more extensively shown than has been seen at Trowbridge for years. With twenty-four varieties, Mr. JOHN WALKER, nurseryman, Thame, was 1st, and Mr. W. SEALE, Sevenoaks, 2nd. With twelve varieties, Mr. F. LINDSAY, Frome, was 1st, and Mr. S. COOPER, Chippenham, 2nd. With twelve Fancy Dahlias, Mr. J. WALKER was 1st, and Mr. SEALE 2nd. Single varieties in twelve bunches were charming; here Mr. SEALE came in 1st, and Mr. Truckle, gr. to T. CARR, Esq., Bath, was 2nd. The Pompon varieties in twelve bunches were very good also; Mr. SEALE again 1st. A stand of twelve bunches of Cactus Dahlias from Mr. SEALE were a fine feature, such varieties as Lady Penzance, Mrs. Wilson Noble, Bertha Mawley, Countess of Radnor, and Apollo were in their best form.

FRUIT AND VEGETABLES.

Of Fruit there were three collections of ten varieties; Mr. W. Strugnell, gr. to the Rt. Hon. W. H. LONG, M.P., Rood Ashton, was 1st with excellent Alicante and White Muscat Grapes, Sea Eagle and Bellegarde Peaches, Humboldt Nectarines, Hemskirk Apricots, Brown Turkey Figs, Beurre St. Louis Pears, Jefferson Plums, and Melon; 2nd, Mr. Geo. Pymm, gr. to Mrs GOULDSMITH, who had well-finished Black Hamburgh and Muscat of Alexandria Grapes, very fine Exquisite and Dymond Peaches, Pine Apple, and Humboldt Nectarine, &c. With two bunches of black Grapes, Muscats excluded, Mr. THOS. JONES, Bath, was 1st, and Mr. JAMES FORTT, Bath, 2nd, both with good Black Hamburgh. The best two bunches of white grapes, other than Muscats, were Foster's Seedling from Mr J. FORTT. Mr. J. ATWELL was 2nd with Buckland Sweet water. The best two bunches of Black Muscats were Madresfield Court from Mr. H. Clack, gr. to C. E. COLSTON, Esq., Roundway Park, Devizes; Mr. Smith, gr. to the BISHOP OF SALISBURY, being 2nd with the same. The best two bunches of white Muscats also came from Mr. FORTT; Mr. Carpenter, gr. to T. A. BAILEY, Esq., Frome, was 2nd

Green Gage Plums were numerously shown and in fine character. The best dessert Plum was Kirkes, from Mr. H. POCOCK, Hilperton; Mr. T. C. BULL, Crediton, was 2nd, with a fine dish of Jeffersons. Cherries were represented by Morellos, some very good fruits being staged. The best dish of Peaches was Noblesse, from Mr. T. JONES; Mr. GEO. PYMM coming 2nd with fine Bellegarde. Pine-apple was the best Nectarine, and won for Mr. H. CLACK the 1st Prize; Mr. Strugnell, gr. to the Rt. Hon. W. H. LONG, Esq., M.P., Rood Ashton, was 2nd. Mr. GEO. GARRAWAY, Bath, had the best two dishes of dessert Apples, having Lady Sudeley and Worcester Pearmain. Mr. SMITH had the best two dishes of culinary Apples, staging very fine Peasgood's Nonsuch and Ecklinville; Mr. STRUGNELL was 2nd with Warner's King and Stirling Castle. Mr. GEO. GARRAWAY had the best two dishes of dessert Pears; Mr. SMITH was 2nd.

Vegetables were, as usual, numerous and very good.

Miscellaneous Collections.—Messrs. GEORGE COOLING & SONS staged a charming collection of garden roses; and also blooms each of their two new H. Ps., Bladud and Laurence Allen, which are said to be excellent autumn bloomers. Messrs. KEYNES, WILLIAMS & Co., nurserymen, Salisbury, had some highly promising Cactus Dahlias.

SHROPSHIRE HORTICULTURAL.

AUGUST 19, 20.—The excellence of this well-known annual exhibition was fully maintained on this occasion. It was, in fact, admitted by those who have for several years frequented this gathering, that no finer show has been previously held at Shrewsbury. This was noticeable throughout all of the sections.

In the plant classes the groups were the leading feature, and surpassed those of last year, whilst the competition was keener, there being but little difference in quality between some of them. Specimen flowering and foliage plants in the 1st prize collections were all that one could wish, but there was a slight falling off in the competition in the larger classes.

The cut-flower classes were filled surprisingly well, notably those for hardy border flowers. Dahlias, Sweet Peas, Roses, and Carnations also made a fine display. The decorative classes were of the highest excellence. In several of the cut-flower classes the northern growers were exceedingly strong.

The fruit classes throughout betokened high merit. This was noticeable in Grapes as well as in stone fruits; the competition in the former classes was remarkably keen.

The combined exhibits of fruits and flowers were, from a decorative point of view, a decided success, being not only novel and interesting, but instructive also. The one most noticeable defect was a tendency to overcrowd the tables.

The collections of fruits, flowers, and vegetables combined were not so decided a success; each exhibitor could have filled twice the space to better advantage with the exhibits staged.

The vegetable classes were fully up to the high standard always seen at Shrewsbury. The non-competitive trade exhibits were most extensive, these adding greatly to the interest of the show, both plants and cut flowers being strongly *en évidence*.

PLANTS.

For a group of miscellaneous plants, in or out of bloom, arranged to produce the best effect, to occupy a space of 300 square feet, Mr. J. CYPHER, Queen's Road Nurseries, Cheltenham, was a splendid 1st with a tasteful arrangement in which the colours blended most harmoniously, whilst there was not any semblance of overcrowding, the plants, too, being admirable; a well-balanced Phœnix rupicola occupied the central position, it being supported by two light arches, these being well clothed with suitable plants, as Tupolisius, Oncidiums, Asparagus, and Panicum variegatum, with Lilium Harrisi at the base of the arches, these reposing on a bed of green moss. Well-coloured Crotons made splendid "dot" plants, as also did Cocos Weddeliana; whilst such Orchids as Vanda cœrulea, Dendrobium Phalænopsis Schrœderianum, and light Odontoglossums, with Oncidiums, notably O. Jonesianum and O. flexuosum, with here and there a good example of Cattleya Gaskelliana, added to the effect. Mr. CHAS. J. MEE, Nottingham, was a good 2nd, and that, too, without any great assistance from Orchids; a tall Kentia occupied the centre, various Lilies, with some good tufts of Lily of the Valley towards the front, enhanced the effect; Cattleya crispa was also noticeable, and of other foliage plants, Acalypha Macfeeana, Cocos plumosus, and Bamboos. Although not overcrowded, there was a suspicion of heaviness as a whole. Mr. Edmonds, gr. to the Duke of ST. ALBANS, Bestwood, Notts, came 3rd in this class, the plants showing some traces of travelling, to their disadvantage; the effect as a whole was bold and good; a few more dwarf plants as a carpeting would have improved it. Three other prizes were awarded in this class.

In the large class for twenty stove and greenhouse plants, not fewer than twelve to be in flower, Mr. J. CYPHER was again the winner, and that in an easy fashion. Of foliage plants he had as a background huge examples of Kentia Forsteriana and K. australis, Cycas circinalis was also a perfect specimen; in front of these were finely-coloured examples of Croton angustifolius, C. Johannis, C. Queen Victoria, and C. Sunset; the flowering plants being towards the front and at each end, these consisted of finely flowered Ixoras as I. Pilgrimi, I. regina, and I. Williamsi, Rondeletia speciosa major, a grand plant and one seldom seen so good, being one mass of flower; Phœnocoma prolifera Barnesi, well studded with bloom; Erica Eweriana, and E. obbata purpurea, both good; Allamanda nobilis, Clerodendron Balfourianum, and Bougainvillea Sanderiana, being also telling plants; Mr. FINCH, nurseryman, Coventry, was 2nd in this class.

Mr. CYPHER was also 1st for six flowering plants, showing as his best Rondeletia speciosa major, Ixora regina, Statice Gilberti, and Phœnocoma prolifera Barnesi; Mr. FINCH was again 2nd, his best being Erica Lindleyana and Ixora Williamsi.

For six plants open to the county of Salop only, Mr. Lambert, gr. to Lord HARLECH, Brogyntyn, Oswestry, showed well, staging a very freely-flowered Dipladenia amabilis, a good Ixora Prince of Orange, and a huge plant of Areca lutescens.

Mr. CYPHER was also 1st for six foliage plants, showing a grand plant of Cordyline indivisa, Croton Thompsoni, and C. Sunset in beautiful colour, also two good Cycads. Mr. FINCH, who followed, had Dracæna Douceti, very good.

The best six exotic Ferns were staged by Mr. Roberts, gr. to P. A. MUNTZ, Esq., M.P., Dunsmore, Rugby, his finest being a good example of Adiantum Farleyense, also one of A. cardiochlœna, and a fine plant of Microlepia hirta cristata. Mr. Price, gr. to T. PARKINSON, Abergwill, was a good 2nd, Davallia Mooreana and Phlebodium aureum being the best.

Mr. LAMBERT had the best flowering specimen plant in Dipladenia amabilis, not a large plant, but with fine blooms, freely produced. The next best was Bougainvillea glabra from G. BURR, Esq., Oaklands.

For the most meritorious flowering or foliage plant not in

commerce previous to January 1, 1896, a Silver Medal each was awarded to Messrs. R. Wallace & Co., Colchester, for Watsonia iridifolia Ardernei, pure white, with long, branching spikes and strong growth; and to Mr. J. Cypher for Statice intermedia (S. profusa × S. Holfordi), a distinct cross between these two varieties.

Mr. Cypher had the best six Orchids, very good for the season, Lælia crispa, Odontoglossum Harryanum, Cycnoches chlorochilum, and Cattleya Gaskelliana being the best. Mr. Edwards, gr. to E. Stanley Clark, Esq., Oak Alyn, Wrexham, was 2nd.

Mr. Lambert was 1st for six Dracænas, with well-grown plants in robust health, D. Baptisti and D. Thompsoni being the best. Mr. Leith, gr. to J. R. Greatorex, Esq., Mytton Hall, was 1st for six Caladiums: the plants were well furnished, C. Leopold Robert being one of the best; Mr Lawley, gr. to Mrs. R. Darby, was a close 2nd in this class.

Coleus were shown remarkably fine, each of the four exhibits being admirable in every respect. Mr. Bremmell, gr. to H. F. Hayhurst, Esq., Overley, Wellington, was 1st.

Mr. Jones, gr. to A. M. Barber, Esq., Field House, Wellington, was 1st for tuberous Begonias; and Mr. Clift, gr. to R. Taylor, Esq, Abbey Foregate, 2nd, both showing dwarf, well-flowered examples.

Both single and double Zonale Pelargoniums were shown in splendid condition, the plants of medium size, but flowered in profusion. Mr. Myers, Sutton Lane Nursery, Shrewsbury, was 1st in both instances; and W. J. Scott, Esq., 2nd, the latter showing well.

The class for table plants was the subject of keener competition, Mr. Mee being 1st with light, well-furnished dwarf plants; and Mr. Bellis, gr. to Sir C. H. Rouse Boughton, Downton Hall, a good 2nd.

In the small group class, Mr. Ingwood, gr. to T. F. Kynnersley, Leighton Hall, Ironbridge, was 1st; Mr. Bremmell, 2nd; but both of these exhibitors might take pattern of the groups in the open class.

CUT FLOWERS.

For a display of floral arrangements in a space of 12 feet × 5 feet, any design of flowers admissible, Messrs. Perkins & Sons, Coventry, were invincible; that they never staged a finer exhibit was the opinion of many, and in confirmation of this a Gold Medal was awarded in addition to the 1st prize of £12 10s. All of the various designs shown were in this firm's usual excellent taste. Messrs. Jenkinson & Son, Newcastle, Staffs., staged well for the 2nd prize, the merit of this exhibit being further recognised by the award of a Silver Medal; Messrs. Jones & Son, Shrewsbury, were 3rd.

Messrs. Perkins & Son had the best pair of bouquets, one ball and one bridal, both being nearly perfect in the arrangement and blending of colours; Messrs. Jones & Son were 2nd, and showed very well.

In another and similar class Messrs. Pope & Sons, Birmingham, were 1st, their examples being a trifle heavy.

The last-named firm showed well, however, in a class for a shower bouquet of Cactus Dahlias, their choice being Countess of Gosford alone, with suitable foliage; the effect was beautiful.

In a similar class for Sweet Peas only, the 1st prize went to Messrs. Jenkinson & Son, but this award was open to question, Messrs. Pope & Son having a far more tasteful arrangement.

The best stands of cut flowers for the table were from Miss Kettle, Market Drayton, a good arrangement in the usual style of glass épergnes; and another, much too thin to be effective, from Messrs. Jenkinson & Son.

Messrs. Perkins & Son, as usual, were 1st for button hole bouquets, and also for a collection of Roses in various designs and in boxes, those in baskets being very effective.

The finest exhibit of Gladioli came from Messrs. Harkness & Sons, Bedale; the varieties were of the very best, and the spikes particularly fresh and good; two of the best kinds were Enchantress and Grand-rouge.

The best collection of Dahlias came from Mr. M. Campbell, High Blantyre, N.B., the Cactus vars. being specially good in every way; Harmony and Earl of Pembroke were very effective. Messrs. Jones & Son, Shrewsbury, were a good 2nd.

Mr. Mortimer, Rowledge, Farnham, won easily for twenty-four Dahlias, show and fancy varieties. Mr. Davies, gr. to W. K. Kingley, Esq, being 1st in each of two classes for bunches of Cactus Dahlias with the best known kinds.

For a collection of hardy flowers in variety (bulbs not admitted), Mr. Campbell was a worthy 1st, he staging a great variety of the best things in season, including several of the early Chrysanthemums; Mr. F. W. Gunn, Orton, Birmingham, was 2nd.

Messrs Harkness & Sons were 1st for the best collection of bulbous flowers, this exhibit being strong in the best of the Gladioli, notably in the Lemoinei and Narcissus hybrids, also in Lilies, Montbretias, and Tigridias. Messrs. Wallace & Co., Colchester, were 2nd, with a choice but not so effective an exhibit.

The best collection of Carnations and Picotees came from Mr. Campbell, these being displayed to the best advantage.

Messrs. Perkins & Son staged an excellent exhibit of twenty-four Roses, and were easily 1st in the open class, Mr. Townsend, gr. to Col. R. T. Lloyd, Oswestry, was 1st in the county class for the same number.

Mr. Lambert had the best box of exotic cut flowers, being strong in Dipladenias and Ixoras.

The class for Sweet Peas was a strong one, Mr. Sankey, Baschurch, Salop, being 1st, showing the best and newest kinds; the arrangement being tasteful and natural.

FRUITS.

In the class for a decorative dessert-table, not to consist of more than sixteen dishes of fruit, for which prizes to the value of £15 15s., £12 12s., £8 8s., and £5 5s. were offered, there were five exhibitors. Mr. McIndoe, gr. to Sir J. Pease, Bart., M.P., Hutton Hall, Guisboro', was 1st, showing good bunches of Golden Champion, Black Hamburgh, Muscat of Alexandria and Gros Maroc Grapes, Prince Alfred and Invincible Melons, good Moorpark Apricots, Sea Eagle and Stirling Castle Peaches, Smooth Cayenne Pine-apple, Doyenné Bossouch, and Souvenir du Congrès Pears, Dryden and Elruge Nectarines, Brown Turkey Figs, Oullin's Golden Gage Plums, two nicely-coloured plants of Croton interruptus, with centre-piece of cut flowers, including Orchids, &c., intermixed with Ferns, together with eight small glasses (four on either side) filled with suitable flowers, showing off to advantage (ninety-six and a half points); Mr. Gleeson, gr. to C. E. Keyser, Esq., Stanmore, was a good 2nd, his floral decoration being ahead of the 1st prize collection, but the fruit was not so heavy as that put up by the winner of the 1st prize (ninety-two and a half points being awarded to the 2nd prize collection); Mr. Goodacre, gr. to the Earl of Harrington, Elvaston Castle, was a good 3rd, securing eighty eight and a half points

Five collections of twelve dishes were shown in good style. Mr. Harris, gr. to Lady H. Somerset, was 1st, showing good bunches of Black Hamburgh and Muscat of Alexandria Grapes, Eastnor Castle Melon, Barrington and Royal George Peaches, Pitmaston Orange and Lord Napier Nectarines, Brown Turkey Figs, Kirk's and Washington Plums, and Bigarreau Cherries; 2nd, Mr. McIndoe, with Golden Champion (rather green), and Gros Maroc Grapes, Queen and Cayenne Pines, good Invincible, and Exquisite Melon, Violette Hative Peaches, and Spenser Nectarines; Mr. Goodacre being 3rd.

Nine collections of nine dishes (confined to exhibitors residing in Salop) were tabled, the 1st prize being secured by Mr. Laugh, gr. to Rev. T. M. Bulkeley Owen, Teasmore Hill, Freton: Foster's Seedling and Madresfield Court Grapes, Royal George and Grosse Mignonne Peaches, Jargonelle Pear, Prince Engelbert Plums, Lockinge Melon, and Morello Cherries.

Grapes.—About 100 bunches of Grapes were shown, most of these being of a high order of excellence. There were eleven stands of four bunches of black Grapes in two varieties, Mr. Campbell, gr. to C. E. Newton, Esq., Micklow Manor, Derby, was a good 1st, staging grand bunches of Gros Maroc and Black Hamburgh, fine in bunch and berry; 2nd, Mr. Lambert, gr. to Lord Harlech, Oswestry.

A like number of bunches of white, in two varieties, were staged. Mr McDonald, gr. to Captain Marling, Canna, Sydney, Gloucester, was a good 1st, staging fine bunches of Buckland Sweet Water and Canon Hall Muscat.

Eighteen stands of Black Hamburgh were shown in fine form generally; 1st, Mr. George Downes, gr. to Rev. F. Anderson, Gunnor Hill, Welsh Franklin; 2nd, Mr. Hughes, gr. to R. Lloyd, Esq., Oswestry.

Eleven stands of Madresfield Court were put up in capital condition, Mr. Craven taking 1st with fine solid bunches, good in berry and finish; Mr. Gray, Bodorgan, Anglesea, being a creditable 2nd.

Twelve pairs of black Alicante were shown, Mr. Goodacre taking 1st with perfect bunches; Mr. C. A. Bayford, gr. to C. Lee Campbell, Esq., Glewston Court, being a good 2nd.

Of ten stands of Gros Colman put up, those from the Rev. J. Anderson were the best; Rev. Bulkeley Owen was a creditable 2nd.

Twelve pairs of Muscat of Alexandria were put up, and Mr. Coates, Dumbah Hall, Winsford, was a capital 1st, with medium sized, well coloured bunches; J. Tams, Esq., The Hayes, Stone, being a good 2nd.

Twelve pairs of any other white were also shown; Mr. A. H. Hall, Presbury, Macclesfield, was 1st, with Foster's Seedling; Captain Marling being a good 2nd, with Buckland Sweetwater.

The Rev. F. Anderson took 1st place for Black Hamburghs among nine exhibitors. Several stands of any other black Grape were staged, and the Rev. Bulkeley Owen was the best exhibitor.

Melons.—Out of thirty-three green-fleshed Melons staged, Mr. Lambert was 1st, with a good fruit of Carter's Earl's Favourite. Twenty-seven scarlet-fleshed varieties were staged, and a fine fruit of Blenheim Orange secured 1st prize for Mr. Ingwood, Leighton Hall, Ironbridge.

Peaches.—Twenty nine dishes of Peaches, all of fine size and quality, were staged. Mr. Harris, gr. to Lady Henry Somerset, Eastnor Castle, was 1st, with fine fruits of Barrington, beautifully coloured; Mr. Dyke, gr. to Geo. Neville, Esq., Sutton Hall, Newark, was 2nd, with the same variety; and Mr. Wilkes, gr. to Mrs. Meakin, Creswell Hall, Stafford, was 3rd, with Royal George.

Twenty-eight dishes of Nectarines were staged, Mr. Tugwood taking 1st with a beautiful dish of Violette Hâtive; Mr. Wilkes following with fine examples of Improved Downton.

Apricots.—Thirty-two dishes of Apricots made a good show, Mr. J. Lambert being a good 1st with clean fruits of Moor Park, Mr. Robinson, Brampton Brian Hall, Hereford, following with good fruits of the same variety.

Plums.—Mr. McIndoe had the best out of twenty-five dishes staged, showing a fine dish of Green Gage. In the corresponding class for purple or red varieties, Mr. Langley was 1st with a fine dish of Prince Englebert; Mr. Nowell, Maindiff, was a good 2nd, with five even fruits of Goliath.

Apples.—Twenty-five dishes of culinary fruit were staged and Mr. W. E. King was 1st with Warner's King. Mr. Lewis, Leominster, took 1st prize with a fine dish of Lady Sudeley (dessert).

Pears.—Mrs. W. Sandford, Port Hill, had the best dish of Pears out of fifteen dishes shown, with splendid fruits of Clapp's Favourite.

For the best-arranged collection of garden produce to occupy a space of 8 feet by 5 feet, plants and flowers and vegetables to be represented, eight collections were arranged. Mr. Waite, gr. to Col. Talbot, Glenhurst, Esher, was placed 1st his collection scoring 86½ points. It was an arrangement enclosed by brightly-coloured Crotons, Palms, and spikes of Pancratium fragrans, the same, together with Palms and Asparagus (common), forming the background, a glass stand being placed in the centre. Peaches, Apricots, Nectarines, one Melon, four bunches of Grapes, Potatos, Tomatos Onions, Runner Beans, Celery, and Cauliflower being arranged on a bed of moss and Asparagus, with Tuberose and a spike of Odontoglossum crispum; Mr. Goodacre was 2nd, his collection obtaining 84½ points; Mr. Mac Indoe was 3rd, with 83½ points.

VEGETABLES.

Fourteen collections of nine kinds were put up in competition for Messrs. Sutton & Sons' prizes, Mr. Wilkins proving victorious, showing fine Cauliflowers, Onions, Carrots, Tomatos, Duke of Albany Peas, A 1 Runner Beans, Prizetaker Leek, and Giant White Celery, the whole being admirably set up; Mr. Pope, Highclere Castle, Newbury, was a capital 2nd.

Four collections of eight kinds were in competition for Messrs. Webb's prizes. Here Mr. Pope turned the tables on his antagonist in the previous class.

Tomatos were, like all sections of vegetables, shown in large numbers and well. Mr. Leish, Mytton Hall, Shrewsbury, was 1st for perfect examples of Sutton's Perfect on; and in Messrs. Pritchard & Sons' special prize class, Mr. Parkinson was 1st.

Cucumbers were shown well. Mr. Pope secured 1st prize with a pair of grand fruits of Carter's Model; Mr. Waterhouse being 2nd with Lockie's Perfection.

Peas made a good show for the time of year. Mr. Geo. Davis, Pool Parva, was 1st in Mr. Eckford's Special Prize class, with fine, well-filled pods of Eckford's Prior, out of six lots shown. In another class, Mr. E. Cumberbatch, High Street, Silverdale, was 1st.

French and Runner Beans.—Twenty-seven dishes of the former and twenty three dishes of the latter were shown. Mr. Prior, gr. to Hon. Mrs. Kenyon, Whitchurch, was 1st with Canadian Wonder (French), and Mr. Pope was 1st with Sutton's Best of All Runner.

Turnips, Carrots, Onions, Celery, and Parsnips were shown extensively and well.

Potatos.—These were exhibited in great numbers, the tubers being of good size, clean and even. Six collections of six varieties were staged. Mr. Enock Cumberbach was 1st, showing perfect roots of Challenge, Reading Russett, Monarch, Pink Perfection, Peerless Rose, and Reading Giant. Fifteen collections of three varieties were put up, and Col. Kenyon Stanley, Hatton Grange, was 1st. Twenty-one single dishes were staged, Satisfaction taking 1st prize for R. L. Kenyon, Esq., Oswestry.

In Messrs. James Carter & Co.'s special prize class for Melons, Holborn Favourite secured 1st prize for Mr. Waite in a good competition.

MISCELLANEOUS NON-COMPETITIVE EXHIBITS.

These were numerous, and of excellent quality. The premier place must be accorded to Messrs. Sutton & Sons, who were awarded two Gold Medals, one for their Reading strain of tuberous Begonias, and another for their well-known choice strain of Gloxinias. Of the former the exhibit was most extensive, and of the best possible quality, the individual blossoms being of enormous size (both of singles and doubles). These plants were only six months old from the seed, the growth dwarf and robust, notably in the singles; these latter were grouped in colours with the best possible effect, notably the deep crimson, the pure whites (very fine), the pinks, the rose-pinks, mixtures also being staged; the buff-coloured, the yellows, the pinks, and the apricot-tinted from amongst the doubles, were specially fine. The effect of the Gloxinias was also excellent, these, too, being raised from seed this year. A choice strain of dwarf Phlox Drummondi was also included in this exhibit, and likewise of the Marguerite Carnations. The whole was staged in two marquees, exclusively devoted to this exhibit, the interior arrangements being admirable and unique.

A Gold Medal was awarded to Messrs. Fisher, Son & Sibbay, Sheffield, for a very choice and effective group of miscellaneous plants, both hardy and tender; of these the best were of hardy subjects, Jasminum nudiflorum album, prettily-variegated Daphne purpurea, dwarf purplish foliage; Acer polymorphum and A. dissectum in variety; tree ivies, notably Hedera Crippsi; Cornus sibirica elegans, tall, plump, very effective; the fern-leaved Golden Elder and Weigela Looymansi aurea.

Mr. H. J. Jones, Ryecroft Nursery, Lewisham, staged a tasteful group of tuberous Begonias of the best selection, and in association with suitable foliage plants, the whole being most effective and well finished, Cocos Weddeliana Asparagus tenuissimus and Caladium argyrites being employed in the best possible manner; a Gold Medal was the award.

Messrs. Pritchard & Sons, Nurserymen, Shrewsbury received the same award for Ferns in great variety, for Carnations, and for tasteful designs in cut flowers.

A Silver Gilt Medal was awarded to Messrs. COWAN & Co., Liverpool, for a large group of small well flowered Tea Roses.

For a mixed group of Plants Messrs. R. SMITH & SON, Worcester, received a Bronze Medal.

Messrs. DICKSONS, of Chester, staged a large and varied selection of hardy and tender cut flowers, with small plants interspersed here and there of Caladiums, Crotons, &c., the new Cannas Italia and Austria were included, both being in good condition. (Silver Medal.)

Messrs. DOBBIE & Co. deservedly received the award of a Gold Medal for a grand display of Cactus and other Dahlias; also of Violas and Pansies, &c.

Mr. JANNOCH, Dersingham, Norfolk, staged Lilies of the Valley in very fine condition, both the spikes and the foliage being well developed.

Mr MORTIMER showed some capital stands of Cactus Dahlias in triplets.

Messrs. BACKHOUSE & SONS, York, were awarded a Silver Medal for a collection of Bamboos, of which large plants were shown here; and a few good Alpines, &c.

From Mr. DAVIS, of Yeovil, Somerset, came a grand lot of double tuberous Begonias in the best of the named kinds. (Gold Medal.)

For one of his characteristic exhibits Mr. ECKFORD was awarded a Silver Medal for Sweet Peas, all of the best of this raiser's kinds being included.

Messrs. BIRKENHEAD & Co. showed a choice selection of hardy and exotic Ferns, and Mr. FORBES, of Warwick, had a good exhibit of cut Carnations; Mr MYERS, nurseryman, Shrewsbury, received a Silver Medal for a showy exhibit of well-grown plants of Zonal Pelargoniums.

Mr. ANTHONY WATERER, Knap Hill, Woking, sent fine examples of Abies pungens argentea, also of A. concolor violacea, and some fine Golden Yews.

Messrs. GEO. BUNYARD & Co., Royal Nurseries, Maidstone, had a grand exhibition of choice fruit (Gold Medal.

Obituary.

MRS. E. HILL.—It is with regret that we announce the death of Mrs. E. Hill, wife of Mr. E. Hill, gardener to the Right Hon. Lord Rothschild, Tring Park, Tring. Mrs. Hill had a long and serious illness, from which it was hoped she was recovering, when peritonitis set in with fatal result.

GEORGIANA ORMEROD.—The death on the 19th inst., at St. Albans, of Miss Georgiana Ormerod is announced. Miss Ormerod was the second daughter of the late George Ormerod, of Sedbury Park, Chepstow, and was a talented artist, in which capacity she rendered valuable assistance to her sister, Miss Eleanor Ormerod.

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Accumulated. Above (+) or below (−) the Mean for the week ending August 15.	Above 42° for the Week.	Below 42° for the Week.	Above 42°, difference from Mean since December 29, 1895.	Below 42°, difference from Mean since December 29, 1895.	Rainfall. More (+) or less (−) than Mean for the Week.	No. of Rainy Days since Dec. 29, 1895.	Total Fall since Jan. 1, 1896.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible duration since Dec. 29, 1895.
	Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths	Inch		Ins.		
0 1 —	85	0	+ 215	− 318	1	152	31·9	22	24	
1 0 aver	99	0	+ 241	− 241	2 —	120	14·6	27	31	
2 0 aver	116	0	+ 288	− 222	2 —	99	10·6	26	31	
3 0 aver	126	0	+ 236	− 229	3 —	100	11·1	30	37	
4 0 aver	121	0	+ 278	− 247	5 —	93	10·6	31	34	
5 0 aver	138	0	+ 313	− 240	1 —	86	9·7	35	39	
6 0 aver	104	0	+ 274	− 228	4 —	126	24·9	47	33	
7 1 —	115	0	+ 364	− 258	6 —	110	16·9	23	35	
8 0 aver	127	0	+ 403	− 206	8 —	91	12·6	48	43	
9 0 aver	105	0	+ 298	− 233	5 —	130	21·7	29	29	
10 1 +	122	0	+ 391	− 210	7 —	106	17·6	37	35	
*0 aver	136	0	+ 504	− 109	3 —	100	10·1	57	48	

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending August 15, is furnished from the Meteorological Office:—

"The *weather* during this period varied considerably; over central and south-western England, and in Southern Ireland, it was generally fine and dry, while in most other places dull and rainy conditions alternated with fine dry intervals. Sharp thunderstorms were experienced at many of our south-eastern and eastern stations during the early days of the week, and in the north-eastern districts towards its close.

"The *temperature* was almost identical with the mean. The highest of the maxima were recorded during the middle part of the week, and ranged from 81° in 'England, S.,' and 77° in 'England, E.,' the 'Midland Counties,' and 'Scotland, E., to 69°, in 'Scotland, W.,' and 'England, N.W.' The lowest of the minima were registered on rather irregular dates, and ranged from 33° in 'Scotland, E.,' and 35° in 'Ireland, N.,' to 50° in 'England, N.W.,' and to 55° in the 'Channel Islands.'

"The *rainfall* varied a good deal in different parts of the Kingdom, but was less than the mean in all districts. In the 'Midland Counties,' 'England, S.W.,' and 'Ireland, S.,' the fall was very slight, while in some parts of Scotland, and in the south of England it nearly approached the mean amount.

"The *bright sunshine* exceeded the mean in most of the western parts of the Kingdom, but was deficient in all the more eastern districts. The percentage of the possible duration ranged from 57 in the 'Channel Islands,' 48 in 'England, S.W.,' and 47 in 'Scotland, W.,' to 23 in 'England, N.W.,' and 22 in 'Scotland, E.'"

MARKETS.

COVENT GARDEN, AUGUST 20.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arums, p. 12 blooms	2 0	- 4 0	Marguerites, per 12 bunches	1 0	- 2 0
Asters, English, doz. bunches	3 0	- 6 0	Orchids:—		
Bouvardias, per bn.	0 4	- 0 6	Cattleya, 12 blms.	6 0	-12 0
Carnations, 12 bun.	4 0	- 6 0	Odontoglossum crispum, 12 bm.	2 0	- 6 0
— 12 blooms	0 6	- 2 0	Pelargoniums, scarlet, per 12 bun.	2 0	- 4 0
Chrysanthemums, doz. bun.	4 0	- 6 0	— per 12 sprays	4 0	- 6 0
— doz. blooms	0 6	- 1 6	Pyrethrums, 12 bn.	2 0	- 4 0
Eucharis, per dozen	1 6	- 2 6	Roses, Tea, per doz.	0 9	- 1 6
Forget-me-nots, p. doz. bunches	1 6	- 3 0	— coloured, doz.	0 9	- 1 6
Gardenias, per doz.	1 0	- 3 0	— yellow (Maréchal), per doz.	2 0	- 4 0
Gladiolus, coloured, per doz. sprays	1 0	- 1 6	— red, per dozen	0 6	- 1 0
Lavender, doz. bun.	6 0	- 9 0	— red, doz. bun.	4 0	- 6 0
Lilium Harrisi, per doz. blooms	2 0	- 5 0	— Gloire, doz. bn.	4 0	- 6 0
— lancifolium, doz. blooms	0 9	- 2 0	— Safrano, p. doz.	1 0	- 2 0
Maidenhair Fern, per 12 bunches	4 0	- 8 0	Stephanotis, 12 sps.	1 6	- 2 0
Mignonette, p. doz.	2 0	- 4 0	Stocks, p. doz. bun	2 0	- 4 0
			Sweet Peas, 12 bun.	1 6	- 3 0
			Tuberoses, 12 blms.	0 2	- 0 4

Orchid-bloom in variety

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Adiantum, per doz.	4 0	-12 0	Ferns, various, doz.	5 0	-12 0
Aspidistra, per doz.	12 0	-30 0	Ficus elastica, each	1 0	- 7 6
— specimen, each	5 0	-15 0	Foliage plants, doz.	12 0	-36 0
Asters, doz. pots	3 0	- 5 0	Heliotrope, per doz.	4 0	- 6 0
Campanula, p. doz.	4 0	- 9 0	Lilium Lancefolium, p. doz. pots	9 0	-18 0
Chrysanthemum, do.	4 0	- 9 0	Marguerites, p. doz.	6 0	-10 0
Cock's-combs, doz.	3 0	- 4 0	Mignonette, p. doz.	4 0	- 6 0
Coleus, per doz.	2 0	- 4 0	Palms, various, ea.	2 0	-10 0
Dracæna, each	1 0	- 7 6	— specimens, ea.	10 6	-84 0
— various, p. doz.	12 0	-24 0	Pelargoniums, doz.	6 0	- 9 0
Evergreen Shrubs, in variety, doz.	6 0	-24 0	— Scarlets, p. doz.	2 0	- 4 0
Ferns, small, doz.	1 0	- 2 0			

Bedding Plants in variety.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples, cooking, in variety, per sieve	2 6	- 4 0	Grapes, Gros Maroc, per lb.	1 0	- 1 6
— dessert, in variety, per ½-sieve	2 6	- 4 0	Figs, per doz.	1 0	- 1 6
Grapes, Alicante, 1st quality, per lb.	1 0	- 1 6	Melons, each	1 0	- 1 6
— Hamburgh, 1st quality, per lb.	1 0	- 1 6	Nectarines, 1st size per doz.	3 0	- 4 0
— Alicante, 2nd quality, per lb.	0 9	- 1 0	— 2nd do., p. doz.	1 6	- 2 0
— Hamburgh, 2nd quality, per lb.	0 6	- 0 9	Nuts, Cob, per lb.	0 4	
— Gros Colmar, per lb.	1 0	- 1 6	— Filberts, do.	0 3	
— Muscats, English per lb.	1 0	- 1 9	Peaches, 1st size, per doz.	3 0	- 6 0
— Muscat, Channel Islands, per lb.	1 0		— 2nd do., doz.	1 6	- 2 0
			— 3rd do., doz.	0 9	- 1 0
			Pears, Williams, p. half-sieve	2 6	- 3 0
			Pine-apples, St. Michael, each	5 0	- 6 0
			Plums, in variety, per ½ sieve	2 0	- 3 0
			Green Gage, p. ½ sieve	4 0	

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Beans, Scarlet Runner, p. sieve	2 0		Mushrooms, (Indoor) per lb.	0 6	
Cucumbers, home-grown, per dz.	1 0	- 2 0	— (Outdoor), per half-sieve	2 0	- 2 6
— Ridge, per pad (about 10 doz.)	5 0		Peas, per sieve	5 0	- 6 0
— Dutch, per doz.	1 0		Tomatos, home-grown, smooth, per doz. lb.	4 0	- 4 6
Marrows, Vegetable, per 5 doz. tally	4 0		— ord. kinds, do.	3 0	

POTATOS.

Best samples in good demand, from 80*s.* to 100*s.* per ton; ordinary samples, 50*s.* to 65*s.* Market generally dull. *J. B. Thomas.*

FRUIT AND VEGETABLES.

POTATOS.—*Borough.*—Prices ranged from 45*s.* to 70*s.* per ton. *Spitalfields*:—Early Rose, 50*s.* to 60*s.*; English Regents, 70*s.* to 80*s.* per ton. *Farringdon*:—Black-land Bruce, 45*s.* to 50*s.*; Bedford Puritans, 70*s.* to 80*s.* per ton. *Stratford.*—Prices ranged between 40*s.* to 50*s.* per ton for Black-land Bruce, and 60*s.* to 80*s* for Snowdrops

MANCHESTER: *August* 18.—Only trifling alterations in vegetables. Potatos:—Cheshire New Rounds, 3*s.* 6*d.* to 5*s.* per load; Bedford Hebron, 7*s.* to 8*s.* per load.

EDINBURGH: *August* 18.—Wholesale:—Grapes, hothouse, 1*s.* to 3*s.*; do., new, 1*s.* to 3*s.* per lb.; Tomatos, 7*d.* do.; Guernsey, 4*d.* to 4½*d.* do.; Pears, Williams, 3*s.* 6*d.* to 5*s.* 6*d.* do.; do., d'Amanlis, 3*s.*; do., common, 1*s.* 6*d.* to 4*s.* per cwt.; Green Gages, 5*s.* to 5*s.* 6*d.* per pad Retail:—Carrots, 3*d.* to 1*s.* per bunch; Cabbages, 6*d.* to 1*s.* per dozen; Turnips, 4*d.* to 6*d.* do.; Spinach, 9*d.* to 1*s.* per gallon; Cauliflowers, 2*s.* 6*d.* to 3*s.* per dozen; Apples, 6*d.* to 8*d.* per lb.; Strawberries, 8*d.* do.; Pears, 6*d.* to 8*d.* do.; Gooseberries, 2*d.* to 3*d.* do.; Currants, red, 6*d.* do.; Green Gages, 6*d.* do.; Plums, 4*d.* to 6*d.* do.

GLASGOW: *August* 19.—Average prices of the past week. *Fruit:* Pears, 2*s.* 3*d.* per case; Apples, 6*d.* to 10*d.* per lb.; Green Gages, 5*d.* to 6*d.* do.; Gooseberries, 14*s.* to 20*s.* per cwt.; Curran's, red, 1½*d.* to 3*d.* per lb.; black do., 5*d.* to 5½*d.* do.; Strawberries, 2*d.* to 3½*d.* do.; Tomatos, Guernsey, 4*d.* to 5*d.* per lb.; do., Scotch, 7*d.* to 9*d.* do.; Plums, 3*d.* to 3½*d.* do.; Grapes, home-grown, 2*s.* do. *Vegetables:* Turnips, yellow, 2*s.* to 2*s.* 6*d.* per dozen bunches; do., French, 1*s.* do. Cabbages, 8*d.* to 9*d.* per dozen; Cauliflowers, 1*s.* 3*d.* to 1*s.* 6*d.* per bunch; Onions, Syboes, 6*s.* to 8*s.* per dozen bunches; Carrots, new, 1*s.* to 1*s.* 6*d.* per dozen; Asparagus, 2*s.* to 2*s.* 6*d.* per 100; Cucumbers, 4*s.* to 4*s.* 6*d.* per dozen; Lettuces, round, 6*d.* to 8*d.* per dozen; do., Cos., 9*d.* per dozen; Beans, Broad, 1*s.* 9*d.* per stone; do., French, 2*s.* to 2*s.* 6*d.* do.

DUBLIN: *August* 18.—Wholesale:—Tomatos, 3*d.* to 6*d.* per lb.; Cucumbers, 1*s.* 6*d.* to 3*s.* 6*d.* per dozen; Marrows, 1*s.* 2*d.* to 2*s.* do.; Cabbage (York), 10*s.* to 17*s.* 3*d.* per load; Cauliflowers, 3*s.* 3*d.* to 4*s.* 3*d.* per flasket; Carrots, 8*d.* to 1*s.* per dozen bunches; Peas, 6*s.* 6*d.* to 7*s.* 6*d.* per bag; Celery, 1*s.* to 1*s.* 3*d.* per bundle. Potatos:—Kemp's, 3*s.* per cwt.; Hebrons, 2*s.* 6*d.* to 2*s.* 8*d.* do.; Punton's, 2*s.* 4*d.* to 2*s.* 6*d.* do.

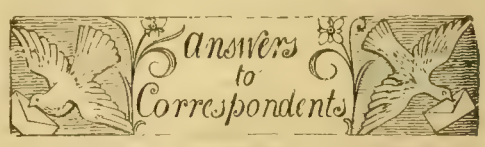
BELFAST: *August* 18.—There is an abundant supply of Apples at low prices. Agricultural produce is in good supply, at fully average prices

SEEDS.

LONDON: *August* 19.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report to-day's market thinly attended. There is an active consumptive demand from the country for Trifolium, at Monday's rates. English seed appears nearly exhausted, whilst the supply of French is in moderate compass. White Mustard meets an active sale at advancing prices. New home-grown winter Vetches come forward slowly. There is a fair quantity offering of fine new Essex Giant Seed Rye, at low figures. Some extra-bold new Spanish Canary seed has just arrived here. Hempseed is dull. Buckwheat firm. Peas steady.

HAY.

Averages.—The following are the averages of the prices at the metropolitan markets during the past week:—Clover, prime, 70*s.* to 92*s.*; do., inferior, 38*s.* to 70*s.*; Hay, best, 60*s.* to 90*s.*; do., inferior, 36*s.* to 60*s.*; Mixture, 60*s.* to 85*s.*; and Straw, 20*s.* to 38*s.* per load.



ARE CARNATIONS HERBACEOUS? *A. Z.* Certainly not. Herbaceous plants produce stems above ground, which last for one year only, and form others the following year from a root-stock or other subterraneous organ that has reserved or "bottled-up" the plant's vitality during the winter. Carnations could be shown in a class for hardy flowers, but in one for herbaceous flowers they were properly disqualified.

CARNATION ROOTS: *J. F. S.* The Carnation roots are attacked by an underground aphis ("green-fly"),

which cannot be otherwise than injurious. Watering the plants at short intervals with one or other of the approved insecticides would probably destroy the insect. *R. McL.*

Coco de Mer (Lodoicea sechellarum): *T. C.* There are several fine young plants of the double Cocoa-nut to be seen at the Royal Gardens, Kew. We suspect that your Nuts, just commencing to germinate, would be very acceptable at some of the other Botanic Gardens, especially on the Continent; but in private establishments, or even in nurseries, there would probably be no demand for them.

Correction: On p. 171, under "Awards," for Erica Fascination read Eriocnema fascinator.

Cucumber Disease: *E. P. D.*—The Cucumber shoots are in a bad condition, but there is no fungus present, and we are unable, from the shoots themselves, to determine the cause. The mature leaves present effused spots, upon which are developed a white mould, technically a Fusisporium, but conforming to no known species. The curved, fusiform conidia are profuse, and very variable in size, some of them about 20, and others about 50, micro-millemètres long, uniseptate, triseptate, or quinqueseptate, acute at the extremities. We are not prepared to affirm that this mould is the cause of the diseased shoots; indeed we think it is not, but at any rate it appears to be parasitic rather than saprophytic. We fear that the weak and unhealthy condition of the plants is due to some of the external surroundings. There is no trace of Bacteriosis. *M. C. C.*

Double-flowered Lobelias: *F. Romer.* The flowers of both varieties are double, but, unfortunately, their condition upon arriving was such that no estimate of their value could be formed.

Gardeners' Orphan Fund.—We have received, with many thanks, the sum of 2*s.* 6*d.* from Mr. J. Cobban. The amount has been sent to the Secretary.

Grapes Diseased: *Constant Reader.* The berries are affected with "Spot" (Glæosporium læticolor). Remove all such berries as soon as they are observed. It is too late to treat them with any spray this season.

Names of Fruits. *D. G. H.* Apricots: 1, Large Early; 2, Kaisha.—*C. B.* 2, Kerry Pippin; 3, Striped Juneating; 4, Sugarloaf Pippin.—*J. F. S.* Apple Golden Noble.—*Amateur.* Fig De l'Archipel. —*East Lothian Gardener.* 1, Louise Bonne of Jersey; 2, Beurré Hardy; 3, Doyenné Boussoch; 5, Bishop's Thumb; 6, Williams' Bon Chrétien. It is too early to name these Pears with certainty; specimens to be named should be nearly ripe.

Names of Plants: *Correspondents not answered in this issue are requested to be so good as to consult the following number.—C. Bailey.* Torenia Fournieri alba "White Wings."—*H. R.* 1, Malope trifida; 2, Echinops Ritro; 3, Sedum carneum variegatum; 4, a grass not determinable; 5, Panicum variegatum; 6, apparently a Podocarpus; 7, Juniperus excelsa.—*W. Graham.* The plant you call Festuca arundinacea, is probably F. elatior, and the vernacular name for that species is Meadow Fescue. The Festucas generally are called Fescue grasses.—*W. L.* Santolina incana.—*J. C.* 1, Chimonanthus fragrans so far as we can tell, without the flowers; 2, Colutea arborescens.—*C. G.* 1, Pisum sativum; 2, Mercurialis perennis; 3, Acer arietinum.—*E. L. B.* Salpiglossis sinuata, allied to Petunia.

Orchid-houses: *Amateur.* You cannot do better than make the benches of slate, and upon this place a layer of shingle, small coal, or other moisture-retaining material. An open wood-work staging, about 5 or 6 inches high, should be made to rest upon the close one, and upon this the plants may be arranged. It is quite unnecessary to have the pathway made of concrete or fancy varieties of tilings, there being nothing better than a substantial wooden trellis or iron grating, either of which should be laid flat upon the bare ground. When erecting a bench or stage, it is essential to have it sufficiently high to bring the plants to within a foot or 18 inches from the roof-glass.

Pelargoniums that never Flower: *W. L.* There are varieties of Pelargoniums with extremely variegated foliage that seldom, if ever, flower. A nurseryman who grows this class of plants largely would probably furnish you with the names of several such varieties.

Preserving Peas. *G. P.* Peas may be preserved by heating them in air-tight bottles as are supplied by the French Flint Glass Bottle Co. These were figured and described at p. 565 in *Gardeners' Chronicle* for May 2. Peas may also be preserved in brine.

Polypodium aureum Spores. *Nemo.* The growth of moss among the seedlings is probably due to the non-sterilisation of the soil on which the spores were sown. Sterilisation is effected by boiling water or by baking, or if this has been done, the moss may be due to subsequent overhead watering. Scald the soil well before sowing, always keep the surface covered by glass until the Ferns are developed, and only water by percolation from below. This done, moss should not appear.

Seedsman Situation in South Africa: *Gordon.* You might advertise in *South Africa*, a paper published in London, or write to Mr. Chas. Ayres, nurseryman, at Cape Town. There are large seedsmen at Grahamstown, at Pietermaritzburg, Port Elizabeth, including Messrs. Smith Bros., and at Queenstown, Messrs. Edkins Bros.

Althæa frutex; its Propagation: *C. B.* Althæa frutex, as it is still called in nurseries, more correctly, Hibiscus syriacus, is a native of Asia Minor. The usual method of propagation is by layering and grafting. For the last process the stock should be the single purple form, which is raised from seed, but it can also be root-grafted. Taking one of the fleshy roots, split it with a sharp knife, then cut the base of the scion into a wedge shape, introduce it into the cleft root, and bind with raffia, then pot or bed out in the open, covering the soil well over the union. If the stocks are quartered out in the nursery, they may be grafted in the open in March. Open out the soil so as to make the union below the surface, and when finished, heap the soil into a ridge around the plants, covering the union, which may be waxed or smeared with clay. Cuttings may also be struck under a bell-glass, but they are very slow.

Tomato a Fruit or Vegetable *J. M.* See answer given to "W. M." in this column in our last issue.

Tomatos: *A. L. J.* The fruit sent was healthy enough, and had no trace of disease internally or externally. Perhaps a wrong one was sent.

Tree Fern *C. L. P., Madeira* It is not possible to name the Fern without its fruit. You are probably right.

Warty Growth in Potatos: *E. M. B.* Some curious examples of young malformed Potato tubers, in which the latter are tuberculated, somewhat after the manner of the tubercles on Alder roots, formerly known as Schinzia alni. It was suggested that they might have been caused by insects, but of this there is no evidence. Externally they suggest Plasmodiophora, as seen on Cabbage roots, but as yet we have found no sign of Plasmodium. There are an immense number of brown spherical bodies, resembling Pythium, but as yet their true nature and relationship to the disease has not been traced. This is certainly a very peculiar form of Potato disease, which requires further investigation before it can be accurately determined. It is certain that the plants attacked are beyond recovery. Some of this material has been submitted to Mr. Worthington Smith, and he has expressed the opinion that the globose brown bodies are the same as those which he described as the resting-spores of the Potato disease, but of the maximum size. They were all found near the surface of the tubercles, and it is questionable whether they are an efficient cause to account for the distortion and convolutions of the young tubers. We are both agreed that this manifestation of disease is a novelty. *M. C. C.* [We are, however, familiar with the external appearance presented. Ed.]

Communications Received. F. Miles.—E. O. Greening.—C. Boyle Woolley.—F. W. B.—H. H. D.—E. P. Ghent—H. E.—W. T. T. D.—Professor Max Cornu, Paris.—J. H., Burnley.—J. Anderson.—H. M.—F. Kränzlin.—Apiary—P. M.—Sutton & Sons.—W. Gardiner.—W. B.—W. P.—J. H.—Wm. W.—Scottish Gardener—J. K. B.—N. E. Br.—J. W. next week—J. B.—Mrs. T. (W. P., Epping).

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

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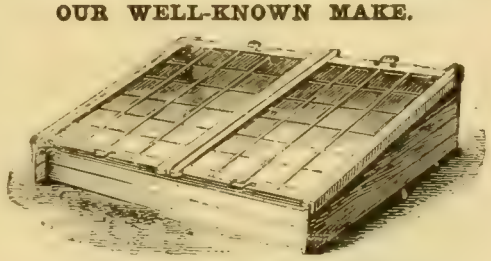
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3 " 12 ft. by 6 ft...	PRICES,	4	2	6
4 " 16 ft. by 6 ft...		5	5	0
5 " 20 ft. by 6 ft...	CARRIAGE	6	7	6
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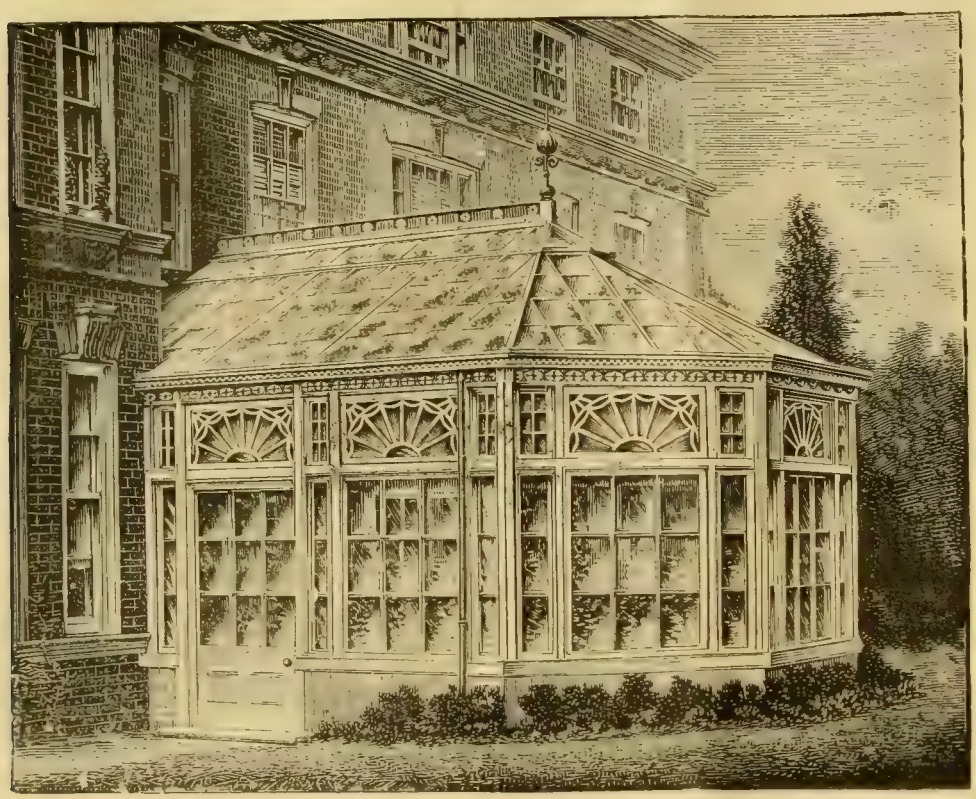
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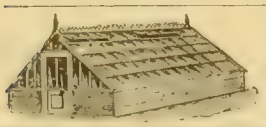


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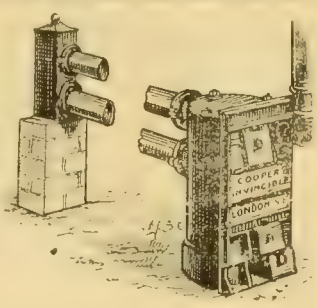
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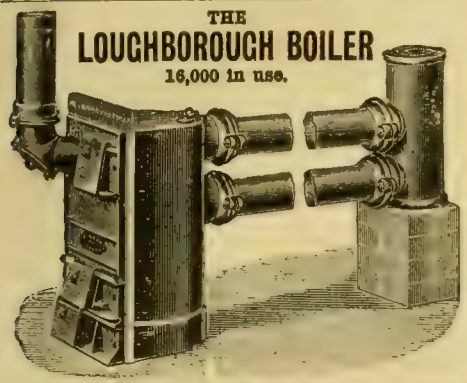


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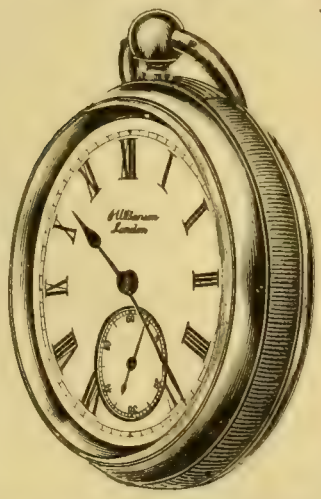
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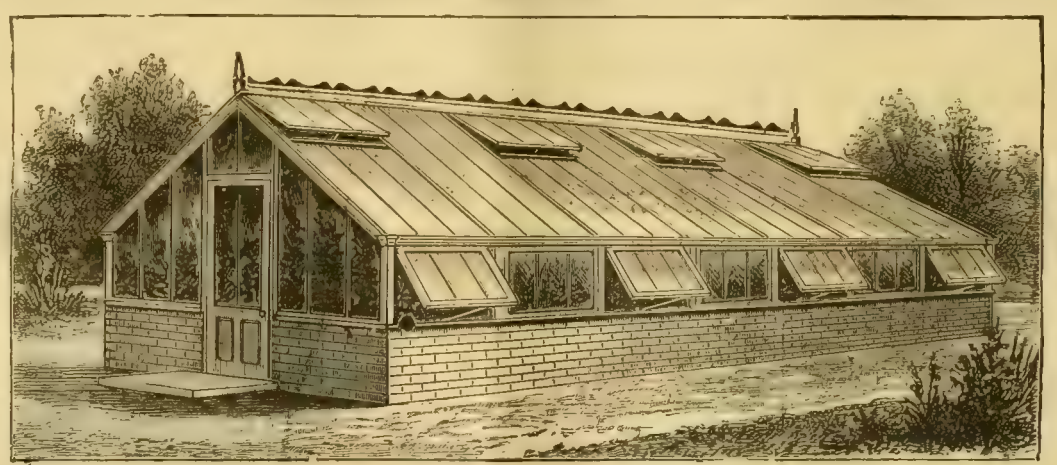
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Printed for the Proprietors by Messrs. BRADBURY, AGNEW, & Co. (Limited), Lombard Street, Precinct of Whitefriars, City of London, in the County of Middlesex, and published by HARRY GILLARD COVE, at the Office, 41, Wellington Street, Parish of St. Paul's, Covent Garden, in the said County.—SATURDAY, August 22, 1896. Agent for Manchester—JOHN HEYWOOD.

The Gardeners' Chronicle

ESTABLISHED 1841.

No. 2905.

No. 505.—Vol. XX. { Third Series. } SATURDAY, AUGUST 29, 1896. [Regt. as a Newspaper. { PRICE 3d. Post-free, 3½d.

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CATTLEYA SKINNERII (unflowered), many showing flower-sheaths.
ODONTOGLOSSUM KRAMERII, Odontoglossum citrosum, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, Sept. 4, at Half past Twelve o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next.

DUPLICATE and SPECIMEN PLANTS from a well-known Private Collection of ORCHIDS, comprising—

CŒLOGYNE CRISTATA ALBA.
CYPRIPEDIUM MORGANIÆ.
ODONTOGLOSSUM CRISPUM ARTHURIANUM.
" DORMANIANUM.
CYPRIPEDIUM INSIGNE SANDERIANA.
And other choice Plants.

MESSRS. PROTHEROE AND MORRIS will include the above in their SALE on FRIDAY NEXT, September 4.

Hall Place, Bexley, Kent.

About 15 minutes' walk from Bexley Railway Station.

CLEARANCE SALE of STOVE and GREENHOUSE PLANTS, GARDEN UTENSILS, FARM IMPLEMENTS, HAY, PONY-CARRIAGE, and other effects, by order of Mrs. Jewell, who is giving up the Gardens and Farm-land.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION on the Premises, Hall Place, Bexley, Kent, on TUESDAY, September 8, 1896, at 12 o'Clock precisely, in consequence of the large number of lots, the whole of the well-grown Plants, consisting of Azaleas, Camellias, Bouvardias, Primulas, Cyclamens, Begonias, Gloxinias, 300 Crotons and Palms of sorts, Dracænas, Maidenhair Ferns, Eucharis, about 60 Orchids; also, the Garden Utensils and Farm Implements, Haymaking-machines, Harrows, Ridging-plough, Small Fire engine, Flower-pots, Seed-pans, Hose-reel and 180 feet Hose, 2 Mowing-machines, Garden-roller, 5 5-feet Garden-seats, 1½ Acre of Potatos and Mangels, Ladders, Oil-cake-crusher, Chaff-cutter, Stack of Hay, 1895 Crop; capital Rick-cloth, with Poles, Ropes, and Pulley; Weighing-machine, Grey Pony and Set of Harness, nearly new Tip-cart, Dog-kennels, Horse-clothing, nearly new Landau by Morgan, and Single-seat Brougham by Barker, Galvanised-iron Tanks, and many other effects.

May be viewed the day prior and morning of Sale. Catalogues may be had of the Head Gardener on the Premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Dyson's Lane Nurseries, Upper Edmonton.

ELEVENTH GREAT ANNUAL UNRESERVED TRADE SALE of POT PLANTS.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. H. B. May to SELL by AUCTION, on the Premises, Dyson's Lane Nurseries, Upper Edmonton, on MONDAY, September 14, at 11 o'Clock punctually (there being upwards of 1600 lots), an unusually well-grown Stock, consisting of—

TEA ROSES IN POTS,

The grandest lot ever offered, including extra strong well-ripened plants of M. Niel, W. A. Richardson, Climbing Niphetos, Climbing Perle des Jardins, Crimson Rambler (extra fine stock of this new pillar Rose, and other sorts for forcing).

FERNS, many thousands in various sizes.

TREE CARNATIONS,

including choice new varieties, Primrose Day, W. Robinson, H. Gibbons, Uriah Pike, Winter Cheer, Miss Joliffe Improved, and other best winter-flowering sorts; also large quantities of Germania, Gloire de Nancy, &c.

BOUVARDIAS, large quantities of all the best sorts ERICA HYEMALIS, very fine stuff. FICUS ELASTICA VARIEGATA. CROTONS, a splendid lot of beautifully-coloured plants. VINES and strong Canes of Muscat of Alexandria and Gros Colmar. STRAWBERRY plants, Stevens' Wonder and Royal Sovereign, in pots. PALMS, consisting of fine specimens of Kentias, Arecas, Cocos, Latanias, &c.; also great quantities of smaller plants. GENISTAS, unusually fine bushy stuff. SOLANUMS, bushy, and well berried. Cyclamen, Double Primulas, Gardenias, Poinsettias, Azaleas, Camellias, and other useful flowering plants. Hydrangeas, Lapagerias, Ampelopsis; and Passifloras, Clematis Jackmani, and other leading sorts.

IVIES, choice variegated sorts.

Aspidistras, Araucaria excelsa, Ficus elastica, Aralias, and a great variety of other useful flowering and foliage plants. Large quantities of small Genistas, &c., for growing on.

May be viewed any day prior to the Sale. Catalogues may be had on the Premises; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

The Mill Lane Nursery, Cheshunt, Herts.

IMPORTANT TRADE SALE of thousands of unusually well-grown Winter and Spring-flowering HEATHS, FERNS, CARNATIONS, and ROSES, by order of Mr. E. Rochford.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, on the Premises as above, on THURSDAY, September 10, at half-past 11 o'Clock precisely,

30,000 WINTER and SPRING-FLOWERING HEATHS,

including Hyemalis, Hyemalis alba, gracilis, ventricosus, Cavendishii, Wilmoreana, and others.

- Cyclamen persicum, in 48-pots
- Adiantum elegans, in 60-pots
- 5,000 Genistas, in 48-pots
- 6,000 Maidenhair Ferns
- 5,000 Ferns, in variety
- 2,000 Solanums
- 4,000 Carnations, consisting of Miss Joliffe Improved, Mad. Thérèse Francon Malmaison, &c.
- Climbing Roses, Maréchal Niel and Gloire de Dijon, extra strong
- Asparagus plumosus
- Clematis, Ampelopsis

Boronias, Greenhouse Rhododendrons, Ficus Lord Penzance, new Sweet Briars, &c.

May be viewed any day prior to the Sale. Catalogues may be had on the Premises; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Avenue Nursery, Bexley Heath, Kent,

Adjoining Bexley Heath Station, South-Eastern Railway.

SECOND ANNUAL TRADE SALE of beautifully-grown GREENHOUSE and other PLANTS, by order of Messrs. P. H. & J. Cooper.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, as above, on FRIDAY, September 11, at 12 o'Clock precisely, without reserve—

10,000 ROSES,

including

- 2,000 Gloire de Dijon
- 1,000 Niphetos
- 500 Turner's Crimson Rambler
- 200 climbing Perle des Jardins
- 250 Souvenir d'Un Ami
- 600 Catherine Mermet
- 500 Perle des Jardins
- 450 W. A. Richardson
- 500 Maréchal Niel
- 500 The Bride

mostly in 32-pots, some in 24-pots; also climbing Devoniensis, L'Idéal, Sunset, and many other well-known and favourite varieties.

2,500 TREE and OTHER CARNATIONS,

consisting of Mrs. Moore, Germania, Annie Douglas, Dorothy, Alice Ayres, Mrs. Reynolds Hole, Uriah Pike, Malmaison, &c.

- 1,100 Clematis, leading sorts
- 2,500 Solanums, fine plants, well berried
- 500 Asparagus plumosus nanus, in 48-pots
- 250 Asparagus tenuissimus, in 32-pots
- 20,000 Ferns, in 60-pots
- 2,000 Genistas, in 48 pots
- 2,500 Pinks, Her Majesty
- 2,000 Erica Wilmoreana, in 48-pots
- 500 Erica hyemalis, in 48-pots
- 1,200 Erica hyemalis, in 60-pots
- 3,000 Erica Wilmoreana, in 60-pots

Also Ficus elastica, Ficus elastica variegata, Crotons, and other plants.

May be viewed any day prior to the Sale. Catalogues may be had on the Premises; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Lee, Kent, S.E.

GREAT ANNUAL TRADE SALE, to commence punctually at 11 o'clock, there being upwards of 1,600 lots to sell in the one day.

MESSRS. PROTHEROE AND MORRIS are instructed by Messrs. B. Maller and Sons, to sell by Auction on the premises, the Burnt Ash Road Nurseries, Lee, Kent, S.E., adjoining Lee Railway Station, S. E. Railway, on TUESDAY, September 15, at 11 o'clock precisely, without reserve, a remarkably well-grown stock of

WINTER-BLOOMING HEATHS

AND OTHER

STOVE and GREENHOUSE PLANTS

Consisting of:—

- 15,000 Erica hyemalis
- 2,000 ,, gracilis
- 1,000 ,, Cavendishii
- 1,000 ,, vertricosa of sorts
- 700 ,, caffra
- All well set with bloom-buds,
- 1,000 Ampelopsis Veitchii
- 1,500 Epacris (to name)
- 1,000 Boronia megastigma and others
- 500 Grevillea robusta
- 6,000 Genistas
- 4,000 Solanum capsicastrum, well berried
- 1,000 Adiantum cuneatum
- 1,400 Lomaria gibba
- 600 Tea Roses (in pots)
- 3,000 Bouvardias (of sorts)
- 1,000 Cocos Wedelliana
- 1,000 Cyclamen persicum
- 500 Crotons, beautifully coloured
- 2,000 Tree Carnations
- 500 Asparagus tenuissimus and plumosa nana

and a fine lot of Stephanotis floribunda, Gardenias, Myrtles, Abutilons, Dipladenias, Hydrangeas, with a large quantity of young Ericas, Hyemalis and other varieties, Genistas, and Aralia Sieboldi, all in 60-pots for growing on.

The stock may now be viewed. Catalogues may be had on the premises; at the Seed Warehouse, 61, High Street, Lewisham, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

N.B.—Intending purchasers are invited to inspect the stock, which is unusually well-grown. The Heaths are especially fine, all varieties being well set for bloom. The Genistas are all fine bushy plants, and the Tree Carnations are also particularly good.

Enfield Highway, N.

TWENTY-EIGHTH ANNUAL TRADE SALE of STOVE and GREENHOUSE PLANTS.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. John Maller to SELL by AUCTION, on the Premises, the Brimsdown Nurseries, Green Street, Enfield Highway, N., almost adjacent to the Brimsdown Station, G.E.R., on THURSDAY, September 17, at 11 o'Clock punctually, owing to the large number of lots, about—

60,000 REMARKABLY WELL-GROWN

STOVE and GREENHOUSE PLANTS,

mostly in No. 48 pots, and fit for immediate Sale, consisting of—

20,000 Winter-Flowering HEATHS,

including Hyemalis, Gracilis, Wilmoreana, Cavendishii, Ventricosa, Perspicua, erecta, &c.

3500 TEA ROSES, in pots,

including Maréchal Niel, Gloire de Dijon, climbing Niphetos, L'Idéal, Rêve d'Or, W. A. Richardson, Mdme. Moreau, climbing Perle des Jardins, Bridesmaid, Reine Marie Henriette, The Bride, Sunset, Kaiserin Augusta Victoria, Graziella, Catherine Mermet, Beauté Inconstant, Mdme. de Watteville, Perle des Jardins, Maman Cochet, Niphetos, Mdme. Pierre Cochet, La France, Augustine Guinoisseau, Mdme. C. Testout, &c., &c.

Also PAULS' CARMINE PILLAR, ALISTER STELLA GRAY, and TURNER'S CRIMSON RAMBLER.

5000 SOLANUMS, large, & well-berried.

- 1000 Ferns, P. tremula, Polypodiums, &c.
- 2000 Geraniums, new and choice varieties
- 4000 Genista fragrans
- 1000 Hydrangea Hortensis
- 1000 Palms
- 1000 Grevillea robusta
- 400 Ficus elasticus
- 300 Cannas, Mdme. Crozy, and Reine Charlotte
- 1000 Bouvardias, to name
- 2000 Calla æthiopica
- 600 Epacris, to name
- 500 Begonias, Mdme. Charrat, &c.
- 500 Poinsettias
- 500 Ivy-leaves, new varieties.

Large quantities of Passifloras, Ampelopsis Veitchii, Taxonias, Stephanotis, Allamandas, Bougainvilleas, Asparagus, Pandanus Veitchii, Crotons, Aralias, Carex, Eulalia japonica, Carnations, Primula verticillata, Genista elegans, New Chrysanthemums, &c.; also small Heaths, Genistas, and Aralias, in No. 60 pots, for growing on.

Helenium superbum, and Violet Princess of Wales, and others.

May be viewed any day prior to Sale. Catalogues may be had on the Premises; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

N.B.—The whole of the Stock is in first-rate condition. The Ericas and Solanums are unquestionably the finest lot offered at this Nursery for many years; the former being very well set for flower, and the Solanums large and well-berried.

Sidcup, Kent, S.E.

About ten minutes' walk from the new Eltham (late Pope Street) Station, S. E. Railway.

FIFTEENTH GREAT ANNUAL TRADE SALE OF WINTER-BLOOMING HEATHS.

Particularly well grown, and beautifully set with flower. Also, ROSES and other Stock, forming together one of the largest and best collections of plants ever offered by Auction.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the premises, The Longlands Nursery, Sidcup, S.E., about 10 minutes' walk from the new Eltham (late Pope Street Station), S.E.R., on WEDNESDAY, September 9, 1896, and also on FRIDAY, September 18, 1896, at 11 o'Clock each day, owing to the large number of lots, by order of Messrs. Gregory & Evans, an enormous quantity of unusually well-grown plants, comprising nearly

60,000 WINTER and SPRING-FLOWERING HEATHS,

in the best possible condition, particularly well set with flower-buds, and unsurpassed in the Trade, including:—

- 8,000 Erica hyemalis
- 2,000 ,, ,, alba
- 2,000 ,, Cavendishii
- 2,000 ,, magnifica
- 8,000 Erica gracilis
- 2,000 ,, Wilmoreana
- 1,000 ,, coccinea minor

An unusually grand lot of

10,000 CLIMBING ROSES,

in 24, 32, and 48-pots, exceptionally well grown, and no doubt the finest ever offered at this Nursery;

5,000 BOUVARDIAS, best varieties; 5,000 SOLANUMS FICUS, Double PRIMULAS, ARALIA SIEBOLDI,

25,000 FERNS,

in 32, 48, and 60-pots, all well-furnished plants, and best leading varieties, and other Stock.

May now be viewed. Catalogues had on the Premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, E.C.

N.B.—The stock of plants this season will be found well up to their usual standard, special attention being invited to the Heaths, Roses, and Ferns, which are undoubtedly the best ever offered at this Nursery.

The Nurseries, South Woodford, Essex.

UNRESERVED ANNUAL SALE of many thousands of WINTER-FLOWERING and other PLANTS. By order of Mr. John Fraser.

MESSRS. PROTHEROE AND MORRIS beg to announce that this ANNUAL SALE will take place on the Premises, as above, on WEDNESDAY, September 16.

Full particulars will appear next week.

SALES BY AUCTION.

EVERY DAY.

DUTCH BULBS.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., EVERY DAY, at 12 o'Clock each day, large consignments of NAMED HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other BULBS from Holland, received direct for Unreserved Sale, Lotted to suit the Trade and Private Buyers; together with white ROMAN HYACINTHS, paper-white NARCISSUS, SNOWDROPS, special TULIPS, &c.

On view morning of Sale, and Catalogues had.

WEDNESDAY NEXT.

SPECIAL TRADE SALE of DUTCH BULBS

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, September 2, at half-past 12 o'Clock precisely, a grand selection of fine HYACINTHS, TULIPS, CROCUSES, NARCISSUS, IRIS, and other BULBS from Holland, in splendid order, and specially lotted to suit the Trade and other large Buyers. 20,000 FREESIA REFRACTA ALBA, 20,000 EARLY WHITE ROMAN HYACINTHS, PAPER-WHITE NARCISSUS, and LILIUM CANDIDUM from France, for early Forcing; SNOWDROPS, LILIUM HARRISI, &c.

On view morning of Sale, and Catalogues had.

MONDAY, TUESDAY, WEDNESDAY, and THURSDAY NEXT.

DUTCH BULBS—DUTCH BULBS

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, as above, at half-past 12 o'Clock precisely each day, extensive consignments of HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other BULBS, for early Spring Flowering, from leading Dutch Nurserymen; BULBS from France, &c.

On view mornings of Sale, and Catalogues had.

DUTCH BULBS—DUTCH BULBS

SALES NEARLY EVERY DAY TILL THE END OF DECEMBER.

MR. J. C. STEVENS begs to announce that he has arranged with several of the first Nurserymen in Holland to Continuously Supply his Sales, during the present season, with only really First-class Bulbs, of the best quality.

Thursday next.

By order of Messrs. W. L. Lewis & Co

IMPORTED ORCHIDS, comprising Cattleya Walkeriana, Odontoglossum Schlieperianum, Trichopilia coccinea, &c. Established Orchids, including some botanical sorts of great interest, together with Cypripedium Charlesworthii, Lælia anceps (in spike), Miltonia vexillaria, Odontoglossum Insleayi, &c.

Also a small importation of Odontoglossums, Catasetums, and Oncidiums. Orchid species as received direct.

By order of Mr. J. W. Moore of Bradford.

200 lots of IMPORTED ORCHIDS.

Lilium Harriaii, Freesias, Snowdrops, Roman Hyacinths, &c., &c.

MR. J. C. STEVENS will sell by AUCTION at his Great Rooms, 38, King Street, Covent Garden, on THURSDAY NEXT, September 3, at half-past 12 precisely.

On view morning of Sale and Catalogues had.

Dutch Bulb Sales.—Birmingham.

MESSRS. THOMAS JAMES AND DAVIES hold SALES at their Rooms, 35, Temple Street, Birmingham, of the finest HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other BULBS from Holland, every THURSDAY, at half-past 11 o'Clock. Catalogues post-free. Commissions carefully executed. Commencing in September, SALES will be held every MONDAY and THURSDAY.

OLD-ESTABLISHED SEED BUSINESS for SALE. In good Business Centre. Stock and Fixtures at a low valuation.—G., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

HADLEIGH, SUFFOLK.—TO BE DISPOSED OF, the Lease, Goodwill, Stock in Trade, and Glass Erections, &c., of above NURSERY, comprising about 1¾ acres of Land, convenient DWELLING-HOUSE, Packing and Potting Sheds, SEED SHOP, and Fittings. Lease about nineteen years unexpired. Rent £27. No other Nursery within several miles. Price £150. Apply to—

WILLIAM BADMAN, Cemetery Nursery, Gravesend.

FOR SALE, FREEHOLD MARKET GARDEN, consisting of 8 acres of Land and 1000 feet run of Glass-Houses in full growth of Cucumbers and Tomatos. Good loamy soil, or would sell 4 acres separately.—Apply, W. WREN, Bridge House, West Malling, Kent.

FOR SALE, established NURSERY and FLORIST BUSINESS, 1 acre of Land, 8 Glasshouses, 80 feet long, all heated and stocked. A good connection of customers. A 99 years' Lease.—Apply, R. B., 2, Bowen Villas, Wembley, Harrow, Middlesex.

MESSRS. PROTHEROE AND MORRIS, Horticultural Auctioneers, 67 & 68, Cheapside, E.C. have the following, amongst other Nurseries, for Immediate Disposal:—

MIDDLESEX.—Capital fruit-growing district, 14 miles from Covent Garden. FREEHOLD NURSERY of 2 acres, with Six Capital Greenhouses comprising 38,020 superficial feet efficiently heated. Coach-house and Stabling, and Packing Shed, Glasshouses cropped with Vines and Tomatos. Price for the whole, as a going concern, freehold, £3,650. Full particulars on application. (8903).

SOUTH COAST.—Principal seaside resort. A good lucrative FLOWER and SEED BUSINESS doing a capital wholesale and retail trade in Cut Flowers and Plants. Commodious Dwelling-house and Shop. Held on lease at a rental of £55 per annum. Turn over about £3,000. Profits about £250 to £300. Valuation £50 to £60. Price £350. (8901).

SURREY.—Genuine NURSERY and SEED BUSINESS, established since 1799, comprising 55 acres of productive Land, seven Greenhouses, commodious Dwelling-house and Shop, the whole in first-rate condition. Price to be arrived at by valuation. (8888).

NORTH WALES.—1½ miles from an important town. Capital FREEHOLD MARKET NURSERY of 8 acres, with eight Greenhouses. Most efficiently heated. Coach-house, Stabling, and numerous Outbuildings. Commodious Dwelling-house. Growing crops to be taken at a valuation. Stock-in-trade optional. Price as a going concern, £3,000. (8877).

SURREY.—15 miles from Covent Garden. TO BE LET, a WALLED-IN GARDEN of 2 acres, fifteen Greenhouses, Dwelling-house, Stable and Coach-house, and two Cottages. Price for the whole as a going concern, including Stock, Horse, Van, &c., £200. Death cause of disposal. (8872).

SOUTH COAST.—Flourishing locality near Brighton. Productive NURSERY of 2 acres in excellent working order, with 6,870 superficial feet of Glass, well heated with 4-inch piping, and a number of cold Frames. Stock consists principally of Vines. Held on lease, of which thirteen years are to remain at a low rental. Price for the whole as a going concern, including stock, £1,150. (8892).

Full particulars of the Auctioneers as above.

To Nurserymen and Florists commencing Business.

HAMPTON-ON-THAMES, on the Marling Park Estate, free from London fogs, a deep rich loam, the favourite neighbourhood for Growers, FREEHOLD LAND for SALE on easy system of Purchase, or to be LET on Lease. For full particulars, apply to Mr. FREDK. G. HUGHES (Surveyor), the Estate Office, Hampton-on-Thames.

FOR DISPOSAL, a good NURSERY and JOBBING BUSINESS. Lease 12 years. Horse and two Carts. Full particulars on application.

Swiss Nursery, Perry Vale, Forest Hill.

Ferns—Ferns.

SPECIAL OFFER to the TRADE.—Pteris tremula, cristata, serrulata, compacta, alba lineata, hastata, cretica, argyrea, Mayii, and Lygodium japonica; good thick Stuff in thumbs ready for repotting. Price per 100, 12*s.*; per 1000, £5 10*s.*—R. PENGELLY, Nurseryman, Dyson's Lane, Angel Road, Upper Edmonton, N.

Important to Mushroom Growers.

CUTHBERT'S SPECIALITÉ MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5*s.*

R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

BEGONIAS of the newest and most superb type, including many rare varieties. Double and Single, for Conservatory or Bedding. See B. R. Davis' Descriptive CATALOGUE, free. A handsome coloured plate of Six Double Varieties and a Treatise on Cultivation, free for 1*s.*

B. R. DAVIS, Yeovil Nurseries, Yeovil, Somerset.

Hyacinths, Tulips, Crocus, Lilies, &c.

C. G. VAN TUBERGEN, Jun., Haarlem, Holland. Wholesale CATALOGUE now ready, and may be had free on application to—

Messrs. R. SILBERRAD AND SON, 25, Savage Gardens, Crutched Friars, E.C.

N.B.—Many new, rare, and interesting plants and bulbs will be found in this Catalogue.

FERNS AND DECORATIVE PLANTS!—(TRADE):—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 12*s.* 100; ditto, large, in 48's, 10 best selling sorts, 6*s.* doz.; strong seedlings, 6*s.* 100, 50*s.* 1000; Adiantum cuneatum, in 48's, for cutting, 6*s.* and 8*s.* doz.; ditto, for making large plants quickly, 16*s.* and 20*s.* 100; Cyperus, Aralias, Grevilleas, Rhodanthe, Geraniums, Fuchsias, and Heliotropes, in 48's, 6*s.* per doz.; Marguerites, Mignonette, Campanulas, and Chrysanthemums, in 48's, 8*s.* per doz.; Ficus, Palms, Dracænas, Crotons, Pelargoniums, in bloom, in 48's, 12*s.* doz.; Lists free. Packed free. Cash with order.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

FERNS.—FERNS.—FERNS.—Phlebodium aureum, in large thumbs, ready for 48's; also Pteris Ouvrardii and P. cristata, all good stuff. For price and particulars, apply to THOMAS CLARK, Hawthorn Nurseries, Northumberland Park, Tottenham, London.

DUTCH BULBS.—DUTCH BULBS.—Splendid Collections of Hyacinths, Tulips, Crocus, &c., from 4*s.* 6*d.* to 20*s.* Great success of our last year's collections.

VAN T HOF AND BLOKKER, Bulb Growers, Akersloot, near Haarlem, Holland.

Write for our 1896 Catalogue to our London Agent,—

WM. ATKINSON, 21, Love Lane, Eastcheap, London, E.C.

EXHIBITION.

FOLKESTONE CHRYSANTHEMUM SOCIETY.

GRAND EXHIBITION, November 10, 11, 1896. £100 and Six N. C. S. MEDALS in PRIZES, open to all England. Prizes to Gardeners' Societies in Kent. BRONZE JUBILEE MEDAL N. C. S. for Best Bloom in Show, Japanese or Incurved. Judges:—Mr. George Gordon, Kew; Mr. Richard Dean, Secretary N. C. S. Schedules sent on receipt of address. All prizes won, guaranteed.

T. J. HARRISON, W. H. HAMMERTON, } Hon. Secs.

3, Canterbury Road, Folkestone.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Panoras.

CLEARANCE SALE of ORCHIDS.—Owing to the enormous success of the West's Patent Orchid Baskets, we offer our whole stock at the great reduction of 20 per cent. off Catalogue.

LEEDS ORCHID CO., Roundhay, Leeds.

DOUBLE WHITE PRIMULAS, well-rooted plants, in small pots, free on rail, 18*s.* per 100. Cash with order.

D. ANDERSON, Teddington.

Geranium Cuttings.

MORLE AND CO. have a few more good CUTTINGS, from pot-plants, of the best Market sorts, at 4*s.* per 100. Also a few cut-down plants, in 48's, at 8*s.* per 100.

The Conservatories, Finchley Road, N.W.

CYCLAMEN, PRIZE STRAIN, 2,000 in 60's for sale, ready for 48's. Price 3*s.* per dozen, 25*s.* per 100. Cash with order.

Canonbury Nurseries, Baker Street, Enfield.

STRAWBERRY.—Royal Sovereign, fine Rooted Runners, 5*s.* per 100, £2 per 1000.

J. TOWNSEND, Roseacre Fruit Gardens, Barnes.

STOVE PLANTS for SALE, also a few CATTLEYAS and CYPRIPEDIUMS, very cheap. Send for List.—ROBT. CROSS, Worstead, Norwich.

STRAWBERRY RUNNERS.—Good strong Plants of Sir Joseph Paxton, at 10*s.* per 1000.

MANN AND SONS, Market Gardeners, Whitton, Middlesex.

50,000 EUONYMUS, Green and Golden, all splendid bushy plants.—GREEN: 12 in. to 15 in., at 30*s.* per 100; 15 in. to 18 in., at 40*s.* per 100; 18 in. to 21 in., at 55*s.* per 100; 21 in. to 24 in., at 75*s.* per 100; 25 in. to 40 in. at special prices.

GOLDEN: 5 in. to 12 in., at 3*s.* to 8*s.* per dozen. Cash with order. J. J. CLARK, Goldstone, Brighton.

FERNS from Stores.—Pteris cristata, good stuff, fit for immediate potting, 2*s.* 6*d.* per 100, 22*s.* per 1000.—PTERIS, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

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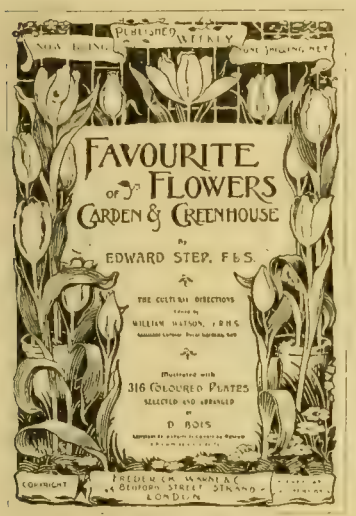
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Much has been done during the present generation to furnish the professional gardener with helpful manuals and dictionaries dealing with the cultural and technical side of his art, but too little attention has been bestowed upon garden-lovers, who would like to know something more of their flowers than the mere knowledge necessary for their successful growth.

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THE
Gardeners' Chronicle.
SATURDAY, AUGUST 29, 1896.

FLOWERS AND INSECTS.

THE question of the relation of insects to flowers is such an old one, and so much has been written on this subject, that one might very well think that nothing more could be just now said on this subject except in the way of repetition. There have, however, lately been published one or two papers, which deserve some notice in the pages of the *Gardeners' Chronicle*, in that they deal with an old subject in a somewhat new light. The first of these is entitled "Notes on the Study of the Cross-fertilisation of Flowers by Insects," a paper which appears in the *Proceedings of the Academy of Natural Sciences of Philadelphia* for 1895, part 3 (published in 1896). The author, Miss Ida A. Keller, here boldly asks whether Darwin, Hildebrand, Müller, Kerner and others were right when they said that cross-fertilisation was of utmost value to the individual species. She detects a bias towards the theory of cross-fertilisation in most writers on the subject, and admits that the prevailing impression seems to be that close-fertilisation is, as a rule, only resorted to when all the chances for cross-fertilisation are at an end.

Miss Keller asks, "Are insects any material aid to plants in fertilisation?" and quotes Prof. Meehan's conclusions, that the great bulk of coloured flowering plants are self-fertilised; that only to a limited extent do insects aid fertilisation; that self-fertilisers are every way as healthy and vigorous, and immensely more productive than those dependent on insect aid; and, finally, that where plants are so dependent they are the worse fitted to engage in the struggle for life, the great underlying principle in natural selection.

Miss Keller proceeds to consider the chief adaptations which point towards cross-fertilisation—distinct sexes, specially adapted or conspicuous corolla, peculiar position of stamens and pistils, and difference in the time of maturity of stamens and pistils. With regard to the second of these adaptations, Miss Keller says she should not be surprised if, sooner or later, upon close examination, it would be found that in many cases where this adaptation to insects seems so perfect, the insect visitors aid in securing self-fertilisation. She regards insects, in very many cases, simply as robbers, and states that she has lately observed a very large patch of Gerardia pedicularia, the flowers being almost all pierced at the base of the corolla by bees perching on the outside and never touching stamens and pistils. Even as regards the peculiar position of the stamens and pistils Miss Keller says that whenever a plant bears many, or clusters of flowers, the chances of cross-fertilisation are reduced, and she pleads for careful observations which should decide the question how far in such cases, where there is a peculiar arrangement in the position of stamens and pistils in regard to each other, close-fertilisa-

tion is possible. With regard to the fact that in some flowers the time of maturity of stamens and pistils differs, Miss Keller quotes Mr. Meehan, who has put forward a theory that the difference between the time of maturity of stamen and pistil is caused by varying degrees of temperature, and that dichogamy has its origin in this circumstance, "that whatever its significance, it arises from no effort innate to the plant itself, but from an outside force that can have but little interest in cross-fertilisation." Miss Keller suggests that it should be decided if cross-fertilisation, or autogamy, is the rule with every species which seems constructed so as to attract insects, and that this work should be done in as many different localities and at different times of the year as possible. At the close of her article Miss Keller makes four suggestions. She writes:—

"First, it is evident that the study of the phenomenon of cross-fertilisation of flowers by means of insects is still a profitable field for observation and discovery.

"Second, the effect of external conditions in reference to dichogamy should be the subject of critical experiment.

"Third, teleological explanations should be avoided as much as possible, here as elsewhere, according to the spirit of modern investigation.

Finally. The relative number of cases of cross and close-fertilisation should be compared, and it should be determined if cross-fertilisation actually takes place in all cases where this is assumed.

Miss Keller's article is interesting, in that it shows the tendency of biologists of the present day not to ascribe everything to natural selection, nor to explain the presence of certain protective features in plant and animal life by saying, as the Darwinians are wont to do, that these are directly caused by animals or plants. Miss Keller is doubtless right when she protests against those writers who would attribute certain adaptations which seem to point towards cross-fertilisation in plants to the direct agency of insects. Selection may accelerate or retard the progress of the selected along its definite grooves of natural change, but it cannot be held responsible for those constitutional peculiarities which arise in plants and animals and increase in them apart from any external agencies.

But the question of cross or close-fertilisation is by no means settled yet, and the conclusions of Darwin and Sprengel cannot be laid aside all at once, and we shall need a host of experiments before we can say definitely that cross-fertilisation is the exception and not the rule.

M. Felix Plateau recently made a communication to the Royal Academy of Belgium on the subject, "How Flowers Attract Insects," and gave an account of some of his experiments on this thorny question. He is of opinion that the form of flowers or of inflorescences plays no part, or only a very unimportant one, in the attraction of insects by plants; that there is no proof that insects distinguish colours as the human eye distinguishes them; that the sense of smell is frequently very much developed among animals; that many allow themselves to be guided almost exclusively by this sense in their search for nourishment, &c.; and that they can perceive odours which do not affect the human olfactory organ.

He also reaches the following conclusions. Insects visit actively the inflorescences which have not undergone any mutilation, but whose form and colours are hidden by means of green leaves. Neither the form, nor the gay colours of flowers, seems to have any attractive action. Insects, in fact, according to Professor Plateau, are not attracted by form or colour as they appeal to our eyes, but by some other sense than that of sight.

It will certainly be somewhat of a shock to some conservative people to hear that the cherished convictions have been ruthlessly undermined. It seems we must give up believing that Nature loves cross-fertilisation, and adapts herself to it, and that the lovely hues of flowers are due to insects. The evolutionist must set to work and get some new theories to suit these *fin de siècle* opinions. How can we account for the beautiful colours and beautiful scents which please our senses, but apparently do not please insects at all? We must have more experiments before the question of the relations between flowers and insects can be satisfactorily settled. *Herbert C. Fyfe.*

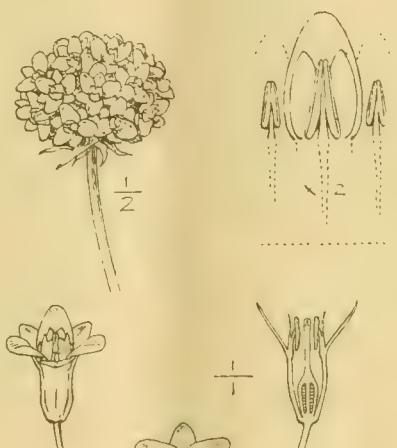


Fig. 41.—Brodiæa capitata var. alba. Inflorescence half-size; flowers white, real size; stamens magnified.

New or Noteworthy Plants.

DELPHINIUM ZALIL.*

At one of the late meetings of the Royal Horticultural Society, cut spikes of this remarkable Larkspur were shown by Barr & Son. Most of the spikes were not so densely flowered as the one drawn on p. 247, in fact, a loose disposition of the flowers is one of the specific characters. The flowers are of a yellow colour. It was described by Messrs. Aitchison & Hemsley in their paper on "The Botany of the Afghan Delimitation Committee," and Dr. Aitchison gives the following account of it:—"Native name, Zalil. This plant forms a great portion of the herbage of the rolling downs of the Badghis; in the vicinity of Gulran it was in great abundance, and when in blossom gave a wondrous golden hue to the pastures; in many localities in Khorasan, above 3,000 feet altitude, it is equally common. The flowers are collected largely for exportation, chiefly to Persia, for dyeing silk; they are also exported from Herat through Afghanistan to Northern India, to be employed as a dye, as well as to be used in medicine."

* *Delphinium* (§ Delphinastrum) *Zalil*, Aitch. et Hemsl., n. sp. in Aitchison, "Botany of the Afghan Delimitation Commission," *Linn. Trans.*, vol. iii., 1888, p. 30, t. 3. Herba perennis, erecta, 1-2 pedalis, primum leviter puberula cito glabrescens; caulibus simplicibus vel pauci ramosis pallidis subnitidis striatulis. Folia gracilia, inferiora longe petiolata, petiolis superiorum gradatim brevioribus, omnia ternatipartita, sæpius triternatipartita vel divisione intermedia interdum pinnatipartita, 3-4 poll. diametro, segmentis linearibus rigidis. Flores lutei, extus glabri, laxiuscule racemosi, circiter 1 poll. diametro, pedicellis antice pubescentibus; calcar apice attenuatum, sepalis æquans; sepala lata; petala angusta, bifida, intus leviter pilosa vel barbata; filamenta dilatata, superne leviter pilosula; gynæcium glabrum. Folliculi 3, oblongi, glabri, longitudinaliter 5-costati, inter costas distanter reticulati; semina oblonga, subquadrata, transversim eleganter fimbriato-lamellata.

Allied to D. ochroleucum, Stev., but differing in its more finely-cut leaves, much looser racemes, glabrous flowers, pedicels densely pubescent below, and short, strongly ribbed follicles. Dr. Regel, to whom we submitted two or three flowers and a leaf, thought it might be D. ochroleucum. *Khorasan*, 671, June 17, 1885; July 4, 1885.

Orchid Notes and Gleanings.

L.ELIO-CATTLEYA × ELEGANS VARIETIES.

There is something so striking in the rich rose-tinted, fragrant flowers of the many varieties of this charming Orchid (which seems destined never to become plentiful) that when a plant flowers for the first time its possessor is anxious to obtain an opinion upon it, and consequently every summer we have a good opportunity of comparing them. Two specially-remarkable flowers we have received recently; the first, which might be called L.-C. × elegans gigantea, comes from Joseph Broome, Esq., Sunny Hill, Llandudno, and it is by far the largest we have seen. Across the expanded petals it measures 8 inches. The expanded side-lobes of the lip are 2½ inches, and the showy front-lobe 2 inches. The sepals and petals are light rose-purple; the side-lobes of the lip cream-white, tipped with light purple. From the base of the lip runs a broad red-purple band, which becomes suffused with violet as it merges into the bright magenta-purple front-lobe, which bears a raised venation of a darker hue. The column is purple above, and yellow and purple beneath—a very showy and remarkable flower.

The second is sent by M. Chas. Maron, Orchid-grower to M. Fournier, of Marseilles. In this the flower is only of average size, but the rose-purple colouring has a dark velvety-maroon shade, especially in the lip, which renders it very distinct from ordinary forms. The side-lobes of the lip are pale sulphur-yellow, and the column white above and rose beneath. The columns of these two distinct forms are very dissimilar, that of M. Fournier being stalked at the base, and with membraneous wings, while Mr. Broome's is much stouter throughout. *J. O'B.*

THE GENUS BRODIÆA AND ITS ALLIES.

(*Continued from p.* 214).

Series II. — Stamens six, all bearing perfect anthers.

In the present paper I propose to deal with the groups in which all the six anthers are complete and uniform, and in which there are no staminodia, though in some of the species the anthers or filaments are winged. These include the genera Triteleia, Calliprora and Hesperoscordum of Lindley, all three of which were merged in Triteleia by Dr. Greene, and included in Milla by myself in 1870.

Group 3.—Flowers many in a dense umbel. Perianth-tube oblong, about as long as the segments.

12. **B. pulchella**, Greene (*Hookera pulchella*, *Salisb. Parad.*, t. 117).—Agrees absolutely with *B. congesta* in habit and flowers, and has been commonly confounded with that species.

13. **B. capitata**, Benth. (*Milla capitata*, Baker. *Dichelostemma capitatum*, Wood).—Leaves narrowly linear, evanescent. Peduncle fragile, 1 to 2 feet long. Flowers many in a capitate umbel, bright lilac, ½ to ¾ inch long, with an oblong tube and oblong segments as long as the tube. Anthers sessile at the throat of the perianth-tube, the three of inner row with an oblong wing on each side. Ovary sessile.

Central California to Utah and New Mexico; abundant on the hill-sides in the neighbourhood of San Francisco, flowering in March. It is well figured in *Bot. Mag.*, t. 5912.

Var. *pauciflora*, Torrey, from Sonora and New Mexico, differs from the type by its fewer flowers and longer pedicels. A white variety was exhibited recently by Messrs. Wallace & Co. (see fig. 44).

14. **B. insularis**, Greene, from the islands of the Californian coast, differs from the last in its more robust habit, rather larger flowers, and elongated central pedicels of the umbel.

15. **B. Douglasii**, S. Wats. (*Tritelcia grandiflora*, Lindl. and Greene. *Milla grandiflora*, Baker)—Leaves linear. Peduncle 1½ to 2 feet long. Flowers six to twenty in a dense umbel, shortly stalked, light blue, an inch long, with oblong segments as long as the oblong tubes. Anthers biseriate, three sessile at the throat of the tube, three reaching nearly halfway up the segments, with a short winged filament. Ovary distinctly stalked.

British Columbia, eastward to Missouri. Well figured in *Bot. Mag.*, t. 6907.

16. **B. Howelli**, S. Wats. (*Triteleia Howellii*, Greene).—Very near the last, but flowers smaller, nearly white in the living specimens I have seen, with ovate perianth-segments not more than half as long as the tube, a less distinctly stalked ovary, and biseriate stamens with deltoid filaments.

Oregon and Washington territory. Figured in *Bot. Mag.*, t. 6989, from specimens flowered in the south-west of Ireland by Mr. W. E. Gumbleton. A very fine variety of this, under the name B. Howelli lilacina, was lately figured and described from plants exhibited by Messrs. Wallace & Co. (see fig. 45.)

17. **B. Palmeri**, S. Wats. (*Contr. XVI.*, 78).—Leaves firm, linear. Flowers many in an umbel, bright lilac, shortly stalked, ½ inch long, with oblong segments as long as the obconic tube.

California, at Los Angelos Bay, gathered by Dr. Palmer in 1888. Figured in *Garden and Forest*, 1889, p. 245, fig. 107.

Group 4. Umbels lax; pedicels articulated at the apex. Perianth-tube about as long as the segments. Ovary distinctly stalked. All North American.

18. **B. laxa**, S. Wats. (*Triteleia laxa*, Lindl., *Bot. Reg.*, t. 1685. *Milla laxa*, Baker). Leaves narrowly linear; scape 1 to 2 feet long; flowers, 10 to 30 in an umbel, light or dark violet, 1½ inch long, with segments shorter than the funnel-shape tube; pedicels 1 to 3 inches long; stamens biseriate in the upper half of the perianth tube, anthers longer than the filaments, ovary distinctly stalked.

Very common in the central parts of California. Considered by Prof. Greene to be the most showy and beautiful species of the whole genus.

19. **B. candida** (*Triteleia candida*, Greene).—Nearly allied to the last, but flowers only 6 to 10 in an umbel, white, with six green veins in the keel of the segments, and slender free filaments one-fifth of an inch long, "coiled almost or quite into a ring."

Foothills of the Californian Sierra Nevada; discovered by Mr. J. R. Sarphan in 1886. Not seen by me either in a living or dried state.

20. **B. peduncularis**, S. Wats. (*Triteleia peduncularis*, Lindl. *Milla peduncularis*, Baker). Nearly allied to *B. laxa*, but flowers smaller, rose-purple, ¾ to 1 inch long, and pedicels longer, sometimes reaching 6 to 10 inches, anthers nearly linear, not ovate-lanceolate.

California, from San Francisco northward, flowering later than its allies (fig. 47).

21. **B. Bridgesii**, S. Wats. (*Triteleia Bridgesii*, Greene).—Very near *B. laxa*, but the perianth-tube lengthened into a sub-cylindrical base, and longer filaments, as long as the linear anthers.



Fig. 45.—Brodiæa Howelli lilacina.

Central California, first received at Kew in the form of dried specimens in 1878. Fine specimens have lately been distributed from the Sequoia region by Mr. G. Hansen. Figured in *Garden and Forest*, 1888, p. 126.

22. **B. Hendersoni**, S. Wats. (*Contrib., XV.*, 266).—Allied to the last, but perianth salmon-coloured, ½ to 1 inch long, segments ribbed with brown-purple, and pedicels not above one inch long.

Oregon; discovered by Mr. L. J. Henderson in 1884. Not figured.

23. **B. Lemmonæ**, S. Wats. (*Triteleia Lemmonæ*, Greene).—Scape a foot long. Pedicels an inch long. Perianth deep orange, 4 to 5 lines long, with segments twice as long as the tube.

Mountains of Northern Arizona; discovered by Mr. and Mrs. Lemmon.

24. **B. crocea**, S. Wats. (*Milla crocea*, Baker. *Scubertia crocea*, Wood. *Triteleia crocea*, Greene).—Scape a foot or more long, flowers six to fifteen in an umbel; pedicels 1 to 2 inches long. Perianth yellow, 7 to 9 lines long, with segments longer than the tube. Anther distinctly biseriate, very small and oblong.

From mountains of the extreme north of California; first discovered by Professor Wood in 1868. Not figured.

25. **B. gracilis**, S. Wats. (*Triteleia gracilis*, Greene).—Peduncle under ½ foot long, with a single linear leaf halfway up. Flowers about a dozen in an umbel, with pedicels under an inch long. Perianth bright yellow, ½ inch long; segments oblong, keeled with brown, as long as the tube. Stamens reaching halfway up the segments.

Common in the pine woods of the Californian Sierra Nevada. Not figured. Rather resembles in habit our European Gagea lutea. *J. G. Baker.*

(*To be continued*).

KEW NOTES.

Nepenthes Pervillei.—Plants of this interesting species of Nepenthes are now flourishing in the Kew collection, having been raised there from seeds received in 1894 from Mr. T. Risely Griffith, Administrator at the Seychelle Islands, where this species is endemic. The plants have shining-green oblanceolate leaves 4 inches long and 1½ inch wide, and pitchers 2 inches long, yellowish-green, tinged with red when young, becoming dull crimson with age. According to a figure prepared by Fitch from specimens collected by Dr. Perceval Wright, and published in the *Transactions of the Royal Irish Academy* in 1868, the leaves become 1 foot long by 4½ inches wide, and the pitchers 8 inches by 2½. So far as I know, this species has never before been grown in this country, although frequent attempts have been made to introduce it to Kew and elsewhere. Dr. Wright named it N. Wardii, in ignorance of its having been previously named by Blume as above. It differs from other Nepenthes in the narrowness of the bone-like rim surrounding the mouth of the pitcher, and in the unusual width of its leaves.

Nepenthes Veitchii.

A male plant of this somewhat rare Bornean Nepenthes is now in flower in a stove at Kew, and I am informed that a female of the same species is flowering in the nursery of Messrs. F. Sander & Co., St. Albans. There is nothing remarkable about the flowers of Nepenthes, beyond the fact that notwithstanding a considerable range of variation in the pitchers, leaves, and habit of the thirty or so species known, there is scarcely any difference in their flowers; the inflorescence of N. Veitchii, for instance, being practically identical with that of N. Curtisii, N. Rafflesiana, N. Rajah, &c. N. Veitchii was introduced from Borneo by Messrs. Veitch's collector, Thomas Lobb, and flowered at Chelsea in 1858, when a figure of it was published in the *Botanical Magazine* under the erroneous name of N. villosa. The true N. villosa is not in cultivation, but a figure of it may be found in the Linnean Society's *Transactions*, xxii., t. 69.

Sobralia sessilis.

The true plant of this name was figured in the *Botanical Magazine* two years ago from a specimen flowered at Kew, and which had been imported from British Guiana, by Sir John Kirk, G.C.M.G. It differs from the plant generally grown for S. sessilis, but which is really S. decora, in having stems mottled with purple, leaves tinged with purple on the lower side, and handsomer, darker-coloured flowers. A second plant, obtained from Messrs. F. Sander & Co., in 1892, as a purple-leaved Sobralia, is now flowering at Kew. It has stems 3 feet high, and flowers like those represented in the *Botanical Magazine*, except that the sepals and petals have almost white margins, the flower suggesting a good variety of Cattleya marginata. As Messrs. Sander have, or had, a quantity of plants of this purple-leaved Sobralia, it ought now to be fairly common. The Kew example has about a dozen stems from 2 to 3 feet high; it is grown in a tropical-house. In Demerara the stems grow to a length of 4 feet. It is a much better garden Orchid than S. decora.

Cycnoches.

This genus is represented at Kew just now by flowering examples of two of the most attractive, viz., C. chlorochilon and C. pentadactylon. The former is the largest of all, and the Kew plant has a spike with four enormous flowers springing from a pseudobulb a foot long; the flowers are nearly 6 inches

across, and they are coloured cream-yellow, with a large blotch of dark shining green at the base of the large labellum, which in appearance suggests a slab of Devonshire cheese. At Kew we find this species enjoys the excessive heat and moisture of the growing-house for Dendrobiums. C. pentadactylon bears a curved spike of four flowers, which are male, and therefore far more attractive than the female flowers of the same species, of which a plant flowered at Kew last year. The extraordinary form of the labellum, and graceful curve of the column in the male flowers, with their brown-spotted reflexed sepals and petals, are attractive features in this species, which has been known to cultivators since 1841, but is still a very rare Orchid. Collectors might do worse than turn their attention to this genus and its allies, the Mormodes and Catasetums.

The following interesting plants may now be seen in flower in the houses at Kew:—Aristolochia gigas Sturtevantii, A. hians, Stapelia gigantea, Eucalyptus calophylla, Lagerstrœmia indica, Marianthus ringens, Cereus peruvianus, C. triangularis (exceptionally floriferous this year), Victoria regia, Passiflora alata, P. quandrangularis, P. edulis, P. maliformis, P. violacea, P. racemosa, P. Raddeana (kermesina), P. Watsoniana, Bougainvillea spectabilis, Araujа graveolens, Talauma pumila, Crinum yuccæflorum, C. podophyllum, and Gmelina hystrix.

Terminalia Catappa.

Seeds of this tropical tree were recently received at Kew from a correspondent, who called them the "Arabian Wild Almond from the northern shores of Arabia and the Persian Gulf." In size, form, and outward appearance, they so closely resembled the seeds of the Almond (Prunus Amygdalus) that they were accepted as such, but on germinating they at once revealed their true character. Terminalia Catappa is known as the Country Almond, no doubt because of the similarity of its seeds to the true Almond, which are also edible, and this no doubt accounts for the wide distribution of the plant which, according to Mr. C. B. Clarke, is wild or cultivated in nearly all tropical countries. It forms a tree up to 80 feet in height, with horizontal branches, large ovate, rusty-coloured leaves, which are deciduous in the cold season, and has erect axillary spikes of inconspicuous white flowers. The fruit is a dry oval drupe, compressed, and slightly winged, and containing one Almond-like seed. The tree is said to delight in a sandy soil. In a note by Sir William Hooker under a figure of the plant published in the *Botanical Magazine*, and prepared from a plant that flowered in the Liverpool Botanic Garden, the fruit is said to be abundantly eaten, being served up at the first tables in India. Dr. Roxburgh compares the flavour of the kernel to that of fine Almonds or Filberts. An oil, too, is expressed from it, equal to the best Olive oil, and which does not become rancid. The wood is white, hard, and useful for a variety of purposes, and the tree itself, on account of its beauty and the shade it yields, is planted round about the houses. Other names for this plant are T. Myrobalana, Catappa domestica, Juglans Catappa, &c. The genus is related to Combretum, and consists of about eighty species, all of them large trees, and distributed in the tropics of the whole world. *W. W.*

Nursery Notes.

A HOME FLOWER-SEED FARM.

Does our patriotism run away with our judgment when we decry continental productions, and praise our own produce to the skies, even if inferior? That seems to be so. If, on the other hand, we find produce raised at home to be not only as good, but in some respects better than can be had elsewhere, then may our satisfaction be true patriotism, because we naturally like to produce the best. It was with some such latter feeling I walked the other day over the Messrs. H. Cannell & Sons' seed farm at Eynsford, Kent. To that very enterprising firm, no doubt, it is most natural the results should be a pecuniary success. To me, having no such interest, the visit was most attractive, apart from the wondrous breadths of colour and of beauty found in every direction, because of the abundant evidence manifested of the capacity of the southern soil and climate of old England to produce seeds in great variety and of the best. Perhaps, because we have so long purchased seeds of continental growth, we have got to regard them somewhat fetishly, and for that reason have regarded with suspicion the seeds of home growth, or doubted our capacity to produce seeds as good. The land at Eynsford is much exposed, and consists of a fertile valley, with steep sides reaching to considerable height, and it is certain that it has the advantage of obtaining a maximum of sunshine and pure air; and should rains unduly prevail, there are the drying winds which sweep over the hill-sides and dissipate much of its over-abundance. There is also so large an area of land, diversified as it is in aspect and soil, that change in the nature of the respective seed crops can readily be furnished each year. Now there are numerous seeds constantly raised at home as to which there can be no question as to climatic capacity. Peas, for instance, are here in great quantity, and in all the best varieties, and the seed, threshed and cleaned, is as sound and firm as it is possible for seeds to be. Onion seed, on the other hand, is not always so readily produced, yet the crops at Eynsford always seem to be of the best. Perhaps one reason for that success is found in the effort which the Messrs. Cannell make to secure high-class seed bulbs. I observed that many fine ones of the now ordinary exhibition size were being grown very thinly, expressly to produce seed next year. Gigantic soft bulbs are not the best, but solid, hard, ripe ones ranging from 20 to 24 ounces each, are all that can be desired to give very fine reproductive stocks. Just the same great pains are taken with all vegetables, as every seedsman in these days of severe competition knows that so exacting are customers, that only the very best strains will satisfy.

Now there are numerous hardy annuals which produce good seed at home with but little trouble to the cultivator; so also will the bulk of hardy biennials and perennials. It is but needful to look at the huge breadth of Snapdragons, in diverse colours, tall and dwarf, widely distributed; Pentstemons of the very finest, and so easily raised from seed also; Hollyhocks, of which there is a fine and varied double strain; Pansies, Violas, Delphiniums, Carnations, and myriads of other things, to be as assured that the seed raised here is as good as the most favoured climes in the world can produce. But there are numerous things—tender annuals, for instance—that come into a different category. One of the most remarkable features of the Eynsford Farm, just now, are the Asters. There were about 100,000 plants dibbled out in May or June, a great labour, and they cover some three acres of ground. They make indeed a glorious sight, such an one as no other place but a big seed-farm can produce. The huge masses of Victorias, Chrysanthemum-flowered, Mignons, Pæony-flowered, Comets, Needles, Miniatures, &c., and each section having perhaps a dozen or more of diverse hues and markings, make up indeed a wondrously beautiful display. Growing Asters so largely gives great opportunities for making selections of new tints of colour.

Still further, the firm purchase seed of promising novelties from the continent for the purpose of testing them in Kent, but not always with satisfactory results. Still, if but a few prove to be acquisitions it is a gain. Rather incredulous as to the result of growing home-saved seed of Aster from year to year of the flat-petalled forms, for none can excel us in our strains of quilled Asters, I enquired whether the stocks seen at Eynsford were the product of last year's home-raised seed, and was assured that such was the case. Mr. Robert Cannell said that several of the stocks were from home-grown seed for three seasons, and he declared that they found distinct advance in quality each year. In any case the stocks are so good that none anywhere could excel them. The new Yellow-quilled Aster is found in great bulk, and that, too, is flowering finely. All the biennial and some of the choicer of the Ten-week Stocks are grown in pots, and flowered under glass. That ensures the production of perfect seed. Phlox Drummondi, Petunias in great variety, especially the giant single or grandiflora forms; Verbenas, in mixture as well as in several distinct colours; Zinnias, African and French Marigolds, both tall and dwarf; Nasturtiums, Dianthus—indeed, so many diverse things of the tender section are grown that enumeration is impossible here. After gazing so long upon these brilliant as well as big masses of floral beauty, I felt like Dean Hole when he turned to the Parsley-bed for an eye-rest, that there was welcome change when Mr. Cannell drew attention to his stock of Eynsford Beauty Parsley, so green, compact, and so good in every respect.

There is in the valley a big breadth of some fifty or sixty varieties of bedding Violas. They do well, and bloom profusely all the summer in spite of the drought. I got a promise that some plants presently should be sent to Chiswick. In the Eynsford glass-houses are great quantities of Tomatos grown for seed, also Cucumbers and Melons; and at Swanley there are houses filled with Balsams, Coleus, Begonias, Gloxinias, and various other things all for the same purpose—verily, this seed-growing business is a wonderfully interesting one. It needs immense patience, care, supervision, and knowledge. Few who purchase seeds, perhaps, stop to ask how produced. Those who do not know, and would wish to do so, cannot do better than spend a summer's day, as I recently did, visiting the seed-growing establishment of Swanley and Eynsford. *A. D.*

TRINIDAD ORCHIDS.

If a visitor has the appliances at his command for maintaining a high temperature with plenty of moisture all the year round, he may take home from Trinidad and grow a considerable number of the native species in comparative safety and with no little success; but if he has only a greenhouse or the heat of a parlour, in which to place them, he had better leave them alone, and save his time, his money, and his trouble; for most assuredly they will not thrive under such conditions. I know there are persons who will give different advice to this, but I pity the visitor who relies upon it. A temperature of 75° to 78° Fah., with a minimum of 60°, the Orchids of Trinidad must have, or they will suffer largely, and those who wish Orchids to grow in rooms, should select species coming from altitudes where the climate is more nearly akin to that of the temperate zone than is shown by the Trinidad register.

If, however, the visitor has appliances which will enable him to maintain proper conditions, there are several Trinidad Orchids well worthy of his notice, which can be obtained at reasonable rates, and it is proposed to note such, as each species or variety is passed in review.

The best time for packing and sending away (fixed after many years trial) is during the month of July; a week sooner or later being a matter of no importance. Orchids should be sent in dry cases at this season with ventilation, and in no instance should any kind of packing or stuffing be used, but simply struts or bars to prevent the plants pressing upon one another in the cases.

Oncidium ampliatum, Lindl., appears to have been first described in Lindley's *Orchidaceous Plants*, published in 1830, and the habitat was given as Panama et Columbia occidentale. Reference is made to the same plant in the *Botanical Register* in 1835. Grisebach gives the habitat, Costa Rica to Venezuela, which includes Trinidad. The Orchid is known in Trinidad as the "Yellow Bee," and is one of our commonest kinds, some of the branches of native trees in the Garden being sufficiently covered to furnish us with basketfuls of bloom at a single cutting, and is in great demand in its season for table decoration. The variety, Oncidium ampliatum majus, grows to a much larger size than the type species, and it is said to be obtainable only from Costa Rica. There is, however, an indigenous variety which was termed

majus by my predecessor, which is so near the Costa Rican plant as to be hardly distinguished. The difference between the type and the variety is well marked to the cultivator; as the first has short peduncles (1 to 2 feet) and somewhat spreading panicles, while the majus variety is noted for its long (4 to 5 feet) peduncles and compact panicles. The lateral lobes of the lip in the type are spotted red, while in the variety majus they are clear and yellow like the lip. Oncidium ampliatum is always to be found in Trinidad in flower in the earlier months of the year, its favourite home being on the upper side of the branches of large spreading trees, which afford it partial shade. The plant is one suitable for cultivation in Europe and America.

Oncidium iridifolium, Kth.—This Oncidium is really a little beauty, but like many others is a hard one to maintain under cultivation, unless the exact condition it requires is supplied. In 1887 I had it first brought in by a native collector, and then for seven years I did not again see it—the pieces kept at the Gardens gradually dwindling away.

From the appearance, however, of the twigs on which it is brought, and from the accounts given by a collector, it appears to grow upon the outer branches of trees situated in damp districts, some of the plants being on twigs not more than a quarter of an inch in diameter. Last year we tried it, tied tightly to such branches as I have just described, and left it fully exposed, to take care of itself. It has done fairly well, and continued to produce its single flowers during the greater part of the year. Our garden, however, evidently is not damp enough, for the plants put on a shrivelled appearance. On the other hand, it is found to be extremely impatient to an excess of moisture. If some Orchid fanciers could see this little beauty, as now on the table before me, a single plant with twelve blooms regularly spread out in the shape of a fan, exactly 4½ inches in diameter, they would I feel sure not rest satisfied until they had placed it in their collection. The plant apparently grows freely from seed, as the twigs of the trees on which it grows are covered with plants of all sizes, from the mere speck to the mature form 4½ inches in diameter.

This Orchid must be placed with those difficult to cultivate, although it is a highly desirable one from its rarity and beauty. *J. H. Hart, in "Bulletin of the Royal Botanic Garden, Trinidad."*

REMARKS ON THE FRUIT CROPS.

(*See Tables, pp.* 124 *to* 131.)

(*Concluded from p.* 212.)

8. ENGLAND, S.W.

Herefordshire.—The Apple crop here is a very poor one, owing to the attack of the winter-moth, caterpillar, and the sharp frosts at the end of May. The earlier-blooming sorts of fruits have done better, Pears, Apricots, and Peaches being a good crop. Plums were destroyed after they were as large as Peas by a severe frost. *John Watkins, Pomona Farm, Withington, Hereford.*

—— Apples are a complete failure, and the trees so badly blighted that we have very poor hopes for next year. Pears are very bright and clean, but the fruits will be small. All small fruits have been plentiful, but the season very short. Late Strawberries have been very good, and Morello Cherries also. *Frank Harris, Eastnor Castle Gardens, Ledbury.*

—— The return I gave on the tabular form was for this garden alone, and does not refer to the orchards and cottage gardens in the neighbourhood, in the majority of which the crops are very light indeed. Vintage fruits of the Apple and Pear are more scarce than table fruits. This is to be regretted now that the cider and perry-making industry has come to the fore once again. The failure has arisen, I believe, from two causes, the chief of which was the unprecedented attack upon embryo fruit and foliage by caterpillars, and the dry state of the soil at the time the trees were in blossom, which prevented great numbers of the blooms from setting. In the gardens we have good crops of all kinds of fruit, but much time and labour had to be expended in washing the trees with insecticide, and this has had to be followed up since then by frequent waterings on account of the drought. *A. Ward, Stoke Edith Gardens.*

Monmouthshire.—Fruit trees generally bloomed freely. The cold, dry N. and N.E. winds however that prevailed during the season of flowering were unfavourable to Apples, which are a small crop. The following varieties are good: Irish Peach, Duchess of Oldenburg, Lord Suffield, King of the Pippins, Worcester Pearmain, Ross Nonpareil, Cellini, Frogmore Prolific, Golden Noble, Grenadier, and The Queen. Pears are also partial, the best croppers being Beurré Diel, Beurré Fouqueray, Pitmaston Duchess, Durondeau, Baronne de Mello, Louise Bonne, and Williams' Bon Chrétien. Plums are heavy in crop, as are bush fruits, particularly Raspberries and Gooseberries. The dry weather has not injured the quality of the fruit. Insect pests have been unusually troublesome, and in the case of Apples, mildew has been persistent, but



Fig. 43. Brodiæa (Triteleia) laxa.
Inflorescence half-size; flowers violet, real size.
(See p. 239.)

these pests have been kept under by frequent sprayings of Bordeaux Mixture, Quassia extract, and Paris Green. *Thos. Coomber, The Hendre Gardens.*

—— The orchards in which young trees predominate are clean and healthy, and have a fair crop of fruit, but others, where the trees are old, have been nearly denuded of foliage by caterpillars, and they are now infested with red-spider. More particularly is this noticeable on the uplands. Pears are good on espaliers and pyramids, such sorts as Jargonelle, Marie Louise, Madame Treyve, and Glou Morceau bearing heavy crops. Plums are an average crop. Peaches and Nectarines have done well. Apricots are good. It is interesting to notice how free we are from diseased branches this year in the variety Moorpark. *W. F. Woods, Llanfrechfa Grange Gardens, Caerleon.*

Somersetshire.—The fruit crops are anything but satisfactory. In the early spring, Peaches, Nectarines, Apricots, and Cherries on walls, were in a wretched condition, due to the cold nights, east winds and absence of rain. As soon as a little growth was made, it was blistered with galls, and many of the Peaches and Nectarines had to be entirely stripped of the little foliage they had. Only a few trees carry anything like a crop, and these will be small. The crop of Plums is very heavy; many trees are breaking down; these also will be smaller in size than usual. Apples and Pears are very light crops generally. Strawberries were early this year, and lasted but a very short time. Raspberries and Red Currants have been very scarce. *H. Nash, Ashton Court Gardens, near Bristol.*

—— Apples are very few. The trees bloomed freely, but the maggot has injured the crop greatly, and the dry weather has caused many to fall. All kinds of Pears are very plentiful, and Plums are a full crop. Peaches and Nectarines are very plentiful; we gathered ripe fruits of the variety Waterloo on July 1. *William Thomas, Norton Manor Gardens, Taunton.*

Worcestershire.—The Apple crop is a light one, chiefly owing to weakness due to over-cropping last year, and partly to the depredations of the Apple-blossom weevils and caterpillars. Pears are much better, being both clean and good. Apricots are abundant, and of the highest quality. Peaches and Nectarines are splendid crops, and the trees healthy, although most persistently attacked again and again by hordes of aphides. We gathered Alexander fully ripe but rather small, from a south wall on June 29. Strawberries suffered sadly from the intense heat and drought. Plums and Cherries have been badly infested with aphis. Bush fruits abundant, but somewhat prematurely ripened. Altogether a most precocious season with undesirable extremes. *William Crump, Madresfield Court, Great Malvern.*

—— Though the Apple crop is on the whole under the average in this district, there are good but varying crops in those orchards where the soil is of a more retentive nature, the best crops being on the more tenacious loams. After the enormous crop of last year, the trees generally had a good deal to recuperate. This, with the comparatively dry winter and spring, was altogether against those trees on the lighter soils. *Frank Hughes, The Gardens, Overbury, Tewkesbury.*

WALES.

Cardiganshire.—This has been a very trying season, owing to the long drought. Apples and Pears set well, but they have dropped badly since. Cherries on walls were a good crop, but we had to water the trees frequently. Bush fruits have been very good. Birds are more destructive to fruit than usual, owing to the scarcity of other food. *R. C. Williams, Crosswood Park, Aberystwith.*

Denbighshire.—Apples bloomed and set profusely, and the abnormally dry weather kindly thinned the crops. Still some varieties have very heavy crops; Pears having been over-cropped last year are under average, but some varieties are exceptions. Dessert varieties of Plums are but a thin crop, but kitchen varieties have fairly good ones. Damsons and Bullaces have good crops, but they are rusty. Peaches and Nectarines are moderate; they are infested with spider. Cherries are excellent—Morellos especially so. Raspberries have borne a heavy crop of good quality, Superlative being far the finest of eight sorts. Strawberries were an immense crop, and Noble a fine fruiter under all circumstances; Lucas very good, and Royal Sovereign a fine variety; John Ruskin was very early and good; Sir Joseph Paxton surpassed itself. Gooseberries are quite loaded, all varieties doing well. Black, red, and white Currants were very plentiful, and of fine quality, all foliage have kept clean and free as yet from mildew, but the American blight has obtained a slight hold. This pest was all but extirpated by the seventy-eight days of continuous frost last year. *P. Middleton, Wynnstay Gardens.*

Glamorganshire.—The fruit-crops in this district have suffered much from the drought. The rainfall in Jan. was ·97 inch; Feb. ·81; March 4·55; April ·91; May ·18; June 2·92; and July (up to the 16th) ·57. The Apple-trees in the gardens are badly infested with red-spider, and a great many of the fruits dropped after swelling to a good size. The trees in the orchard at Swanbridge Vineyard (seven miles from here), are clean and healthy, and bearing a good crop of large-sized fruits.

The leaves of some of the Pear-trees have been badly attacked with the slimy larvæ of the slugworm (Selandria pyrii), a kind of saw-fly, which have eaten the epidermis on both sides of the leaves, turned them quite brown, and spoiled the fruit. Some of the trees not attacked are bearing good crops. Strawberries have been very good, both in crop and quality, notwithstanding the dry season. The Vines in the vineyards at Castle Coch and Swanbridge are loaded with Grapes, which promise to be the best yield since they were planted. The fruit is fully a month earlier than usual. *A. Pettigrew, Castle Gardens, Cardiff.*

—— Apples are under average; Cox's Orange Pippin, Hawthornden, Golden Pippin, Cellini, and Worcester Pearmain are the best. Pears also and Plums are under average. Washington, Green Gage, Pond's Seedling, and Victoria are carrying the best crops. *Wm. McD. Bennett, The Gardens, Talygarn.*

Pembrokeshire.—Apples are a good crop in colder and later orchards. On warm situations where the trees bloomed early the crops were much injured by a frost of 6½°, which occurred on May 1. The same frost had a rather singular effect on the Plum crop. All varieties had set a very heavy crop, but the frost quite destroyed all the white, red, yellow, and green-skinned, but did very little harm to the black-skinned varieties. Such was the case in the garden here; but as Plums (with the exception of Damsons), are not much grown in this district, I have not been able to ascertain if these effects are general or not. *Geo. Griffin, Slebech Park.*

9. IRELAND, N.

Carlow.—Fruit crops of all kinds are good, but owing to the very long drought in the early part of the summer, some of the small fruits were not so good as they had promised to be. We had but little rain during the months of April, May, and part of June. Some of the early Strawberries ripened prematurely. Apples are a very heavy crop, but not more so than last year. *Thos. Bloomer, Lisnavagh.*

Dublin.—The fruit crops in this neighbourhood have not fulfilled the expectations entertained in the early part of the season. Peaches are very few, Apricots are a good average, Plums and Cherries rather more than average, Apples are very good, but Pears poor. *G. Smith, Vice-Regal Garden.*

Galway.—A sharp frost (3°) on the morning of May 1 thinned the Apple crop considerably; still, the trees, with very few exceptions, are bearing a fine crop of nice clean fruits. Pears are good also, though a little thin. Cherries are an average crop and good. Some of the finer varieties of Plums are light, but taken as a whole, the crop is an average one. Small fruits of all kinds are abundant and fine. Strawberries suffered from frost on the above-mentioned date, and they also felt the effects of the long-continued drought, although rain came in time to benefit the later half of the crop. *John Cobban, Garbally, Ballinasloe.*

Longford.—Apples everywhere are an immense crop. Trees that for years have refused to bear have this year broken the ban they long lay under. Bush fruits were very good, but Strawberries not so good. *J. Rafferty, Castle Forbes.*

Wicklow.—Without exception the Apple crop in this district is excellent; also Raspberries. Strawberries on retentive soil were an average crop, but of short duration. Black Currants in most places were very scarce; Gooseberries and red Currants slightly better. *Levi Childs, Killruddery, Bray.*

10. IRELAND, S.

Kildare.—Small fruits have been abundant, but owing to the prolonged drought, they were deficient in size. Strawberries turned out well; a timely rainfall having saved them. A few plants were so badly infested with green-fly when in bloom, that we were obliged to destroy them. The Apple crop is a very heavy one. *J. Wyke, Bishop's Court, Straffan.*

—— The fruit crops in this district are over average, with the exception of Peaches and Apricots, and these being in bloom during March, would not set, as there was only one fine day through the whole month. Apples are a wonderful crop, and I do not remember seeing them so large thus early in the season. *Fredk. Bedford, Straffan House.*

Limerick.—The present is not a good fruit season generally. In this district some kinds have been plentiful and good, but were soon over. Strawberries, for instance, came in very early. On May 21 we gathered the first dish of Royal Sovereign, which, I might add, has replaced Noble here; James Veitch, Vicomtesse, President, and Latest of All were extra good, but all were over by the end of June. Raspberries were also of short duration. Pears are partial. Early kinds are abundant, but late kinds are scarce. Peaches, Nectarines, and Apricots are failures, owing to sharp frost, followed by east wind, when the trees were in bloom. *J. Ellicott, Summerville Gardens, Limerick.*

Waterford.—This season is the best I have ever seen so far as fruit crops in this locality are concerned. *Thos. Dunne, Strancally Castle, Villierstown.*

—— Apples are very plentiful, but owing to the dry season, they have dropped badly. Strawberries were good, but the season was of short duration. Pears are an excellent crop, and the trees are clean. The recent rains have done much good, and fruit is improving in size, especially Apples and Pears. *Thos. Singleton, Curraghmore Gardens, Portlaw.*

CHANNEL ISLANDS.

Isle of Man.—The fruit crop here is fairly good in general. Apples are abundant and good. Pears on walls are few, but good on standards. All small fruits have been plentiful and good. Strawberries have been very good. The first were gathered on May 25, and were plentiful, Cameronian Prince being my favourite variety. *Jas. Inglis, The Nunnery Gardens.*

Jersey.—Owing to prolonged drought the whole of the fruit crops suffered severely, Apples and Pears dropping freely. Early varieties in all cases are a better crop than late ones. Pears promise to be of excellent quality. *H. Becker, nurseryman and fruit grower, Jersey.*

FORESTRY.

NORTH AMERICAN CONIFERS IN GERMANY.

Next to the Douglas Fir, the Menzies' Spruce, Picea sitchensis or Abies Menziesii, has given very good results, the area planted being about 100 acres. Professor Sargent describes the wood of this tree as "light, soft, not dense, silky texture, used for all kinds of woodwork, building, interior fittings of houses, &c. Mean specific weight, ·4287."

Two American-grown specimens examined showed considerable variation in the breadth of the wood-rings, and also in the formation of the summer-wood zones. The wood has the exact appearance of that of the common Spruce, and no external characteristics which would enable the two species to be distinguished from each other are present. The specific weight was found to differ little from that of the Norway Spruce. This tree in America has a very local distribution, and it is probable that a moist climate is necessary for its success. This is borne out by the experience of planters in this country, for the further north the better do we find this tree succeed. The promising appearance of the species on a cold, damp soil at Methven Castle, Perthshire, is noticed by Forbes in the *Pinetum Woburnense* in 1839, and I believe a specimen alluded to in that work is now one of the finest in Britain. Both Willkomm (*Forst Flora*), and Mayr (*Die Waldungen von Nordamerika*) put a low value on the timber of this tree, although it is apparently quite equal to our European Spruce, and on very wet ground, may produce more timber than that tree.

Cupressus (Chamæcyparis) Lawsoniana has been planted on about 20 acres, and succeeds very well on even poor Scots Pine soils. According to Sargent, this species is not indigenous further inland than 30 miles from the coast, and like the preceding one, enjoys atmospheric moisture, wood said to be light, dense and hard, and easily worked. Very durable in the ground, with a silky texture, and taking on a good polish. Largely used by turners, and for building and railway sleepers, &c. Specific weight ·4621.

German specimens of this tree examined were too young and immature to allow of any useful comparison between them and American-grown wood being made, but so far the wood appeared to closely resemble that of Silver Fir, but of better colour and texture, and more suitable for carving and turning. According to Mayr, this species attains its optimum development in Southern Oregon, where Figs and Eucalyptus are quite hardy, and it is only in sheltered and moist localities that the best results are likely to be attained in Germany or England. As a matter of fact, the Lawson Cypress is hardy enough to withstand our coldest winters [Several were injured to our knowledge last winter. Ed.]; but its rate of growth is too slow in this country to recommend it as a forest tree.

Thuia gigantea covers about 35 acres, and the results have in general been satisfactory; but careful choice of situations is recommended. As most suitable, fresh, damp, and deep soils of a sandy or peaty nature are mentioned. The wood is described as very light, soft, brittle, &c., easily worked, and durable in the ground—much used for the inside-fittings of houses. Specific weight, ·3793. Owing to its exceptional lightness, it is not considered suitable for purposes where strength is required, although its rate of growth in suitable situations renders it a favourite with modern planters. As with the others, so with this, a moist atmosphere appears to be necessary for its healthy growth.

Pinus rigida.—A considerable area has been planted with the so-called "Pitch Pine," P. rigida. The qualities possessed by the timber appear to be of a low order, the wood being light, soft, brittle, and coarse-fibred—chiefly used for firewood and charcoal. Compared with the Scots Pine, the timber is quite as heavy, probably due to its resinous nature, but too coarse for the finer kinds of work. Its chief value lies in its adaptability for thriving on poor, barren soils where little else will grow, and on such soils its timber is of better quality than that produced on good ground.

In briefly summing up the prospects of the trees named above in the afforesting work of the future, the Douglas Fir seems to stand out above the rest in adaptability to situations, rate of growth, and quality of timber, and the favour it receives on all sides is justified by results hitherto obtained throughout northern Europe. For the remainder, their use can only be considered advisable where special circumstances render them more likely to succeed and furnish a better yield of timber than native species. The humid climates of Ireland and certain parts of Scotland and the north of England, together with the prevailing classes of soils in those parts, render them particularly suited to the requirements of these species, and the only question will be as to a sufficiently extensive use being found for the class of timber produced by such species and surroundings. This is the problem of economic forestry. *A. C. Forbes.*

DISTRIBUTION OF THE APPLE CROP.

Attention has been called by Charles C. Bell, President of the National Apple Shippers' Association, in the columns of the *American Agriculturist* for July 11, to the subject of the distribution of the Apple crop. This matter is worthy of the careful consideration of English as well as of American fruit growers.

The author says that the Apple, the king of all fruits, will continue to occupy the front rank on the markets, and the question is to reach and supply this market and the ever-growing demand in the most practical and economical way. It is true that the Apple crop of 1895 in America was a very large one, and for low prices and glutted markets had no equal

for many years in the western districts, though the situation was better in the east, owing to the reduced crop in that part of the country. And yet what are facts to-day? Good Apples are in demand at fair prices, and thousands of families, even in the best Apple-growing States, did not have an Apple laid in for winter.

That the demand has increased much faster than the natural increase of population, is also a fact in which all who have handled fruits largely agree. The author mentions that when he commenced shipping Apples twenty-six years ago, a car-load to any town west of the Mississippi, excepting a few large cities, was enough to cause a glut in the market. To-day there is room for several car-loads, even in small towns. So long as civilisation and education progress, one may look for an increased demand for fruit. But the chief question now, and one which under existing conditions may not be easy to solve, is how, when, and by what method may orchardists reach and supply, for the entire year, this ever existing and growing demand? From the author's twenty-five years' active experience in packing and shipping Apples, he would recommend, first, education; second, distribution; and finally, specialties of occupation. By education is meant that the fruit-grower should know what varieties of Apple to plant, how to plant, cultivate, and gather at the right time, and in the best possible manner. The dealer must be well informed in his business so that he may properly pack and distribute. The main idea is honest and fair dealing. Deception practised by either the dealer or the grower has in the past worked great injury to the Apple trade, decreased the demand for Apples, and glutted the markets more than any other thing. The grower should learn that he must not expect the high prices of years ago, when Wheat was selling threefold higher than it is to-day, neither should the dealer expect to make the profits of those days.

Apples mature within a period of about three months, and to distribute this crop over all of the year, will require much intelligent labour and good management, as well as the investment of much capital. Cold storage, and other methods of keeping fruit, properly-constructed fruit cars, cheap and rapid transportation, are indispensable for the successful handling and marketing of Apples in the future. But to attain this it is necessary that we should follow and encourage specialties of occupation. The fruit-grower, to do this work well, and reap the largest returns from his orchard, will find full employment for his energy, mind and body, in order to master that special calling. He will have no time to look up the markets, to reach the consuming masses, to look after cold storage, and other requirements of distribution.

It is the author's firm conviction that the most economical distribution can be done only through large establishments with invested capital, whether such be cold storage, canning factories, evaporators, cider-mills, distilleries, vinegar, jelly, or other factories, any one of which is a business of itself. And to make them efficient and profitable, and to keep up with the requirements of the trade, the employment of much capital, skilled labour, intelligent management, and the careful studying of specialties will be required. *J. J. Willis, Harpenden.*



Fig. 47.—Brodiæa peduncularis.

Inflorescence half-size; flowers real size, rosy-purple. (See p. 239.)

Home Correspondence.

The Scarlet Bean as a Vegetable.—With reference to your correspondent's remark upon my former letter, I find that Culpepper in his *Herbal* refers only to the Dwarf French Bean as being edible; the Scarlet Bean is mentioned as a medicine in kidney diseases, in doses of one eighth of an ounce. I have myself eaten Scarlet Runner Beans forty years ago—but I distinctly remember, some twenty years ago, an old lady who often remarked to me that in her mother's days no one thought of eating them; they were grown simply for ornament, and as a medicine. I had not seen Culpepper's *Herbal* at the time I wrote, but the statement in this work agrees with what I had previously heard as to the actual facts. *Thos. Fletcher, Grappenhall, Cheshire.*

A Profitable Method of Utilising Spare Time.—To talk of spare time, from a gardener's standpoint, during the spring and summer months seems to be altogether out of place, for there is so much to occupy the gardener's attention during the early months of the year, that little or no time is left for profitable recreation in any shape or form. Quite the reverse condition is experienced during the long nights of winter. Time then begins to hang. It is quite true there are organised societies for the improvement of young gardeners, where papers on different subjects relative to the profession and general work of gardeners are read and discussed, to the advantage of all concerned; but these are found principally in the neighbourhood of our large towns, while there are scores of young gardeners, whose lot is not so favourably cast (being, as they are, in places sometimes many miles distant from any town), who have not the advantages of such societies, and who are sometimes at a loss to know how to pass their time profitably. How to maintain a lively interest in matters horticultural under such circumstances has been a matter of considerable perplexity to many an able head gardener, who feels interested in the prosperity of the young men under his charge. Many are employed making labels, Orchid-baskets, and other useful articles, all of which may be made in the bothy without any great inconvenience during the long nights of winter; but while all this may be of some pecuniary benefit, there is really nothing gained from an educational point of view. It was the consideration of this subject of putting spare time to good use which prompted me to throw out a suggestion on Fern-drying and mounting, which, if acted upon, I am sure will be found both pleasant and profitable. There is no great art required in drying and mounting Fern-fronds, while the result amply repays anyone for all the time and trouble which they may expend in the work. Well-developed fronds may be gathered during the summer months, laid carefully between sheets of coarse paper, covered with thin boards, and then pressed by means of books or anything else handy. They should be kept in a cool dry place for four or six weeks, when the weights may be taken off and the fronds placed between ordinary sheets of paper until there is time to mount them. By this means the sap in the frond is absorbed, and the colour still maintained. Mounting is a very simple process, although it entails the expenditure of much more time. It is nevertheless a pleasant occupation, and the work will be enjoyed during the long winter nights. The fronds may be mounted on loose sheets of drawing paper, or better still in an ordinary scrap album of large size. They may be secured in position by means of ordinary stamp-paper cut into short narrow strips, and pasted across the main stems of the frond. This is by far the quickest method, and is preferable to pasting, as it is rather difficult to get paste to stick to many Ferns, particularly the varieties of Adiantum. Only one species should be mounted on each leaf. It is the better plan, if mounting in an album, to mount only on one side of each leaf, as by so doing the fronds are not damaged by rubbing against each other. After this is done, the name should be written at the bottom of the page, together with short notes, on the habit and culture of each particular variety. By this means a beautiful and instructive Fern album is obtained. Every allowance must be made for the important part which books play in the gardener's profession; and admitting that "reading makes the full man," it is none the less true that "writing makes the correct man." Any person who will read up information on the habit and culture of each particular variety, and then after he has mounted each frond, accompany it with foot notes on its chief characteristics, or any particular method of treatment which he has found to prove successful in his own practical experience, will so thoroughly acquaint himself with their requirements, that it will be difficult for him to forget, even through the many and varied experiences of life. *P. Wilkinson.*

Gardeners' Working Hours.—In a previous issue of the *Gardeners' Chronicle*, I noticed a paragraph respecting the re-adjustment of the Saturday's working hours at the Royal Horticultural Society's Gardens, Chiswick. I have kept silent since that notice appeared, thinking some one would have

written in praise or the reverse of the innovation, but I have not seen a single allusion made in reference to it. Had a definition of a nursery foreman's qualifications been given instead, as that, for example, which appeared in the *Gardeners' Chronicle* a few weeks ago, your columns would have been flooded with much correspondence on the subject; or, on the other hand, if the requirements of a gentleman's gardener had been mentioned, or the subjects connected with the practice and science of gardening enumerated as indispensable for a young man desirous of attaining proficiency in his profession to know, the result would have been the same. So far, so good. I have worked hard both in the gardens at Kew and at Chiswick in the "good old days" (?), when the wages paid to young men were as low as 14*s.* and 15*s.* a week, and the working hours from 6 A.M. to 6 P.M., and at the latter place an hour or two more on occasion, but no extra pay was given, nor any grace allowed after 6 A.M. I earned my certificates under very hard pressure, and some may imagine, as did many of the noted gardeners of that day, that "grinding" of such severity was for our benefit. Only those who have toiled in hot-house and outside for so many hours daily can fully appreciate the delights of relaxation from toil for one brief half-day on alternate Saturdays. I think that the term "student" could be more strictly applied to the young men of that day than now. At Kew we all seemed anxious to excel, and not a few of us walked on Friday evenings to attend a physical geography class held nearly four miles distant, not to mention attendance at freehand and geometrical drawing lessons given outside Kew Gardens. Most of us knew how to value Dr. Hooker's training, and the advice he gave; and not a few profited thereby, as was shown by their management of large concerns in after life. I have since had the charge of large establishments, and notably in one I tried the effect of the Saturday half-holiday, purely from sympathetic motives, as I well knew what a boon it would have been to me in my youth. The workmen cordially appreciated the little relaxation from work accorded them, and the firm was no loser by the alteration. The managers, although reluctant at first, admitted afterwards that they had no reason to complain. May the new superintendent of Chiswick be able to act similarly. Undoubtedly much credit is due to those who made public the new working code, which, I trust, will awaken some sympathy amongst the owners of our large trade establishments. *T. H. Smith, 70, Deacon Road, Kingston-on-Thames.*

TENACITY OF LIFE IN TREES.—I observed a few days since a remarkable illustration of the extreme tenacity of life shown by large trees under very adverse circumstances. Some time last year I mentioned in these columns a case in which a number of horses turned out into a meadow in which were growing not only many fine Elms, but also numerous pollarded Willows, had been, apparently by stress of hunger, driven to eat away the bark right into the hard wood to a most unusual and harmful extent. Passing the meadow recently, I found that not only were all the injured Willows dead, but also that every Elm or other tree on which the bark had been eaten all round the stem was dead also. But there were some two or three fine Elms on which every portion of the bark on the stems as high as the animals could reach had been gnawed off except, perhaps, to the extent of some 12 to 15 inches in width at the back and sides next the fence, where the horses could not get access. These trees were apparently in as full leaf and vigour as were any others quite uninjured. Thus on large stems of from 7 to 9 feet in circumference, and from which five-sixths of the bark had been removed several feet in height, yet all the functions of the trees were carried on apparently in the most perfect way through the uninjured one-sixth width of bark left on the stems. That seems to be remarkable evidence of tenacity. How long it may be possible under such conditions for life to continue remains to be seen. Possibly the case is not a singular one, yet it is, I think, well worthy of notice. *A. D.*

PRINCESS OF WALES PEACHES. — The fruit herewith is from a tree grown on a trellis, and covers about 112 superficial feet. It has borne this year 103 fruits of the average weight (9 ozs.), although the weight of each of the fruits sent is 12 ozs. I have been gathering fruits of the Noblesse Peach of 8 to 10 ozs. weight each. *Hedley Warren, Aston Clinton, Tring.* [Very fine, light-coloured examples of Princess of Wales Peach; but their damaged condition prevented any test of their flavour being made. Ed.]

FORMALDEHYDE.—The question asked in the *Gardeners' Chronicle* as to the experience of any reader in the use of formaldehyde in the preservation of fresh or dry botanical specimens, ought to produce various experiences which brought together should be of much value. My own experience with this preservative fluid during the past year in the Kew Museums has been on the whole favourable with regard to the preservation of colour in fleshy fruits, especially those of a red colour; whether it will preserve the substance of the fruits for so long a period as alcohol cannot yet be determined. In my temporary absence from Kew I am unable to give any data, but may revert to the subject at a future time. *John R. Jackson.*

The Week's Work.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

EAST INDIAN DIVISION.—In this warm division the Vandas, Aërides, and Saccolabiums, although still rooting freely, will in a few weeks have completed their growth. Prepare the plants for that period by commencing to lessen the amount of water afforded at the roots. During the summer the sphagnum-moss has been kept growing by the moisture afforded, but after this time it should be allowed to assume a whitish appearance before any water is applied. A fairly moist atmosphere should be maintained about the plants till the roots cease to grow. During the daytime, while the weather is warm, admit plenty of fresh air. Close the house moderately early and allow the temperature to rise between 80° and 90° with sunheat, but without sun to about 75°, and damp well between the pots. Immediately the sun commences to decline draw up the blinds. In the evening one or more ventilators may be partially opened, according to the outside temperature; if the thermometer falls to 70° sufficient fire-heat should be employed to maintain it at that degree throughout the night. If by the morning the temperature is below the figures indicated, no damping down should be done until the glass registers a few degrees above that of the night temperature. Any freshly-imported plants of Aërides, &c., that have become rooted in crocks, or on to Teak-wood baskets, may now be "mossed" up; also old-established plants that have lost a number of their lower leaves should have the surface-moss removed, and additional drainage afforded, and the cone of sphagnum-moss raised considerably up the stem. Some of the imported plants, when they have made a few roots, are apt to produce flower-spikes, but these should be pinched out at once. Aërides Lawrencæ and its buff-coloured variety, Sanderiana, are now showing their flower-spikes, and should be liberally supplied with root-moisture until the flowers are past. Any small weakly plants or unhealthy specimens should in no case be allowed to produce a spike. Many of the Catasetums and Cycnoches are also developing their flower-stems, requiring to be looked over each day, and thoroughly watered if found to be dry. At the present time, when the growths are nearly made up, these plants should be afforded all the sunlight possible, providing that plenty of air be given them at the same time. Continue such treatment until the leaves commence to change colour, when the plants should be removed to a somewhat cooler temperature, and to full sunshine. Immediately the leaves begin to turn yellow, the amount of water should be gradually reduced until all of them have fallen off, when it should be discontinued altogether.

MORMODES, THUNIAS, AND CHYSIS. — The Mormodes require similar preparative treatment to the Catasetums before resting, but they should be placed in the intermediate-house. The Pleiones having now completed their bulbs, require plenty of light and air, although there is no necessity to expose them to full sunshine to induce them to flower. Suspend them, together with the Dendrobes that are maturing their bulbs, in the greenhouse. The compost should be kept merely moist until the first flowers open, when water must be withheld, or the blooms will quickly damp off. Although the Thunias have long since done flowering, they retain their foliage, and being in a dry atmosphere and full sunlight, this frequently becomes infested with red-spider, therefore the plants must be constantly examined and cleansed, otherwise the pest may spread to other plants. Chysis bractescens, C. Chelsonii, C. aurea, C. Sedenii, and C. lævis should now be taken from the Cattleya-house and placed in a few degrees more heat, to enable them to finish up their growths quickly; they still require plenty of root-moisture.

THE KITCHEN GARDEN.

By C. Herrin, *Gardener, Dropmore, Maidenhead.*

LEEKS.—The earliest planted Leeks will soon require to be earthed up; and before this is commenced, afford them a copious watering with weak liquid-manure, Leeks requiring an abundance of moisture. Do not earth-up too much at the first operation, and take pains to prevent the soil lodging in the hearts of the plants—it should, in fact, be kept well below the centres. The later plants should be kept well supplied with moisture, and freed from weeds, and if the trenches are of sufficient width, the surface-soil should be stirred with a small hoe.

LATE PEAS.—If dwarf, early varieties were sown as advised in a previous calendar, they will now be sufficiently high to allow of a portion of the soil from the sides of the trenches to be drawn up to them. Short sticks should be used to support the haulm, more especially at this time, when heavy rains may be expected. Rain has, in fact, fallen during the past week, but in many districts it has not been sufficient to moisten well-furnished rows of Peas now podding or coming into bloom, and these should still be supplied with water and liquid-manure occasionally, unless a much heavier rainfall should occur. The same remark is also applicable to Runner Beans. Of late Peas, one of the best for a dry season I find to be the old Ne Plus Ultra, which has podded remarkably well here during the past month, notwithstanding the intense heat and drought. It is very prolific, and although the pods are not large, they fill quickly, and are of capital flavour. Where birds are troublesome at this season, fine-meshed netting must be placed over the rows of Peas, and, if necessary, extra sticks may be placed along the sides to keep the netting far enough away from the Peas to prevent the birds reaching the pods.

TURNIPS.—Now that there has been a small rainfall, make a final sowing. This will probably produce a useful supply of roots, as the earth being very warm a quick germination will be certain. Land from which Potatos have been lifted will do capitally for this, without any further preparation, beyond levelling and applying a surface-dressing of soot. Sow the seeds broadcast, and rather thinly, afterwards, rake in. Snowball and Red Globe are two good varieties. Seedlings from the previous sowing are now ready for thinning. Do not delay doing this, for when thinned out after the plants are larger, the soil is left in too loose a state. A dusting with a mixture of soot and wood-ashes should be given occasionally, to keep off birds and insects; it will also act as a stimulant. If thinned to 6 inches apart each way, this will now allow sufficient space for the white varieties, but rather more may be allowed for the Red Globe.

CARDOONS are in full growth, and should receive liberal supplies of liquid-manure. Remove any dead leaves or suckers from the base, and the strongest leaves may be tied up loosely, to prevent them from being broken down.

THE HARDY FRUIT GARDEN.

By G. Woodgate, *Gardener, Rolleston Hall, Burton-on-Trent.*

STRAWBERRIES.—Any well-rooted runners of Strawberries may still be planted, and they will produce fruit next season; but the work should be completed as soon as possible, so that the roots may get hold of the soil, and the plants have time to develop their crowns before the winter commences. Runners that were planted some time since, and have produced other runners, will need frequently to be looked over, and all such growths removed. Keep the ground clean, and stir the surface frequently with the hoe. Plants in older beds should have all runners and dead leaves trimmed off, and the dry, strawy portion of the mulching that still remains upon the ground removed. If the ground intended for a new plantation is still under other crops, turn the layered plants out of the pots, and plant them in nursery-beds, where they may remain till the land is in good condition for planting in the spring.

APPLE AND PEAR TREES.—Pyramids and other dwarf-growing trees, which were pruned the earliest in the summer, have produced numerous lateral growths, and these should now be pinched or cut-back to one leaf. Any trees that have been neglected in the matter of summer pruning, should now be attended to, otherwise the strength of the trees will be wasted in forming growths, which will have to be cut away during the winter, entailing the loss of a season's fruit, beside encouraging a multiplicity of wood growths in the following year. Examine the ties

which secure the young scions to the supports on grafted trees, and if any are found to be pressing into the bark, let them be untied and refastened before the rough autumn winds are experienced. Allow the new growths to extend their full length this season in order to encourage root-action, and remove all suckers which arise from the stock.

FILBERTS. — Where squirrels are numerous, means must be taken to prevent them from carrying away the fruits. It may seem a pity to kill them, but I do not know of any other way to save the crop, which with us is a very heavy one, although the Nuts are not quite so large as usual owing to the drought.

THE FLOWER GARDEN.

By Hedley Warren, *Gardener, Aston Clinton, Tring.*

GENERAL WORK.—The recent showery weather has greatly altered the appearance of the lawns and flower-garden, and the bulk of the work in these departments will for awhile consist in sweeping, rolling and mowing. Grass-verges must again be kept trimmed now that the grass is once more growing rapidly. The carpet-bedding, too, will also need care in the same way, in order to maintain the outline of the various designs. Single Dahlias have seeded freely, and should be promptly relieved of the seed-pods, otherwise the flowering period of the plants will be considerably shortened; the same remark will apply to Verbenas, Violas, Calceolarias, Tropæolums, Gladiolus, Helianthuses, Hyacinthus candicans, &c.. Clumps of Pampas-grass now in full flower have a very pleasing effect, especially as large isolated clumps on the lawns and pleasure-grounds. Sub-tropical plants, such as Ricinus, may need a few of the lower leaves taken away, if the beds have been carpeted with dwarfer-growing subjects, otherwise the latter will suffer from shade. Propagation should be continued as circumstances will allow. Cuttings taken at this late date will need protection, and in some instances a little artificial heat, to encourage the formation of roots, so that the stock of plants may become quite established before cold or searching winds occur. Variegated Thyme, Leucophyton Browni, Gnaphalium, and others will root freely, if the cuttings be inserted in sandy soil and placed in a cold frame. These plants should be propagated in the autumn, as they then produce far better plants for next season's work, than if propagated in the spring. Privet and Yew hedges may be clipped, and where necessary, Box edgings should receive a final clipping for the year. Spring bedding plants, such as Myosotis, Wallflowers, Silene, Primroses, and others, should be transplanted, so as to grow into good material for use in the flower garden at a later period. A list of the various sorts of bulbs required for use in the beds and borders should be written out and an order given for the same at once, so that no delay and disappointment be experienced later.

MOUNTAIN ASH.—This deservedly popular tree is now beginning to assume its usual autumn colours. To brighten up dull spots or corners of the shrubberies, it is excellent, being a profuse-flowering tree in the spring, and ornamental when covered with its clusters of bright coral-coloured berries. It is seen to full advantage, however, when planted in an open position, where its growth is even and regular, and where the proper contour of the tree may be seen. In exposed positions on the lawns or pleasure-grounds, where less hardy trees fail to grow, it will thrive, and afford a pleasing contrast to its surroundings.

PLANTS UNDER GLASS.

By Jno. McIntyre, *Gardener, Woodside, Darlington.*

BULBS.—The receipt of bulb catalogues serves to remind one that it is time to consider what the selection for the coming season shall be. The first or earliest batch of Roman Hyacinths should be potted forthwith. The most suitable pots to use for them are those of 5 inches in diameter, which are sufficiently large to contain five bulbs; and a light, rather rich compost will suit them well. These early bulbs need to be plunged in ashes for at least two months, as if they are brought into heat before they have made sufficient roots, they will not flower satisfactorily. Ixias and Sparaxis are very useful for forcing purposes, and need the same kind of culture as Hyacinths, except that at no time should they be placed in a high temperature—one of 50° to 60° being quite sufficient. If this condition be not observed the spikes become weak and thin; neither should they be forced very early, as they require some time to become established. The following are good varieties:—Ixias, Emperor of China, Erasmus, Excelsior, Conqueror, Galatea, White Swan, Vulcan, Crateroides, and Viridiflora. Sparaxis: Bertha Johansen, Garibaldi, maculata, Paragon, Queen Victoria, Victor Emanuel, Lady Carey, and Lady Franklin.

LILIUM HARRISII.—For general purposes these bulbs may be put into 5-inch and 6-inch pots, which will be found quite large enough for one bulb in each. If large plants be desired for conservatory work, put three or four bulbs into 8-inch or 9-inch pots; in either case using good fibrous loam and leaf-soil, not too finely broken up. Place the bulbs on sand, and when potted, plunge them in sifted coal-ashes. This bulb is not quite so hardy as are some others, and in cases of severe frost, they should be protected by litter or some tree-leaves.

EUPATORIUMS and other plants which are grown especially for winter flowering, will need attention. Eupatoriums are exceedingly useful winter-flowering plants, of very easy culture. They should be placed outside during the summer, and several times pinched during growth, when they form dense plants, and produce abundance of bloom in November and December. Pinching should now be discontinued, and the shoots allowed to show flower. If confined at the roots and given abundance of feeding, they do capitally.

CYCLAMENS.—The old corms if planted out in frames as recommended, will now be showing signs of growth. Spray them overhead each night and morning, and keep them rather close until they are growing freely. Shade is very essential to them in the early stage of growth, and frames placed so as to have a northern aspect are preferable. The lights also may be given a good coating of "summer cloud" or other shading. In no stage of growth should Cyclamens be exposed to hot sun. Young plants raised from seed last year will require a little extra feeding; and Clay's Fertiliser is a very suitable one for this purpose. Give a teaspoonful to each plant twice a week, and water it well in. This will keep them growing vigorously, and may be continued until they have developed their flowers.

ERICAS.—If these are showing flower rather earlier than is wished, remove them to the north side of a wall, and place a sash-light over them in the event of heavy rains. The early varieties that are now over may be re-potted, there being no better time to re-pot Ericas than immediately after flowering. The peat for the purpose should be of a hard, gritty nature, a soft spongy kind being most unsuitable. A good sprinkling of coarse Reigate silver-sand added to the peat, is all that is necessary for them. The potting should be done firmly, the pots quite clean and drainage very good.

FRUITS UNDER GLASS.

By W. Pope, *Gardener, Hyde Park Castle, Newbury.*

PEACHES AND NECTARINES: EARLY-FORCED TREES.—When the foliage begins to fall generally, the trees should be unfastened from the trellis, and the required amount of pruning done, which, however, will not be much if proper attention was afforded to thinning and pinching in the season of growth, and after the crop was gathered. The Peach-house should be cleansed, washing the wood and trellises with hot soapsuds, but keeping this, however, off the glass, which should be washed clean with water only. Painting may be done where necessary, and the walls lime-washed. It will be well also to wash the trees with warm water in which a small piece of soft-soap is dissolved; or, if they are infested with scale or other insects, dress them with some approved insecticide, taking care to get it into every crevice of the bark. The worn-out mulch on the borders should be removed, together with some of the surface-soil, and a top-dressing of fresh loam applied, to which one-sixth of plaster or mortar-rubbish is added, and a smaller proportion of sifted wood-ashes. If the soil is found to be dry, afford the borders a moderate watering, and fasten the trees neatly to the trellis as occasion offers, allowing full exposure to the air till the time arrives for starting the trees. If the roof-lights are removable the roots will be kept sufficiently moist by the autumn rains, if not, care must be taken to guard against any dryness in this direction by occasional soakings of water.

LATE HOUSES.—Trees now swelling their crops require liberal root-waterings till the fruit is well advanced towards ripening, when the supply should be reduced, but still supplying sufficient to keep the foliage in a healthy condition. Take note of any that may be making too much or too late growth, and as soon as the crop of fruit is gathered lift them carefully; or take out a trench round the trees at about 4 feet from the stem, and sever the large roots, filling the trench with fresh compost, so as to encourage the formation of fresh fibrous roots.

VINES IN LATE HOUSES.—The fruit on late Vines should now be advanced in colouring; in some districts they will need to be assisted by some amount of artificial heat to finish them, and enable them to keep well throughout the winter. A temperature from 70° to 75° should be maintained during the day, and 5° to 10° less at night, allowing a rise above the day figures when the sun shines, a free circulation of air being permitted at all times in fine weather. Aërial moisture must be gradually reduced as the crop of fruit matures, although Vines with fruits still swelling will need a moderate amount, and occasionally the border may need to have water applied to it, but the need or otherwise should be ascertained by a test-stick or by excavating a hole. Reduce lateral growth, not, however, removing much at one time. Preparations should now be made for covering the outside borders where Grapes are required to hang for any length of time, as the fruit will not keep well if the border is unprotected from rain, and for this purpose thatched hurdles, such as are often used for protecting wall-trees in spring, answer the purpose if given a sharp pitch.

THE APIARY.

By Expert.

FEEDING BEES FOR WINTER.—All driven bees should be fed as soon as they are put in the bar-framed hives. Two or three driven lots may be put together to make a strong colony, and being fed according to the following receipt, will make a strong stock for early work next spring:—10 lb. sugar, 5 pints of water, about 1 tablespoonful of salt, and 1 ditto of vinegar, with 1 ditto of salicylic acid solution. Boil this for a few minutes in an iron boiler or tin fish-kettle, so that it does not burn, and be careful it does not boil too long, or it will form candy. When ready keep in a closed room, or the bees will commence to rob. A useful and cheap feeder is made by punching several small holes in the lid, from the inside, of an ordinary treacle-tin (2 lb. size the best); when filled turn sharply over (seeing the lid is securely fixed), and place on the top of the bars, putting a piece of perforated zinc under the tin on the top of bar-frames. If quick-feeding is required, it is best to purchase a "rapid feeder," which saves a lot of trouble and time. The bees should be placed, after being driven on full sheets of foundation wired to keep the combs in place, and a stock can be fed up in about a fortnight with from fifteen to twenty-five pounds of sugar made from preceding receipt. Commence as soon as possible to allow the bees to seal over the combs before the cold weather begins, as unsealed combs will often give bees dysentery. Examine the hives in which the bees have done badly, and cut out or replace all black old combs, and thus allow them to start as soon as possible to make up the loss of combs taken away. Do not hesitate about doing this, as it will pay better next season, only be sure to feed well; and replace naphthaline in hives where it has evaporated, but do not put more than half-an-inch piece, as it has a very strong odour. Keep some water in shallow pans by the hives for some little time longer, as the bees are apt to seek it in ponds and ditches, and so get drowned.

CARRYING DRIVEN BEES.—A useful and convenient method of conveying bees is to have a body box made, with the entrance and top covered with perforated zinc, so that the bees can be shaken out of the skep, which they have been driven into, into the box, which should be provided with five or six frames, with combs wired in to keep them from clustering, and consequently suffocating. There should be fillets all round the lid of the box about an inch in depth, which will allow the bees to pass over the tops of frames, and to go down, whereas if the lid fitted close on the frames, a great many bees would be crushed; the frames, of course, should be provided with metal ends, to keep a certain distance apart, as this allows a little more space, and gives the bees an opportunity to get more air, which is important on a very hot day. Another very good plan is to get an ordinary Hudson's soap-box, nail down the lid, and cut out one end, and fill-in the space with perforated zinc, and drive the bees into this, the lid being secured by a little iron pin. When conveying bees in skeps keep the latter mouth upwards, with a clean cheese-cloth or piece of muslin tied over it, and as soon as possible empty them into their new home, and feed at once.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the PUBLISHER.

Letters for Publication, *as well as specimens and plants for naming, should be addressed to the* **EDITOR, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

APPOINTMENTS FOR SEPTEMBER.

TUESDAY,	SEPT.	1	National Chrysanthemum Society, Show of Dahlias, Gladioli, and Chrysanthemums, &c., at the Aquarium (3 days).
WEDNESDAY,	SEPT.	2	Glasgow Horticultural Show. Ancient Society of York Florists (5th show).
THURSDAY,	SEPT.	3	Dundee Horticultural Sh. (3 days)
FRIDAY,	SEPT.	4	National Dahlia Society, Exhibition at Crystal Palace (2 days).
SATURDAY,	SEPT.	5	Wellingborough Dahlia Show. Société Française d'Horticulture Meeting.
SUNDAY,	SEPT.	6	Royal Agricultural and Horticultural Society of Ghent.
TUESDAY,	SEPT.	8	Royal Horticultural Society's Committees.
WEDNESDAY,	SEPT.	9	Royal Caledonian Horticultural Society, Show in Waverley Market, Edinburgh (2 days)
THURSDAY,	SEPT.	10	Paisley Horticultural Society Sh. Thame Horticultural Society Sh. Exhibition of Produce from Small Holdings, at Botanic Gardens, Manchester.
SUNDAY,	SEPT.	13	Brussels Orchidéenne Meeting.
TUESDAY,	SEPT.	15	Bunyard's Centenary Show at Maidstone (2 days).
TUESDAY,	SEPT.	22	Geneva Exhibition, Temporary Show (23 days).

SALES FOR THE ENSUING WEEK.

MONDAY,	AUG.	31	Dutch Bulbs, at Protheroe & Morris' Rooms
TUESDAY,	SEPT.	1	Dutch Bulbs, at Protheroe & Morris' Rooms.
WEDNESDAY,	SEPT.	2	Dutch Bulbs, at Protheroe & Morris' Rooms.
THURSDAY,	SEPT.	3	Dutch Bulbs, at Protheroe & Morris Rooms.
FRIDAY,	SEPT.	4	Dutch Bulbs, at Protheroe & Morris' Rooms. Imported and Established Orchids, at Protheroe & Morris' Rooms.
SATURDAY,	SEPT.	5	Dutch Bulbs, at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK—61·1°.

The National Co-operative Flower Show.

THE National Co-operative Flower Show, which commenced in a small and unpretentious way in the then conservatory of the Royal Horticultural Society at South Kensington a dozen or so years ago, bears witness to-day to the universal truth of the old adage that the day of small beginnings should never be despised. Mr. EDWARD O. GREENING, the founder and organiser of this great National Co-operative Festival, which has ramifications independently of the Flower Show, and widely diversified, is one of the most sanguine of men; but even his keen foresight could not, eleven years ago, have had any conception of the extraordinary growth of the movement of which he has been the guiding spirit. On the 22nd inst. a display of horticultural productions, such as plants, flowers, fruit and vegetables, filled the available space in the nave of the Crystal Palace. These were drawn from various parts of the country, contributed in goodly proportion by gardeners, but still more largely by amateurs, who come under the denomination of cottagers, and of whom a considerable proportion consists of artisans. Not a single trade exhibit was observed, a fact almost without parallel at London exhibitions, and it was competitive contributions alone which made the show, reared in hundreds of small gardens by men and women, who, in all probability, previous to the establishment of this festival, had taken but little interest in their gardens. It is something to the credit of the co-operative principle that it has been the means of inducing large numbers of persons to attempt the culture of plants, and called into existence a liking for gardening where it had previously been lacking.

Those who saw the first two exhibitions which were held at South Kensington, will recollect the rather poor character of the productions, many of them large in size, and ungainly, and contributed apparently in the belief that bulk alone would find favour with the judges. The decisions come to by the judges at the first two exhibitions proved valuable lessons to the members, who were not slow to draw the conclusion that symmetry, clearness, cleanliness, and evenness, in combination with desirable size, were the essential and most desirable characteristics in roots and vegetables; and when the third exhibition was held at the Crystal Palace, the advance in the direction of increased good quality in the exhibits was very marked.

The lessons gradually learned by the exhibitors led in time to greater taste being shown in setting up the exhibits; and the later exhibitions have borne evidence to the fact that the produce is characterised by improved good quality. It was freely acknowledged by those who have acted as judges from the beginning, that despite the unfavourable conditions of the season, the quality of the exhibits was never higher or so generally displayed as at the recent show.

The number of entries keeps pace with the improvement in the quality of the exhibits. This year they amounted to 4231, a substantial increase on those of last year, which was regarded as a record one. This fact justified the remark made by Mr. E. O. GREENING at the opening ceremony, "That it was a striking proof of the remarkable popularity of this show that such a result should occur in a year of prolonged drought, which had practically withered up the produce of so many gardens throughout the land, and had forced the ripening in July of flowers we usually expected to be just ready for our show in August." How much clerical work is entailed, and how much labour is required in the preparations for and arrangement of the exhibits, can well be imagined. The work was got through in good time, and the judges discharged their duties with comfort and dispatch.

Mr. GREENING'S analysis of the entries gave some interesting facts. There had been a decrease of between 300 and 400 entries from the gardeners of gentlemen who are members of the Agricultural and Horticultural Association, but there is a corresponding increase in the sections in which working-men exhibit—which is highly satisfactory.

To attempt to set down details of the exhibition is not necessary, as they would weary by their copiousness. It may be remarked that the schedule of prizes is divided into two sections; the classes included in Section II. are for members and customers of the Agricultural and Horticultural Association, Limited, most of whom employ gardeners. Fruit and vegetables were contributed in fine character by these, and all the exhibits in this section were staged and judged on Friday, the 21st. On the 22nd, the exhibits in Section I., all contributed by working people only, were staged and judged, and sixteen judges were therefore engaged for two days in making the awards. Of the working-men's exhibits, it may be said that such vegetables as Peas, Potatos, and Broad Beans fell below their usual extent—the Potatos, with few exceptions, showing much roughness; Carrots, Parsnips, Runner and Dwarf Beans, Vegetable Marrows, Onions, Beet, &c., were very good. Cut-flowers were delightful, and those among the visitors who were interested in common flowers, found in the charming bunches of hardy annuals much to interest and instruct. There were divisions for ladies and children, and in each of these there was a remarkable increase in the number of the entries.

One unique feature was the section devoted to photographs of gardens of taste. As Mr. GREENING remarked, exhibitors could not bring their gardens to the Crystal Palace, and therefore they had to be content with photographs of them. They appeared as front gardens, as backyards, besides porches, windows, &c., many very pretty pictures being forthcoming. Some 200 of these were placed upon screens, and they were closely examined by the visitors. It is hoped that the exhibition of these "would inspire many with a desire to emulate the example of those who had succeeded in adorning their homes with the highest forms of beauty, and the purest sources of delight."

Mr. GREENING, who is always devising some new features in the annual exhibition, hit upon the expedient of inviting the exhibitors and others to tea on the evening of the first day, and requesting the judges to meet them, and so interspersed general addresses with pleasant song. The large attendance showed how much the gathering was appreciated, and this sort of reunion will no doubt become an annual feature. If it be true, as a modern writer has stated, that "the social virtues centre in the stomach," then Mr. GREENING is right in seeking in this way to disclose the dormant amiabilities which make themselves manifest under such circumstances.

A MEETING OF THE FLORAL COMMITTEE OF THE ROYAL HORTICULTURAL SOCIETY AT THE FRUIT SHOW AT THE CRYSTAL PALACE.—Mr. RICHARD DEAN, Ealing, W., remarks:—It will be in the remembrance of some that on the occasion of the annual general meeting of the Royal Horticultural Society, I ventured to make a suggestion to the council whether a meeting of the Floral Committee could be held at the Crystal Palace in connection with the great exhibition of British fruits on October 1. My reason for making this suggestion was, that there is no meeting of the Floral Committee at the Drill Hall between September 8 and October 13, a period of five weeks, and that interval occurs at a time of the year when new Dahlias especially are numerous, while it is the season for other novelties in flowers to be seen at their best. The council promised to consider the suggestion. Finding that no announcement had been made by the council in reference to this matter, I communicated with the secretary of the Royal Horticultural Society, who replied to the effect that "by the arrangement we have with the Crystal Palace we are specially precluded from inviting exhibits of anything but fruit, and we have only been able as yet to get permission for a few decorative groups if no awards are made to them. It is possible we may be able to make some other arrangements for next year, but I fear not for this. All arrangements are perforce made before the annual meeting."



Fig. 48.—Delphinium zalil: flowers pale yellow. (see p. 238.)

"Journal of the National Horticultural Society of France," Chrysanthemum Section.—The first number of this publication, which is intended only for members of the Chrysanthemum Committee, has recently come to hand. It is a paper-covered *brochure* of twenty-six pages, and contains the regulations of the committee, names and addresses of its officials, list of members numbering sixty-seven in all, and including most of the eminent raisers in France; an interesting and rather lengthy essay by Mr. George Truffaut on the cultivation and vegetation of the Chrysanthemum; an article by Mr. Nonin on M. Lionnet's Chrysanthemums; and the schedule of the Society's Show to be held on November 17 to 22 next. A somewhat similar publication is promised to its members by the French National Chrysanthemum Society at Lyons.

The Royal Gardeners' Orphan Fund.—Among recent contributions to the Fund is a sum of £7, received through Mr. G. W. Cummins, for flowers sold at the Croydon Summer Flower Show; a similar amount for the sale of flowers at the Chislehurst Show, per Mr. J. Lynch; a sum of £5 from the Secretary of the Wimbledon Horticultural Society, being the proceeds of a sale of flowers; and 15*s.* from a box, per Mr. J. H. Witty, Nunhead. These sales of flowers afford horticultural societies a good opportunity of helping a very deserving charity without in any way impairing the funds of the societies. There is no difficulty in obtaining flowers, or the services of competent persons to sell them. Those who have experience of flower-shows know that many persons who attend them are desirous of carrying away some of the flowers from them, and will purchase faded ones rather than go with none at all. It is purely local work, and as most committees would be willing to allow a table to be placed in one of the tents free of cost, the expense attending upon such sales would be quite small.

"The Jardin des Plantes."—From Paris we receive several photographs showing the disastrous effects of the storm of July 26. Trees were snapped off in the centre, and one at least fell in the frame-yard, doing much injury to the plants. A Paulownia from Japanese seed in the herbaceous ground presents a pitiable spectacle, whilst the original type of Gleditschia monosperma of Desfontaine is uprooted.

Shirley and District Gardeners' and Amateurs' Mutual Improvement Society.—The monthly meeting was held at Shirley, Southampton, on Monday, the 17th inst., Mr. B. Ladhams, F.R.H.S., presiding over a poor attendance. Mr. E. J. Wilcox, The Gardens, Alderwood House, contributed a paper on "Garden Annuals," dealing with hardy and half-hardy subjects. The paper was illustrated by cut specimens of about sixty species and varieties. Some of the species, &c., although old inhabitants of gardens, seemed to be unknown to a portion of the audience; and a few novelties were shown. Mr. Wilcox strongly urged thin sowing and hard thinning out as being very necessary to the true development of these plants, which had suffered much in reputation through being sown thickly and on poor soil.

Pomological Society, Boskoop, Holland—On the occasion of the meetings of April, May, and June of the Plant and Fruit Committee of this society, the committee awarded a First-class Certificate to the following plants:—Azalea rustica, fl.-pl., Director C. Ohrt, raised from seed by Messrs. P. Van Noordt & Son, Boskoop; Azalea mollis, Vondel, and Margaret Cornelia, raised from seed by Messrs. Koster & Co., Boskoop; Azalea rustica, fl.-pl., Byron and Praxitèle, introduced by Messrs. P. Van Noordt & Son, Boskoop; Rhododendron hybrida Helène Schiffner, introduced by the same firm. A Second-class Certificate was awarded to Azalea rustica, fl.-pl., le Titien, Ribera, and Murillo, and Rhododendron hybrida Kaiser Wilhelm, all introduced by Messrs. P. Van Noordt & Son, Boskoop; Hedysarum multijugum, introduced by Mr. K. Wezelenburg (C. de Vos) Hazerswoude.

Rate and Mode of Growth of Banana Leaves.—The 27th number of the *Botanisches Centralblatt* contains a paper on this subject contributed by Mr. Walter Maxwell, Director, Hawaiian Experiment Station, Honolulu. The writers says that:—"The Banana appears to have only one centre of growth and elaboration; it makes only one leaf at a time, and practically completes one leaf before it begins with the next. Many other trees are producing scores of leaves at the same time, showing that centres of growth are distributed over the tree's complete organism. Moreover, the full-grown leaves of the Banana are soon frayed out with the wind and rendered useless for work, which leaves the work of assimilation to the new leaves. The young leaf begins slowly, daily increasing its rate of increase up to the stage of its maximum power of growth, where it tarries for two or more days, until the leaf, which hitherto has been almost as tightly rolled up as a cigar, begins to unfold to the light, when the rate of growth falls off till it is full grown. One other striking truth set forth by the daily data of development is the difference between the growths of the "day" and "night" periods. The observations were continued upon the leaves not only to compare the results of the day and night growths, but also to note the results of variations of temperature. . . . I am of opinion that the action of direct sunlight, and the direction and force of the wind, are more potent factors in increasing or arresting growth than small variations of temperature. On this subject I have, at present, no conclusive data."

Mrs. Delany's Flower Drawings.—With reference to this subject, we print the following very interesting communication from a valued correspondent:—

"In the *Gard. Chronicle* of the 8th, I see mentioned Lady Llanover's bequest to the British Museum of the flower "drawings" by Mrs. Delany. These flower drawings, unless I am much mistaken, are cut out in paper—not drawn. It was a curious, old-fashioned art, in which Mrs. Delany excelled. I remember a specimen of her work which my mother carefully preserved among her family treasures. It was a spray of a small pink Geranium (I feel certain Mrs. Delany never said "Pelargonium!") skilfully gummed upon half a sheet of black paper. This one specimen might very likely have been traced back to Lady Llanover, who in all probability gave it to her friend, my mother's mother. Whether it is as I believe, or not, the collection now come into possession of the British Museum must be one of very great interest.—*E. V. B.*"

Periodicity in Weather.—Mr. H. C. Russell has contributed to the Royal Society of New South Wales a paper, an abstract of which is given in a recent number of *Nature*. The writer brings forward historic evidence to prove that a cycle of nineteen years does exist, and that it was known to the ancient Egyptians, Jews, and other peoples. In New South Wales the great and conspicuous droughts recur once in nineteen years. Elijah's drought, it is calculated, happened in B.C. 908, that is, 2736 years before the great drought of 1828, and the interval is 19 × 144. The cycle is said to be regulated by the relative position of sun, moon, and earth.

Diseased Melons.—We have now examined a diseased Melon which was sent to us by "A. R.," on the supposition that the disease might be related to the Bacteriosis alluded to at p. 199. Our correspondent says, "I planted ten Melon-plants in a pit heated with hot-water pipes, and have not obtained a single fruit fit for the table. The plants grew away well, and nothing seemed amiss with them until three weeks ago, when I noticed a fruit with a little speck on it, like fungus; that fruit was soon useless, and very shortly almost every fruit in the pit was more or less affected." This disease is an old one, and, hitherto, has only been found on the fruit. There are two separate species of fungi which appear to work in unison, and both are present on the Melon sent. First in appearance is Glæosporium lagenarium, the sporules of which burst through the cuticle, and are about 16 × 5 micro-millemètres in size, or less, and they ooze out in dense masses, the size of a pin's head. Later on, the spots are an inch in diameter, covered with a whitish floccose mould, amidst which lumps of flesh-coloured or pinkish substance of a denser consistency, and as large as a split-pea, are imbedded. These, as well as the white mould, are made up of the threads and spores (or conidia) of a mould, Fusarium reticulatum; long, curved, fusiform, three to five septate, and from 50 to 55 micro-millemètres long. What the relations are between these two kinds of fungi has not been determined, but they generally occur together, and both are equally destructive. In this instance, we have to encounter a pest which is well established in the tissues before it makes an external appearance, and then all hopes of saving the fruit or the plants is gone. When it once enters a Melon pit it may reasonably be expected to spread to all of the plants, because all the spores are capable of speedy germination. Our only recommendation is to burn up all the diseased plants and fruits, and disinfect the soil and the pits. *M. C. C.*

Presentation to Mr. H. W. Ward.—Mr. Ward, who is leaving Longford Castle Gardens on the 9th prox., was the recipient on Monday last of a handsome writing cabinet, this being given by the garden men and a few other friends as a token of the good feeling which had so long existed between them and himself. The presentation was made by the foreman (Mr. F. Rowe) in the bothy sitting-room, in the presence of several of the subscribers.

Streptocarpus at Woodhatch Lodge.—In reference to "D.'s" note on p. 221, on the Streptocarpus at Woodhatch Lodge, Mr. C. J. Salter desires it to be made known that the greater portion of the high-coloured varieties are from seed obtained from Messrs. Jas. Veitch & Sons, not from seed saved by himself.

Caution to Growers and Exhibitors of Vegetables.—Mr. E. Beckett, Aldenham House Gardens, Elstree, furnishes the following account of a theft perpetrated in his garden:—"During the night of the 24th inst. these gardens were visited by thieves, who carefully searched the Onion-bed, and took away the best bulbs of Ailsa Craig, the largest of which measured 18 inches in circumference, and the smallest 17 inches. There is no doubt in my mind that these bulbs are required for exhibition purposes, and whoever took them must be an expert in selecting; and he was also very cautious in replacing the soil whence the bulbs were taken, and taking the whole of the leaves along with them. The footprints of the thief were easily visible; the shoes had been removed, the marks of the stockings being quite plain, as it had rained heavily during the evening. I hope this may be a caution to others having choice vegetables, and I shall be obliged for any information that will be likely to lead to a conviction."

M. Carrière.—We learn with great sympathy and regret, of the death, on the 18th inst., of this distinguished horticulturist, long attached to the gardens of the Paris Museum, and a prolific writer on horticultural and botanical subjects. For many years he was editor of the *Revue Horticole*, and of late years has been associated with M. André in the management of the editorial department of that journal. M. Carrière is well known as the author of a *Traité Général des Conifères*, which reached a second edition; and of numerous publications on the variation of plants, in which he showed great perspicacity, and may be said to have been an evolutionist long before the word came into general employ. He was one of the most far-seeing and thoughtful of French horticulturists. He died at Montreuil at the age of seventy-nine.

Bulbs for the Royal Parks.—Her Majesty's First Commissioner of Public Works has, for the eighth time, entrusted Messrs. James Carter & Co., of High Holborn, London, with an order to supply the whole of the Hyacinths, Tulips, Narcissus, and other bulbs required for the Royal parks and gardens of London and the suburbs.

PLANT PORTRAITS.

Aspidium Goldieanum, Hooker, *Meehans' Monthly*, July

Cherry Emperor Francis, *Bulletin d'Arboriculture, &c.*, July.

Cliveia Prince Albert, *Illustration Horticole*, July 30. Flower segments broadly ovate, red, with a broad central whitish stripe.

Exogonium Purga, *Garden*, August 1.

Hardenbergia monophylla, *Revue d'Horticulture Belge*, August.

Lælio-Cattleya Andreana, *Revue Horticole*, July 16.

Narcissus triandrus, *Garden*, August 1.

Nymphæa Andreana, N. Robinsoniana, hardy Water Lilies raised by M. Latour-Marliac, with reddish or crimson petals surrounding the yellow stamens. The flowers remain open during the day for a longer time than usual. These hardy Water Lilies are most desirable. *Revue Horticole*, August 1.

Pueraria Thunbergiana, Benth., *Garten Flora*, t. 1429, hardy climber; leaves like those of a Scarlet runner; flowers Pea-shaped, reddish-violet, in long racemes. Japan.

Stenomesson incarnatum, *Garden*, July 25.

Viburnum cassinoides, *Garden and Forest*, July 29.

PLANT NOTE.

AZOLLA FILICULOIDES.

This exquisite floating aquatic is now in great luxuriance here, and is again abundantly fertile, a condition it does not always attain in British gardens. Our plants occupy the whole of a small tank in a little open-air rockery, the water being partially shaded, and to some extent stagnant, while it is enriched every winter by an abundance of fallen leaves. This state of things seems to suit Azolla to perfection; but even under these toward conditions, I note that fruit, or spærocarps, are only produced in warm seasons, after a mild winter.

I shall be glad to supply fertile specimens to any botanical garden or public institution where they might prove useful for teaching purposes, on receipt of stamped and addressed post-parcel label. *F. W. Burbidge, Botanical Gardens, Dublin.*

TAKING THE CROWN BUDS OF CHRYSANTHEMUMS.

"Taking" the buds of Chrysanthemums is a phrase well understood by cultivators who are exhibitors, but to the uninitiated it is one that is calculated to mislead. To the latter it really means taking away or removing the buds entirely, whereas to Chrysanthemum cultivators it is the retaining of the particular bud which is supposed to produce the finest of bloom, and the removing of the others. How the term "taking the buds" originated I am unable to say; suffice it to know that it has been in existence for a very long period of time—certainly more than twenty-five years. In the Liverpool district, it was a common term, employed at that distance of time, and was then, as now, generally understood to mean "taking in charge" of certain buds that were, and are still supposed to give, the best results from the exhibitor's point of view. So much, then, for the technical meaning of the phrase. By botanists it is, I believe, regarded as a quite wrong expression; however, it is well understood amongst growers of Chrysanthemums.

If there is one detail in the cultivation of this popular flower that is of more importance than another, it is the "taking" of the buds; and with a view to instruct such readers of the *Gardeners' Chronicle* as are not as yet conversant with the important detail of bud-taking or selection, the Editor, with his customary wish to enlighten beginners, has had the accompanying illustration (fig. 49) prepared, with a view to making clear the various operations. Notwithstanding this undoubted aid to the verbal explanations, experience of the behaviour of the varieties must of necessity be obtained before proficiency is assured. If the buds are not formed at the right stage or time for individual varieties, it is useless to expect superior flowers. It is not on any particular day of the month that all buds should be "taken," but the state of each plant has to be considered when the wished-for bud appears. In the Japanese section, where so many diversities in form and of colour, and the time required for the development of a flower have to be taken into consideration, it is essential, so as to have all the varieties in perfection at a given date, to afford a much wider margin as regards the date of the operation than is called for in the incurved

section, where there is more sameness and uniformity in all points save that of colour.

As a general rule, it may be said that what is known as the crown-bud is the one selected for producing a large bloom. Still, in Chrysanthemums there are two sorts of large blooms. Some cultivators aim at producing flowers up to 1 foot in diameter, irrespective of the depth or solidity of such blooms. Now, specimens such as these are usually lacking in the essential points that go a long way toward perfection in a Chrysanthemum. My ideal of a fine blossom is one that is large in diameter, yet has sufficient depth to give a pleasing form, and has sufficient number of florets to give fulness. Take, for example, a specimen of Madame Carnot, 9 inches in diameter, and 6 inches deep, the florets broad and of that peculiar richness characteristic of this variety when seen in perfection. Contrast this with one fully 2 inches wider, half the depth, and consisting of narrow florets serrated at the points with that peculiar erect appearance noticeable in blooms which have resulted from a too-early bud formation. There can be no two opinions as to which bloom is the best. In the latter example experience will quickly enable the cultivator to see that he has made a mistake, and to profit by the knowledge gained.

As a general rule, those plants which are grown in what is termed the "large bloom" style, show three buds during the season of growth. One is known as the first break, which occurs from the middle of April to the middle of June; the second, or crown bud, usually forming in August, and if the cultural methods followed are the proper ones, this bud should give the best bloom. What is known as the terminal bud, forms later, generally in September. An engraving of this one will shortly appear in these pages. All these breaks are caused by the natural tendency of the plant to blossom. The three-break system of cultivation is the result of allowing the plants to grow away uninterruptedly from the cutting stage. With the inclusion now-a-days of so much variety in habit of growth and form of flower in the Japanese section, the result of crossing and intercrossing with a view to obtaining a dwarfer habit of growth and at the same time maintain robustness and high-class flowers, it is found necessary to resort to what may be termed a peculiarly artificial method of culture.

Some varieties of the Japanese section, then, would not produce desirable flowers under what I may term the natural three-break growth; and the plants are pinched at various times, so as to hasten or retard growth and the formation of the flower-buds. To illustrate my meaning, take, for example, Mrs. Falconer Jameson, or Mdlle. Thérèse Rey. The former, if allowed to grow naturally, would produce from the ordinary crown or second break-buds, blooms with but a few florets, utterly useless for showing, and in the general run they would be too late for any but the latest of the exhibitions; but by pinching the point out of the shoot, or main stem, about the middle of the month of April, a crown bud forms about the middle of August, enabling the bloom from this bud to develop at the right time for an exhibition held in the first or second week of November. In this case, then, but one bud forms on the top of the plant. In the case of Mdlle. Thérèse Rey, if a plant be pinched fully a month earlier, two buds will form during its season of growth, and the second or later one should be secured to give the desired fine bloom. I mention these two instances to show how much depends upon circumstances, upon observation, and on locality, before any cultivator can hope to attain to anything nearing perfection. Many varieties will give the necessary satisfactory results by what is termed ordinary natural treatment. Take for example that charming yellow-flowered variety Phœbus, or the newer Edith Tabor, of the same colour. Assuming the plants were propagated at the usual time—December, and satisfactorily managed afterwards, no trouble will be experienced in obtaining the best results from ordinary crown buds. Any system of culture, however, is easily rendered useless in its results if carelessness in attending to the requirements of the plants is permitted during the summer months; and under such conditions it is not fair to condemn any given method of culture Speaking generally, the best flowers in the incurved section are easily obtained by ordinary crown-bud selection. In any section, if the crown-bud forms too early, the flowers are coarse in the petals, and oftener reflexed than incurved in the case of incurved varieties. The varieties emanating from Queen of England are more liable to this defect than any others. Such flowers are loose and flabby, and more like inverted saucers than the globes they ought to be. They cover more than enough space, but they have no depth and no solidity—the essential points in a good flower. In the incurved and the Japanese sections, too, the depth of colouring is materially affected by the selection of the buds, and no variety shows this so much as Etoile de Lyon, a variety that has fallen into neglect through blooms being exhibited by persons who do not understand the peculiarities of its culture. If buds of this variety are taken in the first week in August the blooms will be almost white when they develop, whereas the correct colour is rosy-purple, and which would come, if the buds were formed in the third week in August instead of the first. The bulk of the Japanese varieties require a longer period to develop from the bud to the flowering stage than the incurveds, and due consideration should be given to this point. For instance, buds taken on the 10th of August will not be fully in flower so soon as some of the incurveds taken quite three weeks or a month later. "Taking" the buds is a simple matter, yet it is one that requires much care.

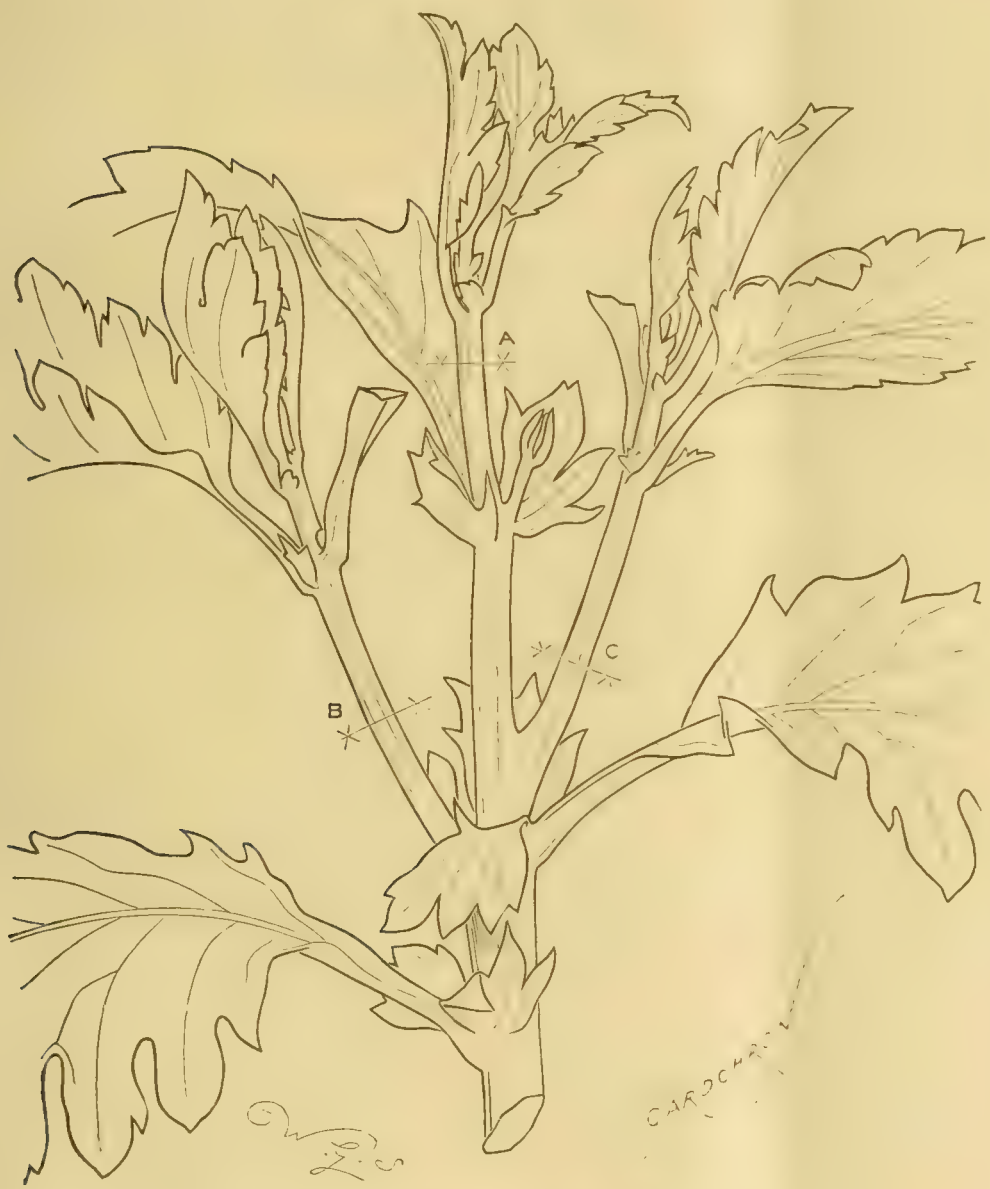


Fig. 49.—Chrysanthemum crown bud. See p. 248.

The engraving (fig. 49) represents a crown bud of Princess of Wales just formed. The growth shoots clustering around it should be cut off, as denoted by the dotted lines across the shoots, and any other branches forming below those indicated must also be removed. When the growths are removed the whole energy of the plant is concentrated in the flower-bud that remains. As a safeguard against accident in the manipulation of the buds and shoots, some growers retain one shoot at the point for a time, i.e., until it is seen that the bud is safely swelling to a good size. This I think is wrong, and quite unnecessary, as the energies of the plant are then divided between the bud and the shoot retained, and the latter must to some extent rob the flower-bud of its due amount of nutriment. If care be used in removing surplus shoots, no injury need be apprehended. The best time for "taking" the buds is in the early morning, or in the evening when the dew is upon the plants. The shoots at that time are quite brittle: and if the

stem be held securely in the left hand, and the young growths which are to be removed be bent suddenly down one at a time, they will snap off. After a little practice, this method of removing superfluous shoots will be found more expeditious than cutting them with a knife; but if the operation is effected during the middle of the day, when the air is hot and dry, and the shoots tough, the risk of damaging the flower-buds is greatly increased.

From this time onwards, all buds, as fast as they form, ought to be "taken," irrespective of variety, presuming, of course, that large blooms are required, whether for exhibition or home-decoration. *E. Molyneux.*

SOCIETIES.

EASTBOURNE HORTICULTURAL.

August 19.—The grounds of Compton Place were again placed at the disposal of the Eastbourne Flower Show Committee, by his Grace the Duke of Devonshire, and a fairly good show was made there. We have, however, seen better competition at this show, the chief falling off being in the classes for stove and greenhouse plants.

Mr. T. Portnell, gr. to Sir A. Lamb, Bart., Battle, won for eight stove and greenhouse plants; Mr. J. Warren, gr., Handcross Park, Crawley, following.

Mr. J. Warren beat Mr. T. Portnell for eight exotic Ferns, his Alsophila australis and A. excelsa being very good. Mr. T. Tugwell, gr. to Miss Swift, Beechwood, was 1st for six exotic Ferns; Mr. J. Warren following very closely.

For eight ornamental foliage plants, Mr. J. Warren was well in front, his best plants being Croton angustifolius, C. Queen Victoria, and C. Williamsii. Phœnix tenuis was also good. Mr. T. Portnell was 2nd here. Mr. J. Warren won again in a class for six plants, a grand plant of Anthurium Warocqueanum being included.

Ericas were by no means so good as usual, but a nice plant of Erica Kingtonensis [?] came from Mr. Warren, with his 1st prize exhibit of four plants.

Cut Roses were good, seeing the prolonged drought there has been in this district. Mr. T. Durrant Young, Eastbourne, was 1st for thirty six varieties, the best of which were Emil Hausburgh, Duke of Teck, Anna Olivier, Glory of Cheshunt, and Grand Mogul; A. Slaughter, Esq., Jarvis Villa, Steyning, was 2nd.

A good box of blooms of Mrs. John Laing won, for Mr. T. D. Young, in a class for twelve of any one variety.

Mr. Norcutt, St. Leonards-on-Sea, was 1st for table decorations, but the arrangement was distressingly heavy.

Fruit.—Mr. Wallis, Fairfield Court, won for cooking Apples; and Mr. H. Norman, Old Town, for dessert Apples.

A splendid dish of Figs came from the Rev. F. C. Harvey, Hailsham; and good Morello Cherries from Mr. Warren, Handcross. Mr. W. Gower, gr. to J. Lawrence, Esq., of Battle, had the best scarlet-fleshed Melon in Beauty of Bath. Mr. T. Tugwell, gr. to Miss Swift, Beechwood, was 1st for a dish of Peaches, for a dish of Nectarines, for three bunches of black Grapes, and for a collection of fruit.

There were a number of non-competitive exhibits, the most noteworthy coming from Messrs. G. F. Scott & Co., Eastbourne; Messrs. Cheal & Sons, Crawley; Messrs. Laing & Sons, Forest Hill; and Mr. J. Charlton, Tunbridge Wells.

DEVON AND EXETER HORTICULTURAL.

August 21.—This old and vigorous Society holds two exhibitions in the year, one in the summer, and the other in late autumn, the exhibition just held being the 183rd. The promise of a wet day for this event is taken philosophically by the members, for it nearly always rains on flower-show day at Exeter, and there was no exception on this occasion. There was, unfortunately, a counter attraction, which took many of the Society's patrons away. This was a great garden-party, given by Sir William Walrond to celebrate the coming of age of his eldest son. As an exhibition, it may fairly be pronounced a success. There were 750 entries, representing ninety exhibitors, nearly all coming from Devonshire and Somersetshire. The arrangements were, as usual, well carried out by Mr. G. D. Cann, the Hon. Secretary, and a strong committee. Under the auspices of the Devon and Exeter Auxiliary of the Gardeners' Royal Benevolent Institution, a fruit and flower stall was erected in one of the tents, and was superintended by Madame Bryce, of Bystock, wife of the High Sheriff of Devon, assisted by a number of her lady friends, the result of their efforts being an addition of about £16 to the funds of the Auxiliary.

Open Classes and Groups. In the open classes, Messrs. Jarman & Co., Chard, won for Dahlias, with a good collection of forty-eight blooms, but there was no competition; and for forty-eight Gladioli, Mr. F. H. Fox, Wellington, also had a walk over.

For a miscellaneous group of plants arranged for effect in an oval space measuring 12 feet by 16 feet, there were but two competitors—Mr. W. Brock, Exeter (gr., Mr. Rowland), and Mrs. A. D. Sim Knowle (gr., Mr. Williams).

Mr. Brock was 1st, his group being less garish in colour, and the effect more harmonious. The 2nd prize group was good, but in general too light in colour, and had not enough dark foliage-plants to relieve the brighter hues used in it. The 1st prize group consisted of Cannas, Adiantums, Montbretias, Tuberoses, Hyacinthus candicans, Celosias, Campanula pyramidalis, Lilium speciosum rubrum, Lobelia cardinalis Queen Victoria, Francoa ramosa, Bambusa Metake, Cattleya labiata, and fringed with Panicum variegatum and crowned with Cocos plumosa. Mr. Brock was 1st also for a similar group confined to subscribers, winning the two silver cups.

For the smaller group, 12 ft. × 8 ft., Mr. Mark Farrant (gr. Mr. Protheroe) was 1st, and Mrs. W. F. Richards (gr. Mr. Bawden) was 2nd.

In the open class for twelve blooms of Tea Roses, Messrs. Jarman & Co., Chard, were 1st, Mr. J. Jerman, Exeter, 2nd.

Plants.—In the class of twelve Stove and Greenhouse Plants, six in flower, and six foliage, distinct, Mr. Brock won the cup with a very fine lot. The best of them were Stephanotis floribunda, Croton Andreanus, C. Disraeli, Cycas revoluta, Kentia Fosteriana, Areca lutescens, and Clerodendron Balfouriana. The same exhibitor was 1st in the class for six Stove or Greenhouse Plants in flower, with Dipladenia amabilis, Ixora princeps, Allamanda Hendersonii, Clerodendron Balfouriana, and Stephanotis floribunda. In his exhibit of three flowering and three foliage plants he was also 1st, there being a grand plant of Croton Johannis in his group.

For six Stove and Greenhouse Ferns, Mr. Brock carried off premier honours with magnificent plants, including Dicksonia antarctica, D. squarrosa, Adiantum Farleyense, and A. polyphyllum.

For six Gloxinias, Mrs. A. D. Sim was 1st, with a first-rate lot of plants, embracing the new colours which are so telling. The 1st prize for six double-flowered tuberous-rooted Begonias was well won by an amateur, Mr. F. Kneel, of the City Waterworks, Exeter.

In the class for six zonal Pelargoniums, single flowered (in 9-in. pots), and six double-flowered, Mr. Mark Farrant won with better plants than have been seen for many years past at Exeter Show. They reminded one of the glories of the Pelargonium competitions of the past when the flower was in popular favour.

Cut Flowers.—In the cut flower classes there was no extraordinary feature excepting in herbaceous plants and annuals, and in these two classes, Mrs. Macalister, Bampton (gr., Mr. James) won with splendid collections, the Rev. J. L. Gibbs, Clyst St. George (gr., Mr. Gibbings) being a good 2nd in the annual, and Mr. Theophilus Knapmann in the herbaceous collection. In Mrs. Macalister's perennials, Cimicifuga cordifolia, Lobelia fulgens Queen Victoria, Harpalium rigidum, and Echinacea purpurea, were very fine.

Fruit.—For the collection of fruit (10 dishes) Mr. Vincent Stuckey, Langport (gr., Mr. J. Lloyd) was 1st with Williams' Bon Chrétien Pears, Pine Apple Nectarine, Noblesse Peach, Morello Cherry, Brunswick Figs, Madresfield Court and Muscat of Alexandria Grapes, Lady Sudeley Apple, Jefferson Plum, and a Melon, Hero of Lockinge × Longleat Perfection. Mr. J. Brutton, Yeovil, was 2nd. In the collection of six dishes, Sir Massey Lopes, Mariston (gr. Mr. Thos. Richards) was 1st with an admirable lot of fruit, consisting of Late Admirable Peach, Pine Apple Nectarine, Muscat of Alexandria Grapes (very good), Brown Turkey Fig, Golden Perfection Melon, and Transparent Gage Plum. Grapes were rather poor, entries few, and competition weak, excepting, perhaps, the Muscats from Maristowe shown in the collection of fruit, the Gros Maroc of Sir John Shelley, and the Buckland Sweetwater of Mr. G. P. Benmore.

In the single dish of Apricots, Mr. W. C. Cleave, The Sanctuary (gr. Mr. F. Wyatt), was 1st with Moorpark; Mr. G. A. Spottiswoode, Honiton (gr., Mr. A. Hales), was 1st for a Scarlet-fleshed Melon with Sutton's Scarlet, and for a white fleshed with Davenham, both good sorts of Melons.

Figs were well shown, Mr. T. Turner, Cullompton (gr., Mr. Isaacs), being 1st with Brown Turkey.

Sir Redvers Buller, Downes (gr., Mr. Bull), as usual was 1st for Pine-Apples with a very fine fruit.

Vegetables are always exhibited largely at this show, and a marked improvement in quality has been noticeable for some years past. The 1st prize collection—that of Sir John Shelley's, Shobrooke (gr., Mr. Mairs)—was worthy of all praise, and it is a question if a collection of so high a level of excellence has ever been seen at this show. The kinds shown were Renton's Monarch Leek, Veitch's New Intermediate Carrot, Cranston's Excelsior Onion, Veitch's Autumn Giant Cauliflower, Dobbie's Invincible White Celery, Bardney Giant Runners, Veitch's Western Wonder Cucumber, Duke of Albany Pea, Perfection Tomato, Snowball Turnip, Veitch's Exhibition Brussels Sprout, Satisfaction Potato. Truly a wonderfully fine collection. Mr. W. E. S. Erle Drax, Sherborne (gr., Mr. Copp), was a good second. In the single dish classes, the Rev. A. H. Cruwys, Cruwys Morchard (gr., Mr. T. Northcote), had an absolutely perfect dish of Veitch's Model Carrot, and Mr. T. Kekewich, Peamore (gr., Mr. Abrams), had a fine bunch of Renton's Monarch Leek.

Sir John Shelley's Excelsior Onions were a grand lot, as were his New Intermediate Carrots in the single dishes as well as in the collection.

The prize for Turnips was taken by the Hon. Lady Walrond, Sprydoncote (gr. Mr. Stark), with Veitch's Red Garden Globe; the winning Tomato being Cannell's King (Perfection type); Celery, Jarman's Prize Pink; Scarlet Runners, Hill's Prize; Beet, Dobbie's Selected; Shallot, Jersey Wonder. About these Shallots much doubt was expressed as to whether they were Shallots or Onions. It seems they were raised from seed and not from bulbs. They were of extraordinary size, but very pale.

Potatoes were keenly contested, the winning varieties being Round White, Bryant's Seedling; Round Coloured, Perfection; White Kidney, Satisfaction. Mr. W. E. S. Erle Drax's six sorts (1st Prize) were Supreme, Satisfaction, Seedling, Mr. Breese, Perfection, and Mottled Beauty. Mr. W. C. Cleave took 1st for Cucumbers with Sutton's Peerless, and Miss Frepp, Teignmouth (gr. Mr. Stiles) 1st for Peas with Duke of Albany. Taken as a whole, the vegetables were a grand show.

Perhaps the prettiest feature of thes how was the dinner-table competition, arranged with flowers and fruit on a table 8 × 4 feet. Miss Kingdon, of Taddyforde, Exeter, was 1st for an artistic production in which pale blush was the prevailing colour. Small pink Begonias, Gypsophila paniculata, and the fluffy inflorescence of Rhus Cotinus were used with fine effect, the result being a perfect harmony of colour. Mrs. Drayton, Exmouth, was a good 2nd, but there was too much orange colour in her arrangement.

ROYAL HORTICULTURAL OF ABERDEEN.

August 21, 22.—The annual show was held in the grounds of Gordon's College, Aberdeen, in very favourable weather. For the past few years the directors of the society have been endeavouring to popularise the annual show, and they have succeeded. Occasionally the complaint was heard that there were too much fireworks and too little horticulture at the society's exhibitions, but this was not the case on Friday and Saturday last; indeed, experts pronounced the show to be the finest held in Aberdeen for a number of years. The entries numbered 2,038.

Pot Plants.—The interior of the marquee in which these were shown was a particularly attractive one. On entering, the visitor was at once attracted to the groups of plants arranged for effect in circles of 10 feet diameter. Mr. A. Grigor, Fairfield, was 1st; Mr. A. Reid, Durris, 2nd; and Mr. J. Proctor, Devanha House, 3rd. The stove and greenhouse plants exhibited by gardeners were a grand show, and in regard to the Ferns, more beautiful specimens were never seen at any of the past shows of the society. The principal prize-winners were Messrs. J. Proctor, Devanha House; J. McDonald, Balgownie; A. Middleton, Waterton House; Alexander Robb, Glenburnie Park; W. Ogg, Morker.; A. Grigor, Fairfield; and R. Kiloh, Woodlands, Cults.

Cut Flowers, &c.—The marquee in which these were displayed attracted large crowds. The professional gardeners came to the front here in fine style. The display of Gladiolus was magnificent. In the nurserymen's contest for Roses, the rosarians, Messrs. J. Cocker & Son, who during the past few weeks have been giving an excellent account of themselves at the shows in the south, had to give way to Messrs. Adam & Craigmyle, Aberdeen, and Messrs. D. & W. Croll, Dundee. The chief prize-takers among the professional gardeners were Messrs. George McLennan, Fetteresso; William Coutts, Ellon; A. Reid, Durris; John Wilson, Montrose; Wm. Ogg, Morken; William Hutchison, Balmedie; A. Middleton, Waterton House; and J. McDonald, Balgownie Lodge.

Fruit.—The display in this section was an excellent one, and one which was very creditable to the exhibitors. The honours of this section lay with Messrs. G Duncan, Letham Grange; J. Paterson, Rubislaw; A. Howie, Drumtochty; G. Taylor, Raeden; A. Hutton, Usam House, Montrose; A. Reid, Durris; A. Middleton, Waterton House; T. B. Middleton, Monymusk House; James Grant, Rothienorman; W. Sim, Murtle; and J. Brown, Delgatty Castle.

Vegetables—In this section the distinction between amateur and professional gardeners' exhibits was most marked. The collections were the most attractive features, and in giving the awards in the professional class the judges had a difficult task to perform. Mr. Alexander Paterson, Rubislaw, had the premier place, and was followed by Mr. J. Paterson, Rubislaw; and John Smith, Maidsfield. The gentlemen's gardeners had entries of quite as high degree of merit, the awards in their case being: Mr. J. B. Middleton, Monymusk House; Mr. G. Milne, Cluny Castle; and Mr. J. Wilson, Charleton, Montrose. There was an uncommonly fine display of Potatos. The principal prize-takers in the various sections were Messrs. W. Harper, Perth; A. Middleton; John Milne, Ruthrieston; A. Howie, Drumtochty; J. Eddie, Freefield; and John Paterson, Craigmyle.

The amateurs and cottagers alike gave a good account of themselves, the display of greenhouse plants, window-grown plants, cut flowers, fruit, and vegetables being highly creditable to the exhibitors.

In the exhibition tent for nurserymen, Messrs. W. Smith & Son, Aberdeen, and Messrs. Cocker & Sons had most attractive displays. The first-named firm had an extensive and elaborate exhibit of rare and choice pot plants, floral designs, and hardy herbaceous and border flowers. The Messrs. Cocker displayed a large quantity of herbaceous plants, numbering over 100 and Messrs. Ben. Reid & Co. exhibited a fine collection of plants and flowers, which made a creditable show. They also had stagings, each 30 feet long,

on which was arranged with fine effect a collection of foliage plants, including Crotons, Caladiums, Dracænas, Palms, Smilax, Pandanus, Araucaria excelsa, Ferns, Acalyphas, &c., interspersed with flowering plants.

ROYAL HORTICULTURAL.

August 25.—An ordinary fortnightly meeting was held on Tuesday last, in the Drill Hall, James Street, Westminster. Again the hall was very well filled with exhibits, and though the attendance may be described as poor, the display made was an exceedingly good one. Orchids were again fewer than usual, and the attendance of the members upon that committee was likewise very deficient. But hardy flowers were largely shown, and the meeting was remarkable for two extensive and exceedingly interesting collections of Aster blooms. It was, however, in greater degree, due to the exhibits of fruit that the show was so much larger than was expected. Indeed, on no occasion this year has anything like the space that was necessary upon this occasion been occupied by fruit. Mention may also be made of an interesting exhibit of Nepenthes made by Messrs. Jas. Veitch & Sons.

Floral Committee.

Present: W. Marshall, Esq., Chairman; and Messrs. Jno. Fraser, H. B. May, H. Herbst, Geo Nicholson, Geo. Stevens, James Hudson, J. F. McLeod, R. B. Lowe, C. J. Salter, R. M. Hogg, W. Bain, Chas. E. Pearson, and Chas. Jeffries.

Messrs. J. Laing & Son, Forest Hill, London, S.E., showed some choice Caladiums and ornamental-leaved Begonias. An Award of Merit was recommended to Caladium Donna Carmen Macedo, a pretty variety with dull-red leaves and green veining. Begonia Louise Closon Improved is an ornamental plant, with leaves of very dark velvety brown, and a pretty rosy-red. It is distinct and handsome (Award of Merit). Begonia alba magnifica, with large silver-coloured leaves, was also distinct and attractive.

T. W. Girdlestone, Esq., Sunningdale, Berks, showed several pretty seedling varieties of single-flowered Dahlias.

Begonia Captain Holford, a fibrous-rooted variety with single red flowers, was shown by Mr. A. Chapman, The Gardens, Westonbirt, Tetbury.

Mr. H. Becker, Jersey, exhibited a number of flowers of a variety of the Comet Aster, named Marguerite, from the semblance of the blooms to a white Marguerite. Mr. Becker also showed a giant type of the Jersey Lily.

Mr. W. Rumsey, Waltham Cross, received an Award of Merit for H.-P. Rose, Mrs. Rumsey, which has been frequently exhibited and described during the present season. It is a pretty-coloured flower, but rather thin. It is said to be a capital grower, and quite proof against mildew and some other pests.

Messrs. Dobbie & Co., Rothesay and Orpington, exhibited blooms of three Cactus flowering Dahlias, Mrs. Peart, straw-coloured, Mrs. F. Fell, more white than the preceding, and Miss Webster, a seedling variety of pure white with just a green shade from the centre. The blooms are large, and of fine form. It is a very good one (Award of Merit).

Mr. Thos. S. Ware, Hale Farm Nurseries, near Tottenham, staged a fine exhibit of out-of-door flowers, which included a good number of Dahlias, Lilium philippense, L. speciosum rubrum, L. s. album, several species of Tritoma, Rudbeckia Neumanni, Echinacea purpurea, a striated form of Helenium grandicephalum, Eryngium Oliverianum, and a number of varieties of Helianthus. The Dahlias made a showy facing to this group (Silver Flora Medal).

Asters were capitally exhibited by Messrs. H. Cannell & Sons, Swanley, Kent, who filled the whole of one side of the hall with sprays of flowers, exhibited as Dahlias usually are. The blooms generally were remarkable by reason of their symmetry, excellence, and distinct colours. They were from open-field culture, and many of them were strains selected for the seventh time from plants cultivated in Kent. We cannot attempt to notice so large a number of varieties, but some remarks upon them will be found on p. 240. The Comet Aster in its different colours, The Emperor or Giant, The Victoria, and Pæony-flowered, were the most attractive (Silver-gilt Flora Medal).

Messrs. Dobbie & Co., Rothesay, and at Orpington, Kent, made an exhibit of Asters, comprising a very large number of varieties. Some of the types most noticeable were the Pæony-flowered, height about 24 inches; the Victoria, 20 inches, a large-flowered, smooth-petalled section; the Giant Comet, 18 inches; Goliath, 24 inches; tall and dwarf Chrysanthemum-flowered, Imbricated Pompon, Globe-flowered German, and Quilled German; the Ball Aster, or Jewel; Dwarf Pyramid Bouquet, Dwarf Victoria, and others (Silver Flora Medal).

Messrs. R. Wallace & Co., Kilnfield Gardens, Colchester, made a fine exhibit of Liliums and Gladioli. The Lilies included L. speciosum Melpomene and L. s. macranthum, both exceedingly good varieties of the type, the former being intense in colour, the petals recurved greatly, and the latter larger in bloom and less recurved, being also of a good colour; L. tigrinum Fortunei giganteum, and other varieties of this species, L. aur tum rubro-vittatum, and others. Some excellent Gladioli were shown, including several strains of very choice description. Several plants of the beautiful white-flowered Watsonia iridifolia (figured in *Gardeners' Chronicle*, March 5, 1892, p. 305), were also exhibited. The spikes were nearly 4 feet high and much branched (Silver Banksian Medal).

Mr. Walters, Eastwell Park, Ashford, Kent, sent some Gloxinia blooms from plants raised from seeds sown on January 27 last. They were very fine.

Messrs. Jno. Peed & Sons, Roupell Park Nurseries, Norwood Road, S.E., staged a collection of hardy flowers, including a large number of perennial herbaceous species, and a few of Dahlias (Silver Banksian Medal).

Messrs. Young & Dobinson, Stevenage Nurseries, Herts, had an exhibit of Pansy and Viola flowers, &c. (Bronze Banksian Medal).

Messrs. James Veitch & Sons, of the Royal Exotic Nursery, Chelsea, exhibited a collection of Nepenthes of considerable extent and variety, and in mostly large examples. We remarked the fine hybrid N. × Mastersiana [N. sanguinea and N. distillatoria], with short petioled, rich brown pitchers; N. Amesiana, a handsome, large pitcher of a green ground colour, with marbling of dark brown, and having large, distinct-looking wings, which are hairy at the edges; the curious N. Veitchii, N. Dicksoniana, a cross of N. Veitchii and Rafflesiana; N. Witte, with a very slender pitcher must streaked with brown—a garden hybrid; N. Cincta, light brown pitcher; N. Wrigleyana, the extremely handsome N. Curtisii, green and dark brown in equal proportions; N. Hookeriana, elegant oval shaped pitchers on longish petioles; N. Morganiæ, N. Mixta sanguinea, N. intermedia, N. hybrida maculata, N. Burkei, N. Rafflesiana, N. Formosa, the red variety of N. Mastersiana, and N. Northiana, one of the handsomest species. N. Dominy, which commemorates one of the earliest hybridists of the genus; N. Chelsoni, N. hirsuta-glabrescens, spherical, green-coloured pitchers, suspended by short petioles; the free, small, dark-brown pitchered N. albo-marginata, &c. The group was enlivened by a setting of Cocos plumosa, Adiantum, and Acer Negundo foliis variegata (Gold Medal).

Sir Trevor Lawrence, Bart., Burford Lodge, Dorking (gr., Mr. Bain), showed some beautiful large-flowered Pentstemon hybrida grandiflora in many various colours. He also exhibited a number of spikes of M. Lemoine's hybrid Gladiolus in superb form. Especially meritorious were Colonel Cyllon, deep cerise-coloured flower, with a short white flame that is sparingly spotted with rose; Paul Marguerite, a large pale purple flower, white at the base of the upper segments, whilst the lower ones are dark purple, forming a remarkable flower. Commodore Monteil, a flower of a light purple tint, with a reddish-purple throat; Rosa Bonheur, also of a shade of light purple, with a throat of dark purple, the upper part of which is white; Humbert, a flower of crimson and gold, of medium size, and very showy; Atlas, a charming purplish-pink flower, of an immense size, as is also the spike (Award of Merit); Fustell de Coulanges, a flower of a tint of carmine, with a white patch in the throat and a short spike, is a fine thing (Award of Merit); Lobelia Carmine Gem, a novelty of the L. cardinale type, of a desirable tint, valuable as a variety (Award of Merit).

Mr. E. H. Jenkins, nurseryman, Hampton Hill, obtained an Award of Merit for Campanula "Profusion," a hybrid from C. isophylla alba × C. carpatica alba. The flowers are moderate in size, of a pretty tint in pale blue, and are produced with much freedom.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs Jas. O'Brien (Hon. Sec.), S. Courtauld, A. H. Smee, W. Cobb, H. J. Chapman, and H. M. Pollett.

The group staged by J. Gurney Fowler, Esq., Glebelands, South Woodford (gr., Mr. Davies), was specially interesting, on account of the variety and excellence of the plants of which it consisted. Among them were the fine Lælio-Cattleya × Fowlerii, the pretty Lælio-Cattleya × Aurora var. Vedasti; some plants of Cattleya aurea, C. Loddigesii, and C. Eldorado, one of which was a fine white form, the scarce and elegant scarlet Renanthera matutina, Cymbidium chlorochilum; Lælio-Cattleya × elegans; the rare and handsome Pachystoma Thomsoni, with several spikes of flowers; Catasetum Bungerothi, Odontoglossum tripudians, the singularly little Stanhopea calceolus, a nice plant of Cypripedium Lawrenceanum Hyeanum, and other Cypripediums, Dendrobium Phalænopsis, &c. The group was awarded a Silver Flora Medal.

Sir Trevor Lawrence, Bart., Burford, Dorking (gr., Mr. W. H. White), staged several very interesting species. One plant of Eria stellata bore several spikes of pretty rose and white flowers; Epidendrum alatum and E. Fournierianum were well-bloomed, and Habenaria carnea and H. c. nivosa were so well grown as to secure a Cultural Commendation. There were also a bunch of cut flowers of Maxillaria fucata, a fine spike of Rhynchostylis retusa, and good plants of Cypripedium × euryandrum, C. × Harrisianum superbum, and C. œnanthum.

Three remarkable plants were sent by the Honble. Walter Rothschild, Tring Park, Tring (gr., Mr. E. Hill), viz., Cycnoches maculatum, which bore a long raceme of large creamy-white flowers spotted with purple, and with a singular white fringed labellum (Award of Merit); Bulbophyllum species from Borneo: a very extraordinary plant with fleshy ovate leaves, and very rudimentary pseudo-bulbs, borne on creeping rhizomes. The flowers which were highly polished were nearly equal in size to those of B. Lobbii; in colour a light yellow, with numerous fine purple lines. The singular-looking labellum was prolonged in front to a long narrow tongue which, when it worked forward on its hinge, curved under the chin formed by the rounded bases of the lower sepals (Botanical Certificate); and Miltonia Schroderiana major, which appeared a much stronger grower than the ordinary form, whilst its pure white and crimson labellum was also larger (Award of Merit).

Major Joicey, Sunningdale Park, Sunningdale (gr., Mr. F. J. Thorne), showed Miltonia candida grandifolia, a fine variety, and splendidly grown, bearing three strong spikes (Award of Merit); the pretty scarlet Lælia monophylla, with unusually large flowers, one of the spikes bearing two blooms (Award of Merit); Stanhopea Lowi var. Amesiana, with large, wax-like, white, fragrant flowers; and the still larger white and purple S. eburnea (Award of Merit); also Cattleya Leopoldi, a fine form of the large white Angulos eburnea, a pretty plant of Odontoglossum aspidorhinum with four spikes, and a pretty Zygopetalum of the Warscewiczii section with white and rose flowers.

Thos. Statter, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson), sent Cypripedium × Excelsior (Rothschildianum × Harrisianum), Lælio-Cattleya × Schilleriana, Statter's variety, and L.-C. × elegans Johnsoniana, all excellent examples of their kind.

Messrs. Hugh Low & Co., Clapton, staged an effective group, consisting of good specimens of Saccolabium cœleste, Lælio-Cattleya × Schilleriana, L.-C. × elegans Turneri, and the still more beautiful L.-C. × elegans Wolstenholmiæ; a number of well-flowered plants of Dendrobium formosum giganteum and D. Phalænopsis Schroderianum, Cypripedium Charlesworthi and other Cypripediums, Cycnoches chlorochilum, Catasetum callosum, with singular chocolate and green insect-like flowers (Botanical Certificate), and some good specimens of Miltonia spectabilis Moreliana. The group was awarded a Silver Banksian Medal.

T. B. Haywood, Esq., Woodhatch Lodge, Reigate (gr., Mr. Salter), sent Coelogyne Micholitzii, a fine species, with a general resemblance to C. speciosa; flowers white, with nearly black blotch on the lip (Award of Merit).

Reginald Young, Esq., Fringilla, Linnet Lane, Sefton Park, Liverpool (gr., Mr. Poyntz), sent Cypripedium × Ashburtoniæ expansum, Cookson's variety, and C. × Atropos, a hybrid obtained between it and C. purpuratum. It was a small flower, but of good shape, and very richly coloured.

W. Thompson, Esq., Walton Grange, Stone, Staffordshire, exhibited a noble plant of Dendrobium longicornu covered with its pretty white, orange-lipped flowers (Award of Merit); a grand plant of Lælio-Cattleya × elegans Cawenbergiana with two spikes (Cultural Commendation); and Odontoglossum crispum Annie, a large and finely-blotched flower.

Messrs. B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, showed a fine plant of the handsome Brassia brachiata.

Messrs. Jas. Veitch & Son, Royal Exotic Nursery, King's Road, Chelsea, exhibited a fine example of Lælio-Cattleya × Clonia (C. Warscewiczii × L.-C. elegans), illustrated in the *Gardeners' Chronicle*, October 12, 1895, p. 421.

Col. Brymer, Ilsington House, Dorchester (gr., Mr. Powell), again showed his fine hybrid Lælio-Cattleya × Brymeriana (L.-C. Amanda ♀, C. Warscewiczii ♂), on this occasion securing a First-class Certificate for the plant, which is certainly a very handsome hybrid. The stout plant bore a five-flowered inflorescence of large rosy-lilac flowers, the labellum beautifully netted with rich purplish crimson.

Messrs. F. Sander & Co., St. Albans, showed Lælio-Cattleya × Gottoiana; and Mr. J. W. Moore, Bradford, an immature plant of Cymbidium (?) aloifolium.

Fruit Committee.

Present: Philip Crowley, Esq., Chairman; and Messrs. T. Francis Rivers, Henry G. Pearson, Geo. Bunyard, T. J. Saltmarsh, T. H. Crasp, Alex. Dean, J. Willard, J. W. Bates, Jno. A. Laing, Jas. H. Veitch, F. Q. Lane, H. Balderson, G. Norman, and Robt. Fife.

Superb Grapes were shown by P. N. Graham, Esq., Hurst Side, West Molesey, Surrey (gr., Mr. G. Elliott). There were six bunches of Madresfield Court, and six of Gros Maroc. In each case the bunches were heavy, the berries large, and the Gros Maroc especially very richly coloured. One Vine of either kind produced the fruit shown (Silver Knightian Medal).

A collection of Peaches and Nectarines was shown by Mr Walters, gr. to Lord Gerard, Eastwell Park, Ashford, Kent. There were Humboldt, Elruge, Pine Apple, Melton, Galopin, Goldoni, Stanwick Elruge, Rivers' Early Orange, and Prince of Wales Nectarines, and Gros Mignonne, Princess of Wales, and Sea Eagle Peaches. This was a very meritorious exhibit (Bronze Knightian Medal).

Three very large bunches of Muscat Hamburgh Grapes were shown by W. R. Cookson, Esq., Bracknell (gr., Mr. Thos. Dennis). They were well coloured, but there many small berries in the bunches (Bronze Knightian Medal).

An exhibit of Grapes, Peaches, Pears, and Plums was made from the Society's gardens at Chiswick, and cultural commendations awarded in several instances; Dodralabe (a black, almost round berry), Black Monnukka (stoneless), and others, not common in gardens, were noticed among the more ordinary varieties of Grapes. The Plums, Peaches, and Pears were of good quality also.

From the Royal Gardens, Windsor, Mr. O. Thomas exhibited fifty dishes of fruits, consisting of Peaches and Nectarines, and Plums. Some of the Peaches and Nectarines were unripe, but the Plums were very fine, and included about two dozen varieties (Silver-gilt Knightian Medal).

A large and very commendable collection of fruits from the open was staged by Mr. Geo. Wythes, gr. to Earl Percy, Syon House, Brentford. This was composed of fifty dishes, and included many varieties of Peaches, Nectarines, Plums, Apples, and Pears; also Apricots, Figs, Damsons, capital

Morello Cherries, Mulberries, &c. The collection was deservedly awarded a Silver Knightian Medal.

An Award of Merit was recommended to Tomato Young's Eclipse, that received marks at Chiswick on July 31 last, and was described in *Gardeners' Chronicle*, p. 162. Other Tomatos shown were Abbey Wood, scarlet, and Abbey Wood, crimson, from Mr. J. CLARK, Abbey Wood, Kent; and Osberton, scarlet, a large-fruited very free-cropping variety, from Mr. T. H. CRASP, Osberton Gardens, Worksop.

There were six fruits of a scarlet-fleshed Melon named Improvement exhibited by C. T. CAYLEY, Esq., Ivy Mount, Leigham Court Road, Streatham (gr., Mr. H. Poulton); and Mr. S. COLE, Swallowfield Park Gardens, Reading, showed fruits of a Melon named Swallowfield Park Favourite, but neither of the varieties possessed good flavour, though the latter was the more promising.

Mr. WYTHES exhibited a small scarlet-fleshed Melon from a cross between Hero of Isleworth and Syon House, but this too was of poor flavour.

Mr. H. BECKER sent a dish of the Red Currant Comet, that received an Award of Merit on July 3. Mr. O. THOMAS, The Royal Gardens, Windsor, showed a yellow Plum named Windsor Early; and Messrs. JAS. VEITCH & SONS, exhibited a Gage Plum named Webster's Gage, a very good flavoured fruit.

Mr. ALEX. FINDLAY, Maresfield Park Gardens, Uckfield, Sussex, showed half-a-dozen fruits of a Peach known as Maresfield Park Seedling, very dull red in colour, and probably of little value.

Messrs. R. VEITCH & SON, Exeter, sent a few of their new Intermediate Carrots, which have a very fine appearance.

For the prizes for the best dishes of Apples and Pears there was far greater competition than previously. The 1st prize for Apples was given to Worcester Pearmain, shown by COLVILE BROWN, Esq., Hextable, Kent; 2nd, Duchess Favourite, from Earl PERCY.

The 1st prize for Pears was given to Beurré de l'Assomption, exhibited by Mr. G. Norman, gr. to the Marquis of SALISBURY, Hatfield; 2nd, Williams' Bon Chrétien, from Earl PERCY (gr., Mr. Wythes).

C. J. MASSEY, Esq., Galloway House, Garliestown (gr., Mr. J. Day), exhibited a collection of hardy fruit, principally Plums, some of which were of very good quality, considering the district in which they were grown (Bronze Knightian Medal).

Eight bunches of the Grape Ferdinand de Lesseps were shown by Mr. T. H. CRASP, gr., Osberton, Worksop. This is a Muscat-coloured Grape, small in bunch and berry, and possesses a very remarkable flavour, pleasant, distinctive, and pronounced.

An excellent collection of fruit was staged by Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, Chelsea, including a large number of fine Plums from pyramidal trees. We noticed Early Transparent Gage, Kirke's Washington, Lawson's Golden Gage, Cox's Emperor, Oullin's Golden, Brandy Gage, and others of very tempting quality indeed. Of Plums and Damsons there were forty-two dishes. Apples and Pears, too, were exhibited well, many of the Apples being large and well coloured. Of these there were nearly fifty dishes. From the same establishment were exhibited also a few young Fig-trees carrying ripe fruits. Brown Turkey, Negro Largo, Bourjassotte Grise, Osborn's Prolific, White Marseilles, and Bourjassotte Noir were the varieties (Silver gilt Knightian Medal).

Messrs. S. SPOONER & SONS, Hounslow, exhibited forty dishes of fruit, composed for the most part of Apples and Pears, and there were four dishes of Plums also (Bronze Banksian Medal).

Messrs. HARRISON & SONS, Leicester, sent a collection of varieties of dwarf French Beans, representing about two dozen named varieties (Vote of Thanks).

Lecture.

FORCING LILY OF THE VALLEY.

IN the afternoon a lecture upon this subject by Mr. T. JANNOCH was read by Mr. J. WEATHERS (Assistant Secretary); Dr. M. T. MASTERS, F.R.S., in the chair. At the commencement, Mr. JANNOCH remarked that the practice of forcing Lily crowns was not an old one. Half a century ago the culture of crowns for such a purpose was confined to a small area around Berlin and Hamburgh. In 1859 there was no nurseryman who grew a greater number of crowns than 60,000. Very little was said upon this or other such circumstances, however, for the paper was a practical one in the extreme, and it dealt almost exclusively with matters cultural.

The best soil for the purpose was said to be a light sandy loam, with a moderately damp subsoil. A cold thick clay was not against the growth of the crowns so much as a hindrance to the ripening process. The crowns upon such land would be large and fleshy, but growth would continue too late, and the crowns, therefore, insufficiently ripened for successfully passing through early and hard forcing. The soil should be thoroughly well worked preparatory to planting, and some crumbling hot-bed manure, if such can be had, might be worked in at the same time. Autumn was strongly recommended as the best time to effect the planting of the roots, and long exposure to the air should be avoided as much as possible. The crowns should be planted in trenches 5 inches deep, and 7 or 8 inches asunder, 1 inch dividing the crowns from each other in the rows. Frequent paths dividing the land into beds would be necessary to conveniently water the ground should occasion require. The tip of the crowns should be just level with the surface of the ground.

When the planting has been completed, a mulching might be given, and during the following season attention would be likely to be required to watering. Usually, a crown first blooms when it is three years old, or more accurately, three and a half years old. By extra cultivation they might be made to bloom after the second year, but he had proved that when lifted at that age the percentage of flowering crowns was not sufficiently good to make the practice advisable.

After they have bloomed, under ordinary culture the crowns will again flower each alternate year, but may be made to do so for several years in succession by extra cultivation. Not only so, but twice in a year, by allowing them to bloom in the beds naturally, and then lifting them in the summer for forcing in the autumn. The great point to achieve was to have the crowns thoroughly matured. They would not force successfully, unless they experience a short rest previously. The crowns might be potted up about the end of October or commencement of November. Twelve crowns should be put in a 5-inch pot, well packing the soil between the crowns as they are put in. Some of the large growers put the crowns in forcing-boxes, and less often crowns are packed together upon the stage, in a warm house, and put into boxes after they have made a little growth.

When potted up, cover the crowns lightly with some green moss. They should be put into a temperature of 80° Fahr., which may be increased to 90° during the first fortnight. It should never be more than 110°, nor lower than 80°.

When the flower scapes appear, gradually expose them from the darkness it is usual to start them in; and as soon as the lowermost bells open, the syringing of them should be discontinued. After Christmas the process of forcing is much simplified. The blooms will come more freely, and particularly the foliage, therefore each will require rather more room.

When potting-up the crowns, it should be remembered that it matters not what kind of soil is used. No roots are made during the process, and the quality of the flowers is not affected in the least degree by the material in which the crowns are forced. Of varieties, Mr. Jannoch said that especially for early forcing the Berlin variety was better than either the Dutch or Hamburg forms, and reference was made in *Gard. Chron.*, fig. 76, p. 405, March 25, 1876, as showing the superiority of that type over the Dutch one. Mr. Jannoch referred to the practice of retarding the crowns, but said that much had yet to be learned upon the matter.

BRIGHTON HORTICULTURAL.

AUGUST 25, 26.—This was again held in the Dome and Corn Exchange, and was one of the best of a number of grand exhibitions held of late years under the new management. Groups, cut Dahlias, tables of plants, and fruit were especially good. In the vegetable section, too, the exhibits were of very satisfactory quality.

Groups.—The society's Silver Medal and £5 for a group of plants 18 by 10 feet was well contested, Mr. C. HOLLAND, nurseryman, Tunbridge Wells, winning with a grand arrangement of Crotons, Caladiums, Dracænas, Ferns, and Palms, having a mirror in the background. Mr. H. J. JONES, Hither Green, Lewisham, was a capital 2nd.

A Bronze Medal and £3, offered for a smaller group, was won by Mr. J. Simms, gr. to C. J. INWOOD, Esq., Dyke Road, Brighton, for a light and pretty arrangement.

Groups of Ferns are always a feature here, and Mr. J. Adams, gr. to the Rev. Sir G. SHIFFNER, Bart., Coombe Place, Lewes, again won with a well-arranged collection, including fine plants of Adiantum Farleyense; Mr. G. MILLS, Dyke Road Nursery, was 2nd, his group being better in arrangement, but the plants were less good than those from his rival. Seven competed for a table of flowering and foliage plants, Mr. C. HOLLAND, nurseryman, Tunbridge Wells, being well in front of Mr. E. Lawrance, gr. to T. OLIVIER, Esq., Tanbridge, Horsham.

Plants.—For eight Stove and Greenhouse Plants, the competition for £5 and the Corporation Challenge Cup was very keen between J. WARREN, Esq., Handcross Park, Crawley (gr., Mr. Offer), and Mr. E. MEACHEN, Woodslee Gardens, Brighton. The awards were won in the above order; Mr. WARREN had grand specimens of Croton Warreni, C. angustifolius, Cycas revoluta, and Ixora Williamsii. Mr. WARREN was also 1st for six Stove and Greenhouse Ferns, his best being Davallia polyantha and D. Mooreana. Messrs. W. MILES & Co., Church Road, Hove, followed.

Mr. A. Gibson, gr. to T. F. BURNABY ATKINS, Esq., Halstead Place, Sevenoaks, was 1st with a good specimen of Dipladenia Brearleyana for a stove plant in bloom, and 1st with Cycas revoluta for a specimen foliage plant, J. WARREN, Esq., Handcross Park, following very closely in each case.

Gloxinias were good, the best six plants being shown by Mr. J. Holman, gr. to F. CRUNDEN, Esq., Burgess Hill. Messrs. W. MILES & Co., Hove, were in front of J. Warren, Esq., and Mr. Lawrance for six small Crotons, with very bright-coloured plants; while for six Dracænas, Mr. WARREN was again to the front. Messrs. MILES & Co. and Mr. E. MEACHEN were 1st and 2nd for six Palms, both staging some really well-grown plants. Mr. J. LEWES, 37, Preston Park, Brighton, beat Mr. G. Miles, Dyke Road Nursery, for six British Ferns in pots; and Mr. G. Simms, gr. to C. J. INWOOD, Esq., The Retreat, Brighton, won in a strong class for six Coleus.

The class for twelve table plants in 6-inch pots brought several competitors, and the 1st prize was taken by Messrs. W. MILES & Co., Hove. There were only two exhibits of a table of Orchids and Ferns, and the 1st prize was won by Mr. H. Garnett, gr. to R. G. FLETCHER, Esq., Preston, Brighton.

Cut Flowers.—For a box of twenty-four varieties of stove and greenhouse flowers, Mr. W. Archer, gr. to Miss GIBSON, Hill House, Saffron Walden, was well in front; Mr. J. Davis, gr. to Major E. H. THURLOW, Buckham Hill House, Uckfield, following.

Roses were fairly good, the 1st prize for twenty-four varieties going to Messrs. PERKINS & SONS, Coventry, whose best blooms were Madame Eugénie Verdier, Star of Waltham, and Comte Raimbaud. Mr. T. DURRANT YOUNG, Eastbourne, was 2nd. For twelve Teas or Noisettes, Messrs. PERKINS were again 1st, but were closely followed by Mr. H. Harris, gr. to Mrs. EVERSFIELD, Denne Park, Horsham.

Dahlias were really good, especially the Cactus and show varieties. For forty-eight show or fancy varieties, Mr. MORTIMER, Swiss Nursery, Farnham, was a good 1st, Mr. M. V. SEALE, Sevenoaks, following. Mr. MORTIMER and Mr. M. V. SEALE were also 1st and 2nd for twenty-four varieties; and Mr. SEALE beat Messrs. CHEAL & SONS, Crawley, for twenty-four varieties of single Dahlias. Mr. SEALE was 1st for a grand lot of Cactus (twelve varieties), the best being Matchless, J. E. Frewer, Mrs. W. Noble, Lady Penzance, and Delicata. Messrs. J. CHEAL & SONS were 2nd. A class for twenty-four varieties of herbaceous cut flowers brought out some grand lots, Mr. J. CHARLTON, Tunbridge Wells, being placed 1st for a beautiful collection, followed by Mr. G. H. SAGE, Ham House, Richmond.

The table decorations were not equal to the usual standard, but floral devices and bouquets were fairly good.

Fruit (Open).—There were eight competitors for a collection of eight dishes of fruit, Mr. G. Goldsmith, gr. to Sir E. G. LODER, Bart., Leonardslee, Horsham, being 1st with grand dishes of Nectarine, Pine-apple; Fig, Brown Turkey; Pear, Williams' Bon Chrétien; Peach, Violette Hative; and Black and White Grapes. Mr. H. HARRIS, Denne Park, Horsham, was 2nd. Thirteen competed for three bunches of Black Hamburgh Grapes, Mr. T. DANCY, The Gardens, St. Leonard's Forest, Horsham, and Mr. G. House, gr. to Sir F. MOWATT, K.C.B., Withdean Hall, Brighton, being 1st and 2nd respectively. For three bunches of any other Black Grape, Mr. W. Cheater, gr. to Sir W. PINK, Shrover Hall, Cosham, won with Madresfield Court; Mr. T. BUSHBY, Heene, Worthing, being 2nd with well-finished bunches of Black Alicante. Mr. Tidy, gr. to W. K. D'ARCY, Esq., Stanmore Hall, Middlesex, won for three bunches of white Grapes, with Muscat of Alexandria; and Mr. Duncan, gr. to C. J. LUCAS, Esq., Warnham Court, Horsham, was a close 2nd with the same variety.

Mr. C. M. Carter, gr. to F. FREEMAN THOMAS, Esq., Ratton was in front for two Melons, distinct varieties; and Mr. G. H. SAGE, Ham House, Richmond, 1st for a single Melon. THE BRIGHTON FLORIST STORES were well in front of Mr. G. Goldsmith, gr. to Sir E. G. LODER, Bart. for two dishes of Peaches; and Mr. L. W. Bastin, gr. to A. J. REYNOLDS, Esq., Welwyn, Herts, won with Princess of Wales Peach in a class for one dish. Mr. J. Coles, gr. to H. FAURE WALKER, Esq., Highley Manor, Balcombe, was 1st for two dishes of Nectarines. Mr. G. H. SAGE, Ham House, Richmond, won in a very strong class for four dishes of Dessert Apples, the varieties being Duchess of York's Favourite, Worcester Pearmain, Lady Sudeley, and Duchess of Oldenburgh. Mr. A. H. PARSONS, Malling, Lewes, winning for four dishes of culinary Apples.

Vegetables were extra good, especially Onions, Potatos, and Celery. For a collection of nine kinds the competition was very keen, Mr. W. Manton, gr. to Mrs. CLIFFORD BORRER, Pickwell, Bolney, winning with Ne Plus Ultra Beans, Bragnell's Exhibition Beet, Autumn Giant Cauliflower, Rousham Park Hero Onion, Autocrat Pea, Sutton's Perfection Tomato, New Intermediate Carrot, Sutton's Abundance Potato and Sutton's White Gem Celery; all very good. Mr. J. Mitchell, gr. to Major MABERLY, Cuckfield, was 2nd. For a collection of Potatos (6 varieties), Mr. G. Goldsmith, gr. to Sir E. G. LODER, Bart., Horsham, was 1st out of a dozen or more exhibits.

Honorary Exhibits.—The chief of these were from Messrs. J. VEITCH & SONS, Chelsea, who had a grand collection of Caladiums, Java Rhododendrons, Nepenthes, and a fine pair of Cephalotus follicularis. Messrs. BALCHIN & SONS, Brighton, again had one of the best features in the show, being a series of Eastern arches decorated in a most tasteful manner, and filled with Liliums, Crotons, Palms, Bulbs, and a collection of fruit. Cactus and Pompon Dahlias came from Mr. J. CHARLTON, Tunbridge Wells, and also from Messrs. J. CHEAL & SONS, Crawley. A grand collection of gathered fruit, also fruiting trees in pots, came from Messrs. T. RIVERS & SONS, Sawbridgeworth.

READING HORTICULTURAL.

AUGUST 26.—The Summer Exhibition of this Society was held in the Forbury Gardens, Reading, on the above dates. There was a fine display of fruit and vegetables, also of plants and cut flowers. The site of the show was an extremely good one, being a basin covered by canvas; the various exhibits were staged on grass mounds intersected by gravel paths. The wooden staging commonly seen was thus entirely avoided.

Plants.—For a Group of Plants arranged for effect, the 1st prize was awarded to Mr. WILLS, Shirley, Southampton. It was a well-arranged group; and rising out of a bank of Maidenhair Fern were various Orchids, Palms, Crotons, Eucharis, &c. 2nd, Mr. Pope, gr. to J. P. WHITE, Esq., Wargrave, this was a bright and showy group, but rather too crowded with flowering plants.

In the class for a smaller group, Mr. Howard, gr. to Mrs. Myers, Benham Park, Newbury, was 1st; and Mr. Alexander, gr. to R. Hewitt, Esq., St. Mary's Hill, Reading, was 2nd.

The most successful exhibitor of Stove and Greenhouse Plants in flower was Mr. Finch. He staged Ixoras Williamsi and Fraseri, Allamanda grandiflora, Clerodendron Balfouri, Statice profusa, and an Erica. Mr. Wills was 2nd, his specimen of Rondeletia speciosa may be mentioned.

For six fine-foliaged plants, Mr. Finch was again 1st, with Croton Queen Victoria, Cycas circinalis, C. revoluta, Phœnix reclinata, &c.

In the class for six Ferns, the 1st place was taken by Mr. Dockrill, gr. to G. W. Palmer, Esq., Elmhurst, who staged Alsophila australis, amongst other Ferns; 2nd, Mr. Willis, gr. to H. A. Simonds, Esq., Caversham.

For a specimen plant in flower, Mr. Bright, gr. to J. B. Karslake, Esq., Whitenights, competed the most successfully with a good example of Fuchsia elegans.

In the class for three Orchids in flower, the best exhibit was that of Mr. Woolford, gr. to A. Palmer, Esq., East Thorp; he had Cycnoches chlorochilon, Dendrobium formosum giganteum, and Cattleya Dowiana.

The next class was for a specimen of a new or rare plant. The best was a good example of Cordyline australis lineata, from Mr. Dennis, gr. to W. R. Cookson, Esq., Binfield Park, Bracknell.

Competition for the best six table plants was keen, and those staged were good; 1st Mr. W. H. Lees, gr. to F. A. Bevan, Esq., Trent Park, New Barnet.

For six Fuchsias, Mr. Bright was a good first, the varieties Mrs. Rundle and Charming Queen were well represented.

For six double zonal Pelargoniums, Mr. Woolford was a good 1st.

Six Begonias were well shown by Mr. Dockrill.

In the amateur classes Mr. Willis staged four well flowered stove and greenhouse plants, including Pancratium fragrans (good).

Cut Flowers were well exhibited, the single Dahlias being the best. Messrs. Cheal & Sons, Lowfield Nurseries, Crawley, were 1st with Marion Hood, Miss Morland, Miss Roberts (good yellow), &c.; 2nd, J. W. Girdlestone, Esq., who staged a splendid bunch of Dearest, and several seedlings, of which Trilby was good, it is a rich maroon fading to carmine and white at the tips, a good fancy of a constant type.

For Cactus Dahlias, Messrs. Cheal & Sons were again 1st, staging good examples of Mrs Peart (whiter than usual), Mrs. Wilson Noble, and Beatrice. 2nd, Mr. E. F. Such, Maidenhead.

For eighteen double Dahlias, Mr. J. Walker, Thame, was 1st with John Hickling, Perfection, John Walker, &c. Messrs. Cheal & Sons, 2nd.

For twelve Dahlias, Mr. Tranter, Henley-on-Thames, led with a good even set.

For twelve Roses, H. P., and twelve Tea varieties, Messrs. Perkins & Co. were 1st with a good exhibit for the season.

For eighteen bunches of cut flowers, Mr. W. H. Lees led with an exhibit of fine quality, consisting of stove and greenhouse flowers, including several Orchids. Mr. E. F. Such was 2nd, staging good bunches of hardy flowers.

The best bouquet was that of Mrs. Phippen, florist, Reading. For buttonholes, Mrs. Phippen and Mr. Lees were 1st and 2nd respectively.

The competition for table decorations was poor. In both classes, however, the 1st prize was gained by very tasteful and pretty exhibits from Miss Elsie Wadmore, Basingstoke.

Fruit.—An exceedingly close competition occurred in the class for eight dishes of fruit. Mr. W. H. Lees was 1st, with fine Black Hamburgh and Muscat of Alexandria Grapes, Brown Turkey Figs, Royal George Peach, Kirke's Plums, &c. 2nd, Mr. Cole, gr. to Sir George Russell, Swallowfield Park, with extra fine Muscat and Black Hamburgh Grapes, Pine-apple Nectarines, and good Peaches and Melon.

For six varieties, Mr. Dennis was 1st, with good Bowood Muscat and Alicante Grapes, Williams' Bon Chrétien Pears, &c.

For three bunches of Black Hamburgh Grapes, Mr. Mitchell, gr. to J. W. Fleming, Esq., Chilworth Manor, Hants, was 1st, with unusually fine specimens, very large and well-coloured berries; 2nd, Mr. McHattie, gr. to the Duke of Wellington, Strathfieldsaye.

For any other black, Mr. McHattie was 1st with Madresfield Court, extra fine in bunch, berry, and colour.

For three bunches of white Grapes, Mr. Cole was 1st with Muscat of Alexandria, staging heavy, well-proportioned bunches, large in berry.

For six Peaches, Mr. Bowerman was 1st with handsome fruits of Barrington.

For six Nectarines, Mr. Howard was 1st with large richly-coloured Pine Apple. Mr. Howard was also 1st for Apricots, staging D'Alsace.

For three distinct dishes of Plums, there was good competition. 1st, Mr. Ravenhill, gr. to J. Wells, Esq., Woodside, Winkfield, with large, handsome, well-coloured fruits of Webster's Greengage, Pond's Seedling, Prince Englebeart.

For Dessert Apples, Mr. Woolford was 1st with Devonshire Quarrenden, Worcester Pearmain, and Lady Sudeley. The same exhibitor was 1st for culinary Apples.

For Dessert Pears, Mr. Pope, gr. to Earl of Carnarvon, Highclere Castle, was 1st, with Jargonelle, Clapp's Favourite and Williams' Bon Chrétien, excellently grown and finished.

For Melons, Mr. Dockrill took the 1st place for both scarlet and green flesh.

Vegetables.—For the special prizes offered by Messrs. Sutton & Sons for a collection of Vegetables, some remarkably fine examples were staged; Mr. Pope, Highclere Castle, was 1st, with a uniformly good exhibit, of which we will mention Cauliflowers, solid, large and snowy-white; Carrots, clean and shapely; Reading Russet Potatos very handsome; hugo "Globe" and Crimson Globe Onions; Cabbage, Blood-red. Mr. Bowerman was a very close 2nd—his Onions were very fine.

For the special prizes offered for Vegetables by Messrs. Webb & Sons, the 1st prize was taken by Mr. Lye, gr. to Mrs. Kingsmill, Sydmonton Court, Newbury; Onions, Carrots, and Cauliflowers were the best.

Honorary Exhibits included Dahlias from Messrs. J. Cheal & Sons, and Messrs. Jas. Veitch & Sons, Chelsea, who had also a very good collection of hardy flowers and some Figs in pots, also other fruit, including a collection of Plums. Mrs. Phippen, Reading, exhibited various Floral Designs.

BATH FLORAL FETE.

August 26, 27. One of the best autumn shows ever held under the auspices of the Fête Committee took place in the Sydney Gardens on the above date. The day was showery, with occasional thunderstorms.

Fuchsias.—These have been such a leading feature at Bath or many years past, that it is not to be wondered at they are in the forefront of the schedule. But a sad falling-off was perceptible. Mr. G. Tucker, gr. to W. P. Clark, Esq., Trowbridge, who took the leading prizes at the recent Trowbridge show, was again to the fore here with nine plants, having good examples, much better than is usually seen at shows out of the West of England; Mr. G. Scott, gr. to Mrs. Connsell, Bath, was 2nd.

Mr. J. H. Wilcox, Bath, had the best six, staging nicely-grown and bloomed plants.

Mr. W. Haskell, Bath, was the only exhibitor of four specimens. The best specimen light-flowered Fuchsia was Arabella, from Mr. G. Tucker, a very fine plant. The best dark-flowered plant was Charming, also from Mr. G. Tucker.

Plants.—One very fine feature was the class for twelve ornamental foliage plants, and six specimen stove and greenhouse plants in flower. Mr. J. Cypher, nurseryman, Cheltenham, was 1st, with a very fine lot indeed, having grand examples of Phœnix rupicola, Kentias Fosteriana, Belmoreana, and australis; Thrinax elegans, Latania borbonica, Crotons mortfontensis, Warreni, Johannis, and Thompsoni. Statice Gilberti, Bougainvillea Sanderiana, Begonia Phœnocoma prolifera Barnesi, Ixora Regina, and Allamanda nobilis; 2nd, Messrs. E. S. Cole & Co., nurserymen, Bath, who had some fine Palms and other good specimens. Messrs. E. S. Cole & Sons were 1st with eight ornamental foliaged plants, having good specimens of Latania borbonica, Kentias Fosteriana and australis, Cycas revoluta, and Crotons; Mr G. Hallett, was 2nd.

Groups of plants arranged for effect were better than we have before seen them here, Mr. J. Cypher having one of his usual charming arrangements, in which Palms and brilliantly-coloured Crotons were used, with a judicious admixture of flowering plants; Mr. Tanser, gr. to Mr. R. B. Cater, Bath, was 2nd.

With ten stove and greenhouse plants in flower, Mr. J. Cypher was again 1st.

The best specimen stove plant in flower was Ixora Fraseri, from Mr. G. Tucker; Mr J. Cypher was 2nd with Dipladenia hybrida.

Mr. J. Cypher had the best specimen greenhouse plant, staging Statice intermedia, a cross between S. profusa and S. Holfordi.

Ericas were shown only by Mr. J. Cypher, who had six good specimens in several varieties. The best specimen was E. Marnockiana.

Exotic Ferns were shown by Mr G. Tucker, who had excellent specimens of Gymnogramma argyrophylla, G. sulphurea, Cheilanthes farinosa, C. elegans, Adiantum concinnum latum, A. cuneatum, Gleichenia rupestris, and others; Messrs. E. S. Cole & Co. were 2nd, staging some good Adiantums.

Mr. T. Truckle, gr. to T. Carr, Esq., Twerton, Bath, was 1st with six specimens. The best specimen Fern was Adiantum Williamsii from Mr. G. Tucker.

Zonal Pelargoniums were of good quality, Mr. G. Tucker winning with some excellent specimens; Mr. W. J. Mould, Bath, was 2nd. Some specimens of Ivy-leaved varieties were also shown. The best three Lilies were L. speciosum from Mr. T. Carr. Cockscombs were in excellent character; also Petunias, double and single-flowered tuberous Begonias; Gloxinias, &c. Some good bushes of Coleus were also staged.

Cut Flowers.—There were two collections of thirty six spikes of Gladioli, one greatly superior to the other, but the names of the exhibitors were not given at a late hour of the afternoon. The best collection of twelve spikes came from Mr. A. A. Walters, nurseryman, Bath, the spikes being remarkably good.

With twenty-four Dahlias, Mr. Wm. Treseder, nurseryman, Cardiff, was 1st, having some very good blooms; and Mr. Geo. Humphries, nurseryman, Chippenham, was 2nd. With twelve blooms, Mr. T. Lindsay, Frome, was 1st. Mr. G. Humphries had the best nine fancies; and the best twelve bunches of singles came from Mr. J. Burgess, Kingswood, an excellent collection of fresh and bright flowers.

With twenty-four bunches of Roses, Mr. S. Treseder was 1st, staging some nice fresh, bright blooms, the Teas being particularly good. Mr J. Mattock, nurseryman, Oxford, was 2nd, with blooms a little larger, but which were scarcely so clean and bright.

With twelve blooms Dr. Budd was 1st, with a fresh and bright lot. The best box of twelve Tea Scented varieties came from Mr. S Treseder, and among them a white variety tinted with lemon, named Mrs. Stephen Treseder. Mr. J. Mattock was 2nd.

Cut Zonal Pelargoniums were of capital quality, and seeing that six trusses each of twenty-four varieties were required it was a somewhat heavy task to produce them. Mr. G. Humphries was 1st with some very fine varieties; and Mr. W. J. Mould, Bath, 2nd. Quilled German Asters, and also the flat petalled type, were very fine, the season being considered. Mr. O. C. H. Vickery had the best twenty-four quilled; and Mr. A. A. Walters was 2nd. J. Hinton, Esq., Batheaston, had the best twenty-four French Asters. Phloxes had suffered from the weather; and Hollyhocks were only of medium quality. Stove and greenhouse cut flowers were very good in bunches of twelve.

Flowers of hardy, herbaceous and other perennial plants, in twenty-four bunches, were very striking, Mr. A. A. Walters taking the 1st prize.

Hardy Annuals, in 24 bunches, were also a fine feature, and Mr. F. Hooper, Bath, was 1st.

Table Decorations were represented by but one arrangement, a charming one of flowers and fruit furnished by Messrs. E. S. Cole & Co. Mr J. Cypher had the best Epergne, set up in his usual good style.

Some very pretty bouquets were staged, and in the class for an arrangement of one kind of flower in a single vase or bowl, Messrs. Cooling & Sons, Bath, used Salpiglossis, with Selaginella and Grasses, a happy combination and one that was much admired.

Fruit.—Apples and Pears were very fine, and the dessert varieties brilliant in tint. The best 12 dishes came from Mr. G. Pymm, gr. to Mrs. Gouldsmith, Trowbridge, who had fine bunches of Black Hamburgh Grapes, weak in colour; good White Muscats; Exquisite and Prince of Wales Peaches, Pine-Apple and Humboldt Nectarines; White Ischia Figs, Bon Chretien Pears, Plums, &c.; 2nd, Mr. Thomas Jones, Bath.

Mr W. Taylor, gr. to J. Chaffin, Esq., Bath, had the best eight bunches of Grapes, staging two each of Madresfield Court, Alicante, Muscat of Alexandria, and Gros Maroc. Mr. W. Taylor, gr. to C. Bayer, Esq., London, was a very close 2nd. Mr. Bayer was 1st with two bunches of Black Hamburgh, very fine and well finished; Messrs Marriott, Bath, was 2nd, medium berries, but well finished.

Mr. W. Carpenter, gr. to A. R. Bailey, Esq., Frome, was 1st with two fine bunches of Muscat of Alexandria; Mr. C. Bayer had the best two bunches of any other white, staging very fine Buckland Sweetwater. Mr. Bayer also had the best two bunches of any other black, staging superb Madresfield Court. Melons, Peaches, Nectarines, Plums, Figs, Cherries, Nuts and Filberts were in goodly numbers, and the quality was generally high. The best three dishes of Pears came from Mr. G. Manning, Batheaston, who had in fine character Souvenir du Congrès, Doyenné Boussouch and Beurré d'Amanlis. The best three dishes of Dessert Apples were examples of Lady Sudeley, Duchess of Oldenburgh, and Worcester Pearmain.

Vegetables were numerous and good. The best twelve dishes came from Mr. Wilkins, gr. to Lady T. Guest, Henstridge; and Mr. Geo. Garraway was 2nd.

Mr. Wilkins took the 1st of the Special Prizes offered by Messrs. Jas. Carter & Co. for six dishes; and in the case of the Special Prizes offered by Messrs. Sutton & Sons and Messrs. E. Webb & Sons, both for six varieties, Messrs. Wilkins and Hall were severally 1st and 2nd.

Honorary Exhibits.—Messrs. G. Cooling & Son had a grand group of plants and cut flowers, and a collection of seventy-two varieties of Apples, Pears, and Plums. Mr. Geo. Garaway also had an extensive collection of the same, and a so cut flowers. Messrs. Rich & Ruddock, seedsmen, Bath, had an imposing bank of cut blooms. Mr. G. Humphries had a select collection of Cactus Dahlias, very fresh and nice; Mr. J. Mattock had charming bunches of Garden Roses; and Mr. Isaac Housl, Westbury-on-Tryn, some very good fancy Pansies.

VEGETABLES.

VEITCH'S MAIN CROP PEA.

I can fully endorse all that "J. E." said in last week's *Gardeners' Chronicle*, p. 215, on the above variety of culinary Pea. Here, on rather light soil, it resists drought and mildew well; and from April 18 to August 18 our rainfall amounted to only 3·35 inches, no other part of the country having suffered more from heat and drought this year than western England; yet Main Crop gave much satisfaction. I know of many good gardens around us where eight to ten rows of 30 to 40 feet long, sown with mid-season Peas, were destroyed without furnishing a single dish. We were fortunate in possessing a few rows of Main Crop, and wished that we had had more. Ne Plus Ultra and Autocrat are varieties which look well, and the latter is a grand Pea late in the season. Chelsonian also looks very promising, and I expect good results from it in about two months from the present date. *Thos. Shingles, Tortworth.*

MARKETS.

COVENT GARDEN, AUGUST 27.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arums, p. 12 blooms	2 0	4 0	Marguerites, per 12 bunches	1 0	2 0
Asters, English, doz. bunches ...	3 0	6 0	Orchids:—		
Bouvardias, per bn.	0 4	0 6	Cattleya, 12 blms.	6 0	12 0
Carnations, 12 bun.	4 0	6 0	Odontoglossum crispum, 12 bm.	2 0	6 0
— 12 blooms ...	0 6	2 0	Pelargoniums, scarlet, per 12 bun.	2 0	4 0
Chrysanthemums, doz. bun.	4 0	6 0	— per 12 sprays...	4 0	6 0
— doz. blooms	0 6	1 6	Pyrethrums, 12 bn.	2 0	4 0
Eucharis, per dozen	1 6	2 6	Roses, Tea, per doz.	0 9	1 6
Forget-me-nots, p. doz. bunches ...	1 6	3 0	— coloured, doz.	0 9	1 6
Gardenias, per doz.	1 0	3 0	— yellow (Maréchal), per doz.	2 0	4 0
Gladiolus, coloured, per doz. sprays ...	1 0	1 6	— red, per dozen	0 6	1 0
Lavender, doz. bun.	6 0	9 0	— red, doz. bun.	4 0	6 0
Lilium Harrisi, per doz. blooms ...	2 0	5 0	— Gloire, doz. bn.	4 0	6 0
— lancifolium, doz. blooms ...	0 9	2 0	— Safrano, p. doz.	1 0	2 0
Maidenhair Fern, per 12 bunches ...	4 0	8 0	Stephanotis, 12 sps.	1 6	2 0
Mignonette, p. doz.	2 0	4 0	Stocks, p. doz. bun	2 0	4 0
			Sweet Peas, 12 bun.	1 6	3 0
			Tuberoses, 12 blms.	0 2	0 4

ORCHID-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Adiantum, per doz.	4 0	12 0	Ferns, various, doz.	5 0	12 0
Aspidistra, per doz.	12 0	30 0	Ficus elastica, each	1 0	7 6
— specimen, each	5 0	15 0	Foliage plants, doz.	12 0	36 0
Asters, doz. pots ...	3 0	5 0	Heliotrope, per doz.	4 0	6 0
Campanula, p. doz.	4 0	9 0	Lilium Lancefolium, p. doz. pots	9 0	15 0
Chrysanthemum, do.	4 0	9 0	Marguerites, p. doz.	6 0	10 0
Cock's combs, doz.	3 0	4 0	Mignonette, p. doz.	4 0	6 0
Coleus, per doz. ...	2 0	4 0	Palms, various, ea.	2 0	10 0
Dracæna, each ...	1 0	7 6	— specimens, ea.	10 6	84 0
— various, p. doz.	12 0	24 0	Pelargoniums, doz.	6 0	9 0
Evergreen Shrubs, in variety, doz. ...	6 0	24 0	— Scarlets, p. doz.	2 0	4 0
Ferns, small, doz. ...	1 0	2 0			

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples, cooking, in variety, per sieve...	2 6	4 0	Grapes, Gros Maroc, per lb.	1 0	1 6
— dessert, in variety, per ½-sieve	2 6	4 0	Figs, per doz. ...	0 9	1 0
Grapes, Alicante, 1st quality, per lb.	1 0	1 6	Melons, each ...	0 6	1 0
— Alicante, 2nd quality, per lb.	0 9	1 0	Nectarines, 1st size per doz. ...	3 0	4 0
— Hamburgh, 1st quality, per lb.	1 0	1 6	— 2nd do., p. doz.	1 6	2 0
— Hamburgh, 2nd quality, per lb.	0 6	0 9	Nuts, Cob, per 100 lb.	25 0	
— Gros Colmar, per lb.	1 0	1 6	Peaches, 1st size, per doz. ..	3 0	6 0
— Muscats, English per lb. ...	1 6	1 9	— 2nd do.. doz.	1 6	2 0
— Muscat, Channel Islands, per lb.	1 0		— 3rd do., doz.	0 9	1 0
			Pears, Williams, p. half-sieve ...	2 6	3 0
			Pine-apples, St. Michael, each ...	5 0	6 0
			Plums, in variety, per ½ sieve ...	2 0	3 0
			— Green Gage, p. ½-sieve ...	4 0	6 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Beans, Scarlet Runner, p. sieve ...	2 0		Mushrooms, (Indoor) per lb.	0 6	
Cucumbers, home-grown, per dz.	1 0	2 0	— (Outdoor), per half-sieve ...	2 0	2 6
— Ridge, per pad (about 10 doz.)	5 0		Peas, per sieve ...	5 0	6 0
— Dutch, per doz.	1 0		Tomatos, home-grown, smooth, per doz lb. ..	2 6	3 0
Marrows, Vegetable, per 5 doz. tally ...	4 0		— ord. kinds, do.	2 0	

POTATOS.

Trade generally slow, large quantities of all kinds in stock. Prices rule lower. Best samples, 65*s.* to 70*s.*; Ordinary, 40*s.* to 50*s.* per ton. *J. B. Thomas.*

SEEDS.

LONDON: *August* 26.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write, that although to-day's market was thinly attended, there comes from the country a good steady sowing demand for seeds required for present use, namely, Trifolium, Mustard, Rye-grass, Tares, Rye, &c.; values for all these show no substantial change. French Trifolium is in fair supply, but home-grown seems about used up. The new English white Mustard seeds show fine quality. Rape seed keeps firm. As regards the market for bird seeds, there is a marked undertone of increasing strength. Boiling Peas attract increased attention. Haricot Beans are undoubtedly firmer. Buckwheat is very steady.

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (−) the Mean for the week ending August 22.	Accumulated. Above 42° for the Week.	Below 42° for the Week.	Above 42°, difference from Mean since December 29, 1895.	Below 42°, difference from Mean since December 29, 1895.	Rainfall. More (+) or less (−) than Mean for the Week.	No. of Rainy Days since Dec. 29, 1895.	Total Fall since Jan. 1, 1896.	Percentage of possible Duration for the Week.	Percentage of possible Duration since Dec. 29, 1895.	Bright Sun.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.			
0	1 −	81	0	+ 241	− 318	2 −	156	32·6	20	24	
1	1 −	89	0	+ 230	− 241	5 −	123	14·8	32	31	
2	2 −	97	0	+ 275	− 222	3 −	103	10·9	28	31	
3	2 −	109	0	+ 224	− 229	1 +	104	11·7	37	37	
4	2 −	103	0	+ 263	− 247	1 −	97	11·1	32	34	
5	2 −	119	0	+ 301	− 240	1 −	89	10·1	47	39	
6	1 −	95	0	+ 268	− 228	3 −	131	25·6	33	33	
7	1 −	109	0	+ 361	− 258	1 −	115	17·6	33	35	
8	2 −	111	0	+ 396	− 206	4 −	95	13·0	43	43	
9	1 −	97	0	+ 290	− 238	0 aver	135	22·6	19	29	
10	1 −	109	0	+ 386	− 210	0 aver	112	18·4	18	34	
*	1 −	130	0	+ 501	− 109	2 −	105	10·5	48	49	

The districts indicated by number in the first column are the following:—

0, Scotland. N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

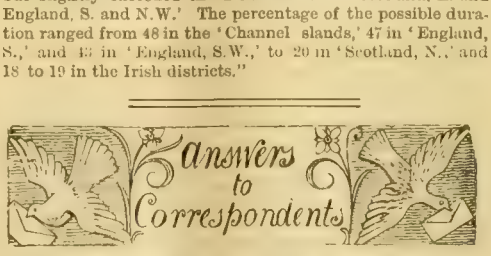
THE following summary record of the weather throughout the British Islands for the week ending August 22, is furnished from the Meteorological Office:—

"The *weather* during this period was somewhat dull, rainy and unsettled in all the western and north-western districts, and these conditions extended gradually to almost all parts of the Kingdom as the week progressed. The rain was not generally heavy, but some rather large amounts were recorded at some of the north-western stations.

"The *temperature* was below the mean in all districts, the deficit varying from 1° to 2°. The highest of the maxima were registered on rather irregular dates, and ranged from 75° in 'England, S.,' to 68° in 'England, N.E.,' and to 65° in 'Scotland, N.' The lowest of the minima, which occurred, as a rule, on the 17th, ranged from 36° in 'Scotland, E.,' 37° in 'Scotland, N.,' and 38° in 'England, S.W.,' to 45° in 'England, N.W. and Ireland, N.,' and to 53° in the 'Channel Islands.'

"The *rainfall* was a little more than the mean in 'England, E.,' and just equal to it in both the districts of Ireland, elsewhere there was again a deficit.

"The *bright sunshine* was deficient in nearly all districts, but slightly exceeded the mean value in 'Scotland, E. and England, S. and N.W.' The percentage of the possible duration ranged from 48 in the 'Channel Islands,' 47 in 'England, S.,' and 43 in 'England, S.W.,' to 20 in 'Scotland, N.,' and 18 to 19 in the Irish districts."



A NARROW BORDER FACING S.W., WITH HEDGE OF PRIVET AT THE BACK: *W. T.* Of bulbs, you might plant Gladiolus, Tritonias, Ixias, Triteleia uniflora, Montbretia crocosmiflora, Crinum Powelli, Narcissus in variety, late and early varieties of Tulipa, Iris xiphion, I. iberica, I. biflora, I. versicolor, I. Histrio, and hardy Lilies of all species. Kniphofias of small stature might find a place in the back rows, as also Bamboos, Eulalias, Clematis Jackmanni and others grown on stout poles, and Canna indica in the newer varieties. Intermixed you might plant Hemerocallis in variety, Iberis gibraltarica, Violas, Pansies, Violets, Polemonium coeruleum, Helenium autumnale and others, Saxifragas, Campanulas, Pyrethrum roseum in variety, Funckias, Carnations, and Pinks. As bushes, to impart variety, plant Olearia Haasti, Hypericum Androsæmum, H. elatum, H. hircinum, Berberis Fortunei, B. dulcis, B. stenophylla, Indigofera Gerardiana, Deutzia scabra in variety, D. gracilis, Acer palmatum (polymorphum), Philadelphus microphyllus, Daphne Mezereum, and Hydrangea hortensis.

BOOKS: *R. O. Tomato Culture for Amateurs*, by B. C. Ravenscroft, Illustrated (L. Upcott Gill, 171, Strand, W.C.).—*Daphne. Chrysanthemums and their Culture*, by Ed. Molyneux, published at 171, Fleet Street, E.C.—*The Book of the Rose*, by the Rev. Foster-Melliar, M.A. (Macmillan & Co., London).

CANTERBURY BELLS: *A. F.* These should be sown for standing the winter in the middle and end of July. It is now rather late to sow, although the plants will survive the winter, and flower late in the summer. It is always safe, in view of very severe frosts, to keep a good proportion of the pricked-out plants in deep boxes in cold frames, where some further kind of protection may be afforded when necessary. There must, however, be no coddling of those which are expected to bloom out-of-doors.

COLEUS: *T. R. W.* The variety is a good one of the large-leaved section, but we have seen others very similar. So many seedling Coleus have been raised, that it is rare a new one is of much value. Still, for your own purposes it may be desirable to perpetuate it.

CORRECTION.—Shrewsbury show, *re* Carnation exhibits, for Mr. Forbes, Warwick, read Mr. J. Forbes, Hawick.

EARLIEST RHUBARBS: *A. F.* Mitchell's Royal Albert and Hawke's Champagne.

EARWIGS AND DAHLIAS: *A. F.* Having exhausted the ordinary methods, you might try prevention. There is sold a sort of zinc trough for holding water and placing round the stem of the Dahlia at a few inches distant from it that is said to have the advantage of preventing the ascent of the insect, and these troughs are sufficiently elastic to be opened wide enough to admit the stem.

GREEN PEAS to BOTTLE: *Enquirer.* Shell the Peas put them into dry, wide-mouthed bottles, and shake them together, so that they may lie in as little space as possible. Cork the bottles closely, and seal the corks. Bury the bottles in the driest part of the garden, and take them up as they are wanted. They will keep good five or six months. Another way to bottle green Peas:—Choose Peas which are large and fully grown, though not old. Put them into perfectly dry, wide-mouthed bottles, shake them down, cork securely, and cover the corks with bladder. Tie a wisp of hay round the lower part of the bottles to prevent their knocking against each other in the pan. Put them side by side in a large saucepan, and pour into it as much cold-water as will reach to their necks. Put the saucepan on the fire, and let it remain for two hours after the water has reached the boiling-point, then take it off, but do not remove the bottles until the water is cold. Seal the corks, and store in a dry place.

INSECT: *Armitage Brothers.* The grub found in the soil in which the Primulas are grown, is the larvæ of one of the common weevils, which, either as grubs or perfect insects, sometimes commit great havoc amongst potted and other plants. You must search for the former in the soil before using it, or obtain soil from a source free from them. Some pasture loams abound with weevil grubs in some years. The weevils themselves should be sought for at night by the aid of a lantern, having previously spread sheets of white paper, &c., under the plants attacked.

"KNOWLEDGE": *Enquirer.* This journal is published at 326, High Holborn.

MELON, DISEASED: *A. R.* See p. 248.

MUSCAT OF ALEXANDRIA GRAPES: *W. G.* The berries sent are suffering from an attack of the "spot" fungus, Glæosporium læticolor, and there being no known means of destroying this without at the same time destroying the fruit, it is prudent to reduce the chances of further infection by burning every affected berry.

NAMES OF FRUITS: *Scottish Gardener. Pears:* 1, Glout Morceau; 2, Beurré Clairgeau. *Apples:* 3,

Dumelow's Seedling; 4, Pott's Seedling; 5, Hawthornden.—*J. K. B.* 1, Lane's Prince Albert; 2, Lord Suffield; 4, Dutch Mignonne; 5, Emperor Alexander; 6, Irish Peach.

Names of Plants: *Correspondents not answered in this issue are requested to be so good as to consult the following number.* — *W. P., Epping.* Bupleurum fruticosum, planted, not wild.—*Wm. W., North Britain.* Cattleya Leopoldii pernambucensis, with which C. Victoria Reginæ was imported.—*W. P.* 1, Selaginella Mertensii variegata; 2, Selaginella Mertensii; 3, Selaginella denticulata of gardens; 4, Selaginella cæsia; 5, Adiantum capillus veneris; 6, Adiantum hispidulum. — *J. H., Chester.* 1, Gazania variegata; 2, Dracæna Goldieana; 3, Calamus ciliaris (Palm); 4, Schismatoglottis picturata; 5, Gazania splendens.—*W. T. T.* 6, Lysimachia vulgaris; 5, Galeopsis Tetrahit; 4, G. ochroleuca; 3, Æthusa Cynapium; 2, Sison Amomum; 1, Angelica sylvestris. Oh, that everyone would send good specimens carefully packed, as you do!—*J. W. M.* 1, Rhus Cotinus; 2, Galega officinalis alba; 3, Cupressus pisifera filicoides (Retinospora); 4, Cupressus Lawsoniana variegata; 5, Cupressus pisifera var. plumosa (Retinospora); 6, Cupressus Lawsoniana; 7, Cupressus Lawsoniana var. erecta-viridis.—*E. F. W.* Escallonia floribunda.—*Ash.* 1, Geum Chiloense; 2, Lysimachia clethroides; 3, Hemerocallis fulva; 4, Helenium autumnale; 5, Hieracium aurantiacum; 6, Veronica subsessilis.—*John.* Lantana salviæfolia.—*A. F.* Poa annua.—*O. B.* 1, Cupressus nutkaensis; 2, Cupressus Lawsoniana; 3, send when in flower or fruit; 4, Taxodium sempervirens; 5, Picea ajanensis; 6, Athrotaxis cupressoides.—*W. O.* The Cattleya is Cattleya Leopoldi. The Dendrobium Ainsworthi seems to have been prematurely dried off; its young growths seem to have collapsed for want of nourishment.—*C. B.* The plant is Thunbergia laurifolia syn. Harrisii. We will forward the sum sent to the Gardeners' Orphan Fund.—*W. B.* Your Vanda cœrulea is a very fine variety. As regards the veining, it appears more prominently some years than it does others, even in the same plant. — *Fr. de Laet, Comtich.* Gentiana pneumonanthe.—*E. J.* 1, Solanum capsicastrum; 2, Maurandya Barclayana.—*J. F., Pontardane.* 1, Dactylis glomerata variegata; 2, Anemone japonica var. Honorine Jobert; 3, Rhus typhina; 4, Bignonia jasminoides.

Narcissus Diseased: *R. O.* The bulbs are affected by the Narcissus-fly, Merodon Narcissi, an insect which is fully described, together with several allied species in *Gardeners' Chronicle*, 1842, pp. 103 and 104. We should recommend an entire change of ground, and careful examination of the bulbs before planting, and all in which holes at the sides are found should be burnt forthwith. Such bulbs contain the maggot which eats its way out at the base of the bulb, enters the soil, and changes into a pupa. April is the month when most of the flies hatch.

Seakale: *A. F.* "Sets" may be planted from the beginning of March to the middle of April. Seed is best sown in boxes after soaking it for a few hours in water, and grown cool for a time, and then pricked out before finally planting out.

Spinach: *A. F.* The Longstander or Giant Viroflay Spinach to stand the winter should be sown at the end of July and during the present month.

Spring Gardening: *Amateur.* Plant the circular beds with bulbs. As there are three, one might contain Tulips, and the others Hyacinths, or *vice versâ*. The beds might be edged with dwarfer-growing bulbs, or by some early-flowering plant, such as Myosotis dissitiflora, or white Arabis. The scroll-beds could be planted with double and single-flowered Wallflowers, with a band of Silene pendula, edged with white Arabis. They are so small that much variety in them would not be advisable.

Winter Cauliflowers: *A. F.* Early Erfurt, Early London, and Lenormand's Short Stalked. The first-named may be forced or not, and if forced, the seed should be sown in the middle of the month of January in heat. Stadtholder forms a good succession to Early London.

Communications Received.—N. M. B.—W. V.—H. W.—T. W. R.—Paddy, from Cork.—A. B.—J. P.—C. K.—J. K. T. B., Elmet—H. C. T. F. Wicks, next week.—J. T. T.—J. Cowan—H. W. W.—W. Kelly.—H. H. D.—D. T. F.—J. O'B.—R. L. H.—W. W. T. B.—J. B.—J. A.—H. M.—J. McIntyre.—Dr. F. K.—D. R. W.—R. D.—J. H.—A. P.—E. C.—T. S.

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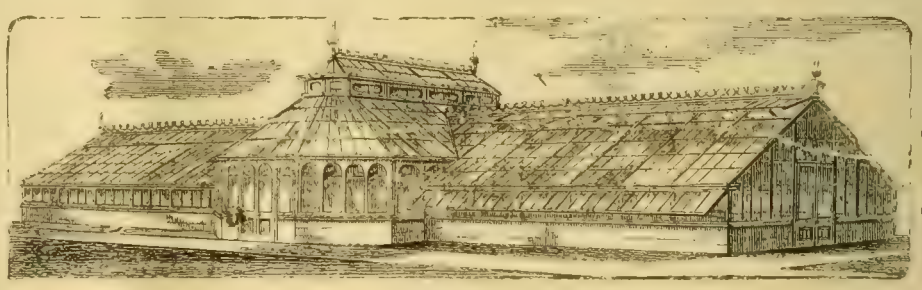
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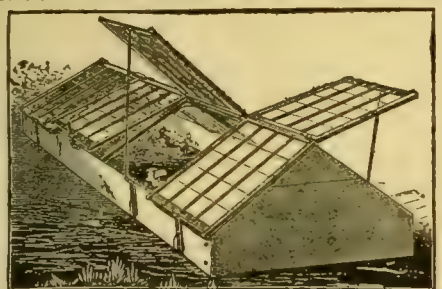
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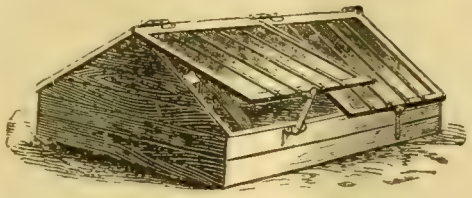
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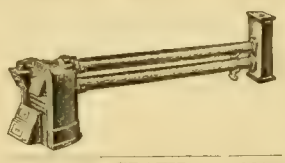
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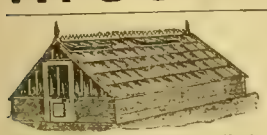
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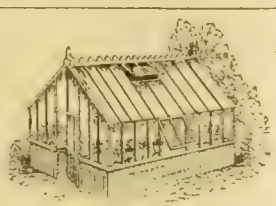
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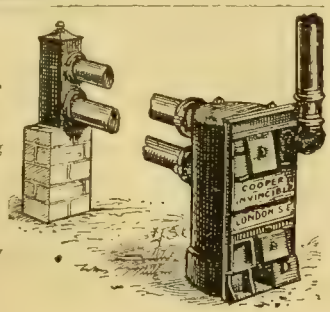
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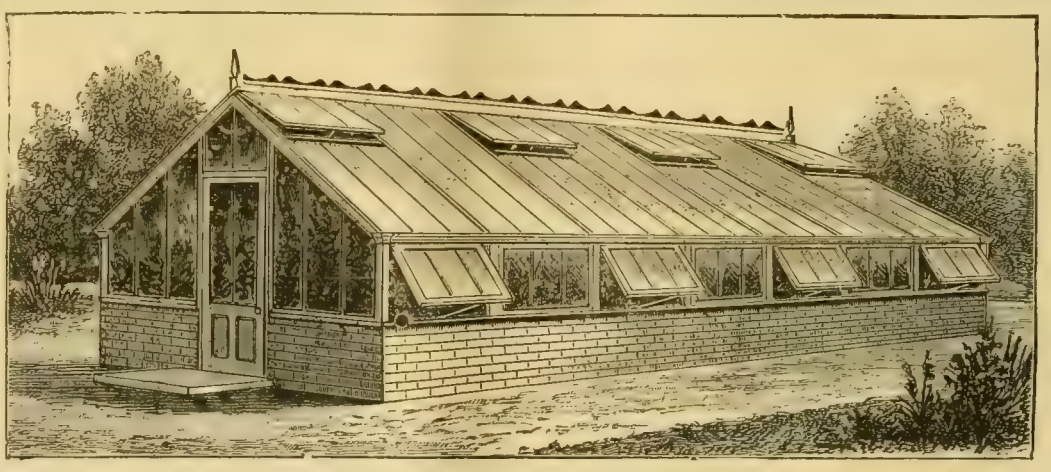
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Editorial communications should be addressed to the "Editor;" Advertisements and Business Letters to "The Publisher," at the Office, 41, Wellington Street, Covent Garden, London, W.C.
Printed for the Proprietors by Messrs. BRADBURY, AGNEW, & Co. (Limited), Lombard Street, Precinct of Whitefriars, City of London, in the County of Middlesex, and published by HARRY GILLARD COVE, at the Office, 41, Wellington Street, Parish of St. Paul's, Covent Garden, in the said County.—SATURDAY, August 29, 1896. Agent for Manchester—JOHN HEYWOOD.

The Gardeners' Chronicle

ESTABLISHED 1841.

No. 2906.

No. 506.—Vol. XX. { Third Series. } SATURDAY, SEPTEMBER 5, 1896.

[Regt. as a Newspaper. { PRICE 3d. POST-FREE, 3½d.

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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

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1000 Grevillea robusta	500 Poinsettias
400 Ficus elasticus	500 Ivy-leaves, new varieties.

Large quantities of Passifloras, Ampelopsis Veitchii, Taxonias, Stephanotis, Allamandas, Bougainvilleas, Asparagus, Pandanus Veitchii, Crotons, Aralias, Carex, Eulalis japonica, Carnations, Primula verticillata, Genista elegans, New Chrysanthemums, &c.; also small Heaths, Genistas, and Aralias, in No. 60 pots, for growing on.

Helenium superbum, and Violet Princess of Wales, and others.

May be viewed any day prior to Sale. Catalogues may be had on the Premises; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

N.B.—The whole of the Stock is in first-rate condition. The Ericas and Solanums are unquestionably the finest lot offered at this Nursery for many years; the former being very well set or flower, and the Solanums large and well-berried.

Sidcup, Kent, S.E.

About ten minutes' walk from the new Eltham (late Pope Street) Station, S. E. Railway.

FIFTEENTH GREAT ANNUAL TRADE SALE OF WINTER-BLOOMING HEATHS.

Particularly well grown, and beautifully set with flower. Also, ROSES and other Stock, forming together one of the largest and best collections of plants ever offered by Auction.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the premises, The Longlands Nursery, Sidcup, S.E., about 10 minutes' walk from the new Eltham (late Pope Street Station), S.E.R., on WEDNESDAY NEXT, September 9, and also on FRIDAY, September 18, at 11 o'Clock each day, owing to the large number of lots, by order of Messrs. Gregory & Evans, an enormous quantity of unusually well-grown plants, comprising nearly

60,000 WINTER and SPRING-FLOWERING HEATHS,

in the best possible condition, particularly well set with flower-buds, and unsurpassed in the Trade, including:—

8,000 Erica hyemalis	8,000 Erica gracilis
2,000 ,, ,, alba	2,000 ,, Wilmoreana
2,000 ,, Cavendishii	1,000 ,, coccinea minor
2,000 ,, magnifica	

An unusually grand lot of

10,000 CLIMBING ROSES,

in 24, 32, and 48-pots, exceptionally well grown, and no doubt the finest ever offered at this Nursery;

5,000 BOUVARDIAS, best varieties; 5,000 SOLANUMS FICUS, Double PRIMULAS, ARALIA SIEBOLDI,

25,000 FERNS,

in 32, 48, and 60-pots, all well-furnished plants, and best leading varieties, and other Stock.

May now be viewed. Catalogues had on the Premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, E.C.

N.B.—The stock of plants this season will be found well up to their usual standard, special attention being invited to the Heaths, Roses, and Ferns, which are undoubtedly the best ever offered at this Nursery.

South Woodford.

Near George Lane Station, G.E. Railway.

UNRESERVED ANNUAL SALE.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, The Nurseries, South Woodford, Essex, on WEDNESDAY, September 16, at 10 for 11 o'Clock precisely, by order of Mr. John Fraser (without reserve), in consequence of the number of lots—

MANY THOUSANDS OF

WINTER-FLOWERING & other PLANTS

including:—

15,000 Erica hyemalis	200 Maréchal Niel Roses, 10 to 12 feet
2,000 Erica caffra	1,000 Tea-scented Roses, in pots
1,000 Tree Carnations	1,000 Climbing Roses, in pots, including Crimson Rambler
4,000 Erica gracilis	1,000 Deutzia gracilis, established in pots for earliest forcing
5,000 Genista fragrans	10,000 Bouvardias, including all the best sorts for cutting
10,000 Ampelopsis Veitchii, 4 to 5 feet	5,000 Solanums, beautifully berried
2,000 Lapageria rosea superba	1,000 Ceanothus in variety
6,000 Cyclamen persicum (Fraser's superb strain)	
2,000 Passiflora, Constance Elliott and coerulea	
6,000 Variegated and other Ivies	
5,000 Clematis Jackmanii and other best named sorts	

Together with considerable quantities of ARAUCARIA EXCELSA, MAGNOLIA GRANDIFLORA, LONICERAS of sorts, Scarlet TRUMPET HONEYSUCKLES, Hardy FUCHSIAS, White JASMINES of sorts; also, a large number of small ERICAS, for growing on; and several lots of fine strong-flowering Bulbs of NARCISSUS HORSFIELDI, fine for cutting, together with a few lots of the beautiful RHODODENDRON ROSAMOND, well set; fine plants of R. PONTICUM, full of buds, and EUONYMUS fit for potting.

Also a few lots of HEMEROCALLIS AURANTIACA MAJOR, without doubt the best hardy plant recently introduced.

May be viewed any day prior to the Sale. Catalogues may be had on the Premises; and of the Auctioneers, 67 and 68, Cheapside, E.C., and Leytonstone, E.

N.B.—The plants offered in this Sale are of superior quality. They have been grown in New Greenhouses, in the pure air of Epping Forest, and cannot fail to give purchasers entire satisfaction.

EVERY DAY.

DUTCH BULBS.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., EVERY DAY, at 12 o'Clock each day, large consignments of NAMED HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other BULBS from Holland, received direct for Unreserved Sale, Lotted to suit the Trade and Private Buyers; together with white ROMAN HYACINTHS, paper-white NARCISSUS, SNOWDROPS, special TULIPS, &c.

On view morning of Sale, and Catalogues had.

Avenue Nursery, Bexley Heath, Kent,

Adjoining Bexley Heath Station, South-Eastern Railway.

SECOND ANNUAL TRADE SALE of beautifully-grown GREENHOUSE and other PLANTS, by order of Messrs. P. H. & J. Cooper.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, as above, on FRIDAY NEXT, September 11, at 12 o'Clock precisely, without reserve—

10,000 ROSES,

including

2,000 Gloire de Dijon	600 Catherine Mermet
1 000 Niphetos	500 Perle des Jardins
500 Turner's Crimson Rambler	450 W. A. Richardson
200 climbing Perle des Jardins	500 Maréchal Niel
250 Souvenir d'Un Ami	500 The Bride

mostly in 32-pots, some in 24-pots; also climbing Devoniensis, L'Idéal, Sunset, and many other well-known and favourite varieties.

2,500 TREE and OTHER CARNATIONS,

consisting of Mrs Moore, Germania, Annie Douglas, Dorothy, Alice Ayres, Mrs. Reynolds Hole, Uriah Pike, Malmaison, &c.

1,100 Clematis, leading sorts	2,500 Pinks, Her Majesty
2,500 Solanums, fine plants, well berried	2,000 Erica Wilmoreana, in 48-pots
500 Asparagus plumosus nanus, in 48-pots	500 Erica hyemalis, in 48-pots
250 Asparagus tenuissimus, in 32-pots	1,200 Erica hyemalis, in 60-pots
20,000 Ferns, in 60-pots	3,000 Erica Wilmoreana, in 60 pots
2,000 Genistas, in 48 pots	

Also Ficus elastica, Ficus elastica variegata, Crotons, and other plants.

May be viewed any day prior to the Sale. Catalogues may be had on the Premises; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Dyson's Lane Nurseries, Upper Edmonton.

ELEVENTH GREAT ANNUAL UNRESERVED TRADE SALE of POT PLANTS.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. H. B. May to SELL by AUCTION, on the Premises, Dyson's Lane Nurseries, Upper Edmonton, on MONDAY, September 14, at 11 o'Clock punctually (there being upwards of 1600 lots), an unusually well-grown Stock, consisting of—

TEA ROSES IN POTS,

The grandest lot ever offered, including extra strong well-ripened plants of M. Niel, W. A. Richardson, Climbing Niphetos, Climbing Perle des Jardins, Crimson Rambler (extra fine stock of this new pillar Rose, and other sorts for forcing).

FERNS, many thousands in various sizes.

TREE CARNATIONS,

including choice new varieties, Primrose Day, W. Robinson, H. Gibbons, Uriah Pike, Winter Cheer, Miss Joliffe Improved, and other best winter-flowering sorts; also large quantities of Germania, Gloire de Nancy, &c.

BOUVARDIAS, large quantities of all the best sorts ERICA HYEMALIS, very fine stuff. FICUS ELASTICA VARIEGATA. CROTONS, a splendid lot of beautifully-coloured plants. VINES and strong Canes of Muscat of Alexandria and Gros Colmar. STRAWBERRY plants, Stevens' Wonder and Royal Sovereign, in pots. PALMS, consisting of fine specimens of Kentias, Arecas, Cocos, Latanias, &c.; also great quantities of smaller plants. GENISTAS, unusually fine bushy stuff. SOLANUMS, bushy, and well berried. Cyclamen, Double Primulas, Gardenias, Poinsettias, Azaleas, Camellias, and other useful flowering plants. Hydrangeas, Lapagerias, Ampelopsis; and Passifloras, Clematis Jackmani, and other leading sorts.

IVIES, choice variegated sorts.

Aspidistras, Araucaria excelsa, Ficus elastica, Aralias, and a great variety of other useful flowering and foliage plants. Large quantities of small Genistas, &c., for growing on.

May be viewed any day prior to the Sale. Catalogues may be had on the Premises; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Lee, Kent, S.E.

GREAT ANNUAL TRADE SALE, to commence punctually at 11 o'clock, there being upwards of 1,600 lots to sell in the one day.

MESSRS. PROTHEROE AND MORRIS are instructed by Messrs. B. Maller and Sons, to sell by Auction on the premises, the Burnt Ash Road Nurseries, Lee, Kent, S.E., adjoining Lee Railway Station, S. E. Railway, on TUESDAY, September 15, at 11 o'clock precisely, without reserve, a remarkably well-grown stock of

WINTER-BLOOMING HEATHS

AND OTHER

STOVE and GREENHOUSE PLANTS

Consisting of:—

15,000 Erica hyemalis	4,000 Solanum capsicastrum, well berried
2,000 ,, gracilis	1,000 Adiantum cuneatum
1,000 ,, Cavendishii	1,400 Lomaria gibba
1,000 ,, vertricosa of sorts	600 Tea Roses (in pots)
700 ,, caffra	3,000 Bouvardias (of sorts)
All well set with bloom-buds.	1,000 Cocos Wedelliana
1,000 Ampelopsis Veitchii	1,000 Cyclamen persicum
1,500 Epacris (to name)	500 Crotons, beautifully coloured
1,000 Boronia megastigma and others	2,000 Tree Carnations
500 Grevillea robusta	500 Asparagus tenuissimus and plumosa nana
6,000 Genistas	

(*Continued on next page.*)

and a fine lot of Stephanotis floribunda, Gardenias, Myrtles, Abutilons, Dipladenias, Hydrangeas, with a large quantity of young Ericas, Hyemalis and other varieties, Genistas, and Aralia Sieboldi, all in 60-pots for growing on.

The stock may now be viewed. Catalogues may be had on the premises; at the Seed Warehouse, 61, High Street, Lewisham, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

N.B.—Intending purchasers are invited to inspect the stock, which is unusually well-grown. The Heaths are especially fine, all varieties being well set for bloom. The Genistas are all fine bushy plants, and the Tree Carnations are also particularly good.

Friday Next, September 11.

NEW HYBRID ORCHIDS of fine quality, from a Continental Grower, including

2 LÆLIO-CATTLEYA × VELUTINA ELEGANS, a grand flower, with large crimson labellum streaked with white.

3 LÆLIO-CATTLEYA × ANDREANA (C. bicolor × L.-C. elegans), a charming novelty, with glowing magenta-crimson lip, edged with white.

1 splendid plant of LÆLIO-CATTLEYA × SALLIERII, a large blush-white flower, with frilled light purple front to the lip.

3 LÆLIO-CATTLEYA × CORBEILLENSIS (C. Loddigesii × L. pumila marginata).—The plants are very vigorous and desirable in every respect.

Also 3 plants of the rare large white and purple AËRIDES CYLINDRICUM.

MESSRS. PROTHEROE AND MORRIS will include the above in their SALE on FRIDAY NEXT, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next, September 11.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, Sept. 11, at Half-past Twelve o'Clock—

BY ORDER OF MESSRS. F. SANDER & CO., ST. ALBANS.

VARIED SELECTIONS of IMPORTED ORCHIDS, including Lælia Dormaniana, Saccolabium giganteum, an Aërides species, a Vanda species, Cattleya velutina, and Aërides crassifolium.

A CATTLEYA SPECIES, from the neighbourhood of Rio. The Plants here offered are the unsold lots from our Sale of August 28. Our collector wrote so strongly of this type, they are so distinct-looking, and we believe such an altogether good variety, that we have decided to again offer these Plants, and without any reserve: Sophronitis grandiflora, Cymbidium Lowianum, Anguloa Clowesii, and Dendrobium infundibulum.

CYPRIPEDIUM NIVEUM.—The biflorum type from the Tambelan Islands. The finest of all, noted for the large size and satiny-whiteness of the flowers and the abundance with which they are produced. C. niveum is now very scarce and almost impossible to obtain; niveum hybrids are among the daintiest and most valuable of all.

DENDROBIUM NOBILE, LANG TANG VAR.—From the district which has yielded so many rare and valuable varieties, Amesiæ, Sanderæ, Sanderianum, Ballirianum, Rolfiæ, grandiflorum majus, &c., &c.

ODONTOGLOSSUM ALEXANDRÆ.—Distinct varied-looking plants of the very finest Pacho type.

The contents of a small case of MIXED ORCHIDS.

(*Continued on next column.*)

PHALÆNOPSIS VIOLACEA VAR. FROM BORNEO, in splendid order. Flowers rich amethyst-purple shading into yellow. Grows in any stove.

PHALÆNOPSIS ESMERALDA, fifteen to twenty-five blossoms varying in colour from brilliant amethyst to crimson and pink, borne on erect spikes; most floriferous, and invaluable for florists and decorative work.

CYPRIPEDIUM EXUL.—Extra strong leafy plants of this useful and attractive species.

DENDROBIUM THYRSIFLORUM, &c.

ANOTHER PROPERTY.—Cattleya Aclandiæ, Cypripedium Roezlii, Anguloa Ruckerii sanguinea, Odontoglossum crispum, yellow var., Ada aurantiaca, splendid specimen; Peristeria elata, fine specimen, &c. &c.

Also one fine plant in bud of VANDA SANDERIANA.

On view morning of Sale, and Catalogues had.

Friday, September 18.

DELVES HOUSE COLLECTION OF ORCHIDS.

MESSRS. PROTHEROE AND MORRIS have received instructions from Mrs. T. P. Watson, Delves House, Streatham, to SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY, September 18, at half past 12 o'clock, without reserve, the whole of the above collection of Orchids.

Fuller particulars will appear next week.

Fifty Nurseries, Market Gardens, Florist and Seed BUSINESSES to be DISPOSED OF.

MESSRS. PROTHEROE AND MORRIS' HORTICULTURAL REGISTER contains full particulars of the above, and can be obtained, gratis, at 67 and 68, Cheapside, London, E.C.

THE SELLY HILL COLLECTION of ORCHIDS.

MESSRS. CHARLESWORTH & CO.

Have great pleasure in announcing that they have purchased the entire COLLECTION of ORCHIDS formed by CHARLES WINN, Esq., The Uplands, Selly Hill, Birmingham.

Mr. WINN is one of the oldest Amateurs, having been forming his Collection for over thirty years, during which time he has brought together one of the choicest and most select lot of plants ever seen.

The Collection is up to date in Novelties, and is especially rich in

CATTLEYAS, LÆLIAS, CYPRIPEDIUMS, DENDROBIUMS, ODONTOGLOSSUMS, & MASDEVALLIAS, BOTH SPECIES & HYBRIDS.

MESSRS. CHARLESWORTH AND CO. are preparing a CATALOGUE of the PLANTS, and will shortly distribute the same to all their friends and patrons. Any one desiring a copy whose name is not on their books, will be supplied on application.

THE PLANTS WILL BE ON VIEW FROM SATURDAY, SEPTEMBER 12.

CHARLESWORTH & CO., Heaton, BRADFORD.

OCTOBER 19, 20, 21, 22, 23, & 24, 1896.

CHARLES NOBLE HAS DIRECTED Messrs. PROTHEROE & MORRIS

TO SELL, UNDER THE HAMMER, HIS LONG LIFE'S SELECTION OF

RHODODENDRONS, GHENT AZALEAS, AND OTHER NURSERY STOCK,

PRACTICALLY UNRIVALLED IN NUMBER AND QUALITY.

There are also about 10,000 *Standard Apples of approved kinds, and various Hardy Shrubs and Trees, too numerous to mention in an advertisement.*

BAGSHOT, AUGUST, 1896.

SALES BY AUCTION.

MONDAY, TUESDAY, WEDNESDAY, and THURSDAY NEXT.

DUTCH BULBS-DUTCH BULBS

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on MONDAY NEXT, and THREE FOLLOWING DAYS, September 7-10, at half-past 12 o'Clock precisely,

GRAND IMPORTATIONS of DUTCH BULBS,

just received in splendid order, from well-known Nurserymen, and specially lotted to suit all Buyers, 100,000 FREESIA REFRACTA ALBA, Early White ROMAN HYACINTHS, Paper-white NARCISSUS GRANDIFLORA, LILIUM CANDIDUM and other BULBS from France; LILIUM HARRISI, rare NARCISSUS, SNOWDROPS, IRIS, &c.

On view mornings of Sale, and Catalogues had.

DUTCH BULBS-DUTCH BULBS

SALES NEARLY EVERY DAY TILL THE END OF DECEMBER.

MR. J. C. STEVENS begs to announce that he has arranged with several of the first Nurserymen in Holland to Continuously Supply his Sales, during the present season, with only really First-class Bulbs, of the best quality.

WANTED to RENT, near good Town, PRIVATE GARDEN, or SMALL NURSERY, with good Glass and Dwelling house.—G. S., Bolton Road, Chorley, Lancashire.

WANTED to RENT, a SMALL NURSERY, 600 to 800 feet Glass. No stock.—X. Y., 41, Wellington Street, Strand, W.C.

WANTED, to RENT, a NURSERY, with option of Purchase, 1000 to 2000 feet run of Glass, Cottage, and about an Acre of Land. No Stock.

Apply, with full particulars, ALPHA, care of Mrs. Heath, News Agent, Cheshunt Street, Cheshunt, Herts.

To Market Gardeners and Others.

FOR SALE, a Freehold six-roomed DWELLING-HOUSE, and about 500 feet run of GLASS, all well heated. Close to Market Town; 29 miles from London. Apply, H. B., Iddo Lodge, Rainsford Road, Chelmsford, Essex.

HADLEIGH, SUFFOLK. — TO BE DISPOSED OF, the Lease, Goodwill, Stock in Trade, and Glass Erections, &c., of above NURSERY, comprising about 1¾ acres of Land, convenient DWELLING-HOUSE, Packing and Potting Sheds, SEED SHOP, and Fittings. Lease about nineteen years unexpired. Rent £27. No other Nursery within several miles. Price £150. Apply to—

WILLIAM BADMAN, Cemetery Nursery, Gravesend.

NURSERY and JOBBING BUSINESS for SALE, in one of best suburbs of London, comprising about 500 feet run of houses. All in good order, and quantity of Pits. Lease 80 years to run, at £15 10s. ground rent. Doing good business. Price, as it stands, £700.

M. C., 41, Wellington Street, Strand, W.C.

THE VINERIES, WOKINGHAM, BERKS. This Business TO BE LET, 300 feet run of Glass-houses. Stock at valuation. Five years' unexpired Lease.

Apply to owner, W. BIRMINGHAM, address as above.

FLORISTS. — North; good position. Very low rent. Dissolution of partnership cause of selling. Apply, 100, St. George's Avenue, Tufnell Park, N.

---

12 MILES from COVENT GARDEN, 5 Acres, of which 2 Acres are walled-in with ample Fruit. Glass, 530 feet run, including Peach-houses, Vineries, &c. New dwelling. Low rent. Remainder of Lease. Immediate possession. About £450.

H., 41, Wellington Street, Strand, W.C.

TO LET, small NURSERY, or MARKET GARDEN, close to station.

Address S. A., Primrose Nursery, Fordham, Cambs.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

SPROUTING SHOOTS of MAY-FLOWERS offered for the season at the lowest prices of the day.

J. OSTERWOHLT, Exporter, bei den Pumpen, 31, Hamburg.

Important to Mushroom Growers.

CUTHBERT'S SPECIALITÉ MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5s.

R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

STRAWBERRIES.—A fine collection of the best varieties can be supplied. Orders should be booked now. Descriptive CATALOGUE post free.

THOMAS RIVERS & SON, Sawbridgeworth.

CINERARIA PLANTS for Sale.—Strong, healthy, well established in 48 pots; 12 inches across. 3s. per dozen. — WORRALL, Manager, Alexandra Park Nurseries, Muswell Hill, London.

Williams'

FORCING BULBS

WELL RIPENED AND HEAVY BULBS OF

ROMAN HYACINTHS, Early White, from 5 to 6, inch. in circumference. 12/6 & 15/- per 100.

PAPER-WHITE NARCISSUS, from 5 to 6 inches in circumference. 6/- per 100.

DOUBLE ROMAN NARCISSUS, from 5 to 6½ inches in circumference. 6/- per 100.

LILIUM CANDIDUM, Pure White, extra strong. Early orders solicited. 15/ per 100.

LILIUM HARRISII, very fine Bulbs. 6/-, 7/6, 10/6, and 12/- per dozen.

VICTORIA & PARADISE NURSERIES,

UPPER HOLLOWAY, LONDON, N.

Hyacinths, Tulips, Crocus, Lilies, &c.

C. G. VAN TUBERGEN, Jun., Haarlem, Holland. Wholesale CATALOGUE now ready, and may be had free on application to—

Messrs. R. SILBERRAD AND SON, 25, Savage Gardens, Crutched Friars, E.C.

N.B.—Many new, rare, and interesting plants and bulbs will be found in this Catalogue.

MALMAISONS. — Princess of Wales (deep Pink), beautifully Clove-scented (the queen of Malmaisons for cut flowers and decorations), fine plants, 12s. per doz.; Malmaisons, Blush, 9s. per doz. BORDER CARNATIONS (Selfs), Picotees, Flakes, and Bizzares, the finest named vars. extant, my selection, 6s. per dozen.

CHAS. A. YOUNG, Floral Nursery, West Derby nr. Liverpool.

To the Trade.

B. MALLER AND SONS beg to offer a very extensive and unusually well-grown Stock of ERICAS (Hyemalis and the other varieties); EPACRIS, SOLANUMS, GENISTAS, CYCLAMEN, DOUBLE WHITE PRIMULAS, BOUVARDIAS, of sorts; ADIANTUM CUNEATUM, and other FERNS; PALMS, in variety; GREVILLEA ROBUSTA, ASPARAGUS PLUMOSUS, STEPHANOTIS, DIPLADENIAS, FICUS ELASTICA, CROTONS, TREE CARNATIONS of sorts; TEA ROSES in pots; BORONIAS of sorts; VINES in pots, &c.

An inspection is invited.

Trade Catalogues forwarded on application.

The ANNUAL SALE by AUCTION will be held on Tuesday, September 15.

Burnt Ash Road Nurseries, Lee, S.E.



CARNATIONS and PINKS

IN GREAT VARIETY.

CATALOGUES on application.

BY SPECIAL APPOINTMENT.

LAING & MATHER,

Nurserymen and Seed Merchants,

KELSO-ON-TWEED.

TO THE TRADE ONLY.

NEW ZEALAND GROWN SEEDS

ALSO

SEEDS of NATIVE FOLIAGE, and FLOWERING SHRUBS and TREES, obtainable from

MIMMO AND BLAIR,

Seed Merchants and Seed Grower, Dunedin, New Zealand.

London Agency:—W. G. INNES AND CO. 22, St. Mary Axe.

CATALOGUES EXCHANGED.

BULBS

FOR OUTDOOR & INDOOR CULTURE

Large Collections of all the very Best Varieties of

Hyacinths, Tulips, Crocuses, Narcissi, Snowdrops, Irises, Lilies, &c.

Only the very best supplied. Prices extremely moderate.

Illustrated Descriptive Catalogue (No. 468).

POST FREE ON APPLICATION.

DICKSONS

Bulb Growers & Importers,

CHESTER.

EXHIBITION.

FOLKESTONE CHRYSANTHEMUM SOCIETY.

GRAND EXHIBITION, November 10, 11, 1896. £100 and Six N. C. S. MEDALS in PRIZES, open to all England. Prizes to Gardeners' Societies in Kent. BRONZE JUBILEE MEDAL N. C. S. for Best Bloom in Show, Japanese or Incurved. Judges:—Mr. George Gordon, Kew; Mr. Richard Dean, Secretary N. C. S. Schedules sent on receipt of address. All prizes won, guaranteed.

T. J. HARRISON, W. H. HAMMERTON, } Hon. Secs.

3, Canterbury Road, Folkestone.

Palm Seeds—Plant Now.

KENTIAS, SEAFORTHIAS, CORYPHAS, PHŒNIX, COCOS, and others, 100 in variety to name, as sample, sent free, 2s. 6d.; 500 ditto, 9s.; 1000 do, 16s. Trade price per 1000 or 10,000 on application.

MOALE AND CO., The Conservatories, Finchley Road, N.W.

STRAWBERRIES. — STRAWBERRIES.—11 acres.

ROYAL SOVEREIGN, rooted runners, 25s. per 1,000.
STEVENS' WONDER, " " 10s. per 100.
EMPEROR WILLIAM, " " 15s. per 100.

Catalogue of these in pots, and all other kinds in cultivation, sent post free.—H. CANNELL AND SONS, Swanley, Kent.

DUTCH BULBS—DUTCH BULBS. Presently we offer:—

AGAPANTHUS UMBELLATUS MAXIMUS, splendid strong plants, 12s. per 100, 100s. per 1000.
FERRARIA FIGRIDIA, 35s. per 1000.
ARUM (CALLA) ALBA MACULATA, 5s. per 100.
" " HASTATA, 1s. 6d. each.
SPIRÆA ASTILBOIDES FLORIBUNDA, 18s. per 100, 170s. per 1000.

All other miscellaneous Bulbs and Plants in large quantities in stock. Apply to P. VAN TIL, Warmond, Holland.

VALUABLE ORCHIDS.

About 3000 fine Specimens of RARE ORCHIDS has just arrived, in splendid condition, in Europe, of which a great many have been gathered in bloom by an experienced Collector, from quite new localities. A great number are natural hybrids, and unique Odontoglossums; they have been painted by him. Also, there are over fifty amongst them that will be guaranteed unique types, and not existing in Europe—in all about 1000 Odontoglots. The best of Oncidiums, rare varieties; Cattleya Pyanæ (after locality), the new labiata April-flowering Cattleya, Cattleya labiata, with its wonderful varieties. Some of these are with over 100 bulbs.

Azules, the finest Cattleya in *the world*, large plants, but only a limited number; they were collected in bloom, and there are also pure whites amongst them. There is also a new variety of Cattleya autumnalis, which flowers in its native country at Christmas; large sepals and petals, dark crimson-red. Also an unique Cattleya, wonderful variety, grown in an antique Indian-pot; also Cattleya Mossiæ albæ, C. Reineckiana, C. Wagneri albæ, and C. Percivalliana albæ. Dried flowers, and painted by the Collector.

Not any of the above-mentioned will be divided, and the advertiser would prefer to sell them in one or two lots, or the whole consignment to one party.

The whole has been placed in a private gentleman's hands, and they will be guaranteed by him. Address letters only to—

F. HAWKER, 40, Armoury Sq., Stapleton Rd., Bristol.

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THE

Gardeners' Chronicle.

SATURDAY, SEPTEMBER 5, 1896.

COLOURED LEAVES.

AMONG our most beautiful foliage plants are undoubtedly those numerous inmates of tropical forests with red or parti-coloured foliage. These plants not uncommonly receive appropriate names from botanists, such as "erythrophylla, sanguinea, variegata, tricolor," &c. The beautiful Bertolonias, Begonias, Caladiums, Marantas are cases in point. Since Darwin's time we are accustomed in phenomena of this kind to inquire what is the use of such colouration, what end do these appearances serve? We need not wonder that the variegation of the leaves of these plants leaves much for the botanists still to account for. Some physiologists consider that these coloured leaves serve as a warning to animals not to feed on them. Others are of opinion that the red colour serves as a kind of protection against an excessive amount of sunlight which might be injurious to the chlorophyll grains. According to a third view, the red colouring matter—the "erythrophyll"—serves to absorb warmth, the red colouring matter absorbing the sun's rays, and in that manner working to the advantage of the plant. All of these theories possess a certain amount of probability, but none is capable of furnishing a satisfactory answer in all cases.

Recently, however, Professor Stahl, of Jena,* has published the results of some very thorough investigations which seem likely to throw some light on the matter. Stahl endeavoured first to ascertain if the variegated foliage deterred animals from browsing on the plants. And he found that several animals to which red and green leaves of the same species were offered at once turned to the green leaves by choice, and only ate the red when pressed by hunger.

In reference to the theory of protection from the sun's rays, Stahl asserts that the red colour possesses a property of utilising the sun's ray in a manner not possessed by chlorophyll. The theory that red leaves become warmer than green ones, was already rendered probable by an experiment of Kny's. He placed a large number of deep-red and green leaves of a similar size, in vessels containing an equal quantity of water, and he found that after a short exposure to the sun, the water, in which the red leaves were placed, was increased in temperature. Stahl had previously discovered, by thermo-electrical methods, that the tem-

* *Annales du Jardin Botanique de Buitenzorg*, vol. xiii., 2 pp. 157–216.

perature may differ to the extent of almost 2° in the red and the green areas of the same variegated leaf. On the other hand, he found by similar methods, that in white variegated leaves the green portions are warmer than the light portions. Also, that the layer of air cells, to which the light colour is due, lying between the parenchyma and the upper skin of the leaf, acts as an isolator. This can be proved in a much more simple manner by smearing variegated Caladium leaves with cocoa-butter, and covering the *schüsselpunkt*, the central point, with beeswax. When a leaf treated in this manner is placed in the sunshine, the cocoa-butter covering the red spots is the first to melt, then that over the green, and lastly, that over the white spots. The next advantage which a plant receives through this warming of the red portions of the leaf arises from the rapidity with which the various processes of growth are carried on; for we know, from the investigations of Sachs, that the consumption of nutritive matter, especially of starch from the leaves, is constant, by day as well as by night, and that it is less complete on cold nights. By the accumulation of the nutritive matters the process of assimilation is rendered slower. The higher temperature caused by the reddening of the leaves results, therefore, in a quicker utilisation of the nutritive matter.

The greater degree of warmth in the red parts of the leaves of a plant is of great advantage to the plants in other ways, for example, in plants with deep red-coloured styles, which bloom early, and in which, in consequence of the warmth, the development and lengthening of the pollen-tube receives an impetus from the colour of the style.

Still more important is the variegation of the leaves as an aid to transpiration. If we enquire what are the climatic conditions under which wild plants with variegated leaves grow, we find that, without exception, they inhabit very damp localities. In the moist atmosphere of such places, transpiration, and as a consequence, the absorption of nutriment, is exceedingly small, unless the leaves become warmed by the aid of the erythrophyll, and thus a greater degree of tension in the tissues of the leaves is induced, and consequently a greater amount of transpiration.

This transpiration is rendered still more active by the fact that the guard-cells of the stomata do not possess any erythrophyll, and as a consequence remain expanded, cooler, and their turgidity greater; moreover, in our native plants erythrophyll is found in abundance in the neighbourhood of the stomata. The transient reddening of young leaves is likewise connected by Stahl with transpiration and the more active absorption of nutriment caused by the reddening. He points to the fact that erythrophyll in the cooler period of spring is strongly concentrated, and as quickly disappears as soon as the first warm nights arrive. From this he shows that in leaves possessing three colours the red spots get warmed the soonest, and the light-coloured ones the more slowly; also that the red portions cool the more rapidly.

If a plant with variegated or three-coloured leaves, grows in a wood in a warm, humid locality, the variegated leaves will remain warm for a longer period of time after the surrounding air has lost its warmth than simple green leaves, and will correspondingly give off moisture for a longer time to the surrounding air. *U. D., Berlin.*

NEW OR NOTEWORTHY PLANTS.

TRICHOMANES (HEMIPHLEBIUM) FRASERI,

Jenm., n. sp.

ROOT-STOCK freely repent, densely crineferous, the blackish vestiture ascending, but not reaching to the top of the paced petioles, which are quarter of an inch long; fronds erect, pale green, pellucid, thinly membranous, glossy, naked, but sparsely setiferous on the veins and margins when young, oblong, oval, or square, sub-flabellate, truncate, a quarter of an inch long and wide, irregularly lobed or more or less freely pinnatifid; midrib distinct to the top; veins conspicuous, and uniformly branched, ramifying into the obtuse lobes; sori confined to the top lobes, one to six in number; involucres translucent, urn-shaped, with close, rounded lips at first, which at length open, and form a nearly circular rim; base cuneate, not quite free; receptacles included or excerted.

Grenada, West Indies, gathered by Mr. P. Neill Fraser, of Rockville, Murrayfield, Midlothian, who takes a great interest in Ferns, particularly the filmies, and who lately visited Jamaica and Grenada, and made a varied collection of Ferns, among which, from the latter island, this species appeared. In form of fronds its nearest alliance appears to be with T. parvulum, Poir, and T. proliferum, Blume, both Eastern species. Of American species, its nearest relationship is with T. quercifolium, Hook. and Grev., and T. reptans, Swartz, both common West-Indian species. Of the former, Didymoglossum fructuosum, Fée Fil. Ant., table 28, fig. 3, is a very good representation. *G. S. Jenman, Demerara, July* 6, 1896.

ACANTHOPHIPPIUM EBURNEUM.*

This species is undoubtedly very near to the A. Curtisii, Rchb. f., *Gardeners' Chronicle*, 1881, i., 169, from which it differs in the following characters. 1. The spur is nearly as long as the ovary (in our species), and slightly geniculate; in A. Curtisii it is shorter, blunt, and straight. 2. The perianth of A. Curtisii is said to be rose-coloured, in this species it is ivory-white. 3. The lip of A. Curtisii has three distinct lobes, in our species the side lobes are scarcely divided from the middle lobe. 4. The disk of the lip of A. Curtisii has five calli, in our species we find only a single sharp triangular line between the side lobes. The plant was introduced by Mr. P. Wolter, Magdeburg-Wilhelmstadt, and flowered for the first time in the July of this year. It is undoubtedly a very nice plant. *F. K.*

CONTINENTAL NOVELTIES.

NEW VARIETIES OF GERMAN ASTERS.

WE have received from Mr. J. C. Schmidt, nurseryman and florist, Erfurt, together with some flowers of varieties of Aster, the following communication: "I have great pleasure to send you, by same mail, a few flowers of my new Ray Aster, which I intend to introduce this coming autumn. This novelty originated from the giant flowering Comet Aster, producing flowers of the same large size. The plant attains a height of about 20 inches, in habit of true candelabrum-growth, and bearing its large flowers on strong stalks about 10 to 12 inches long. The flowers consist of rays of very long, slender-quilled florets, which have a charming appearance. The old types of Japanese or Needle Asters cannot be compared with this novelty for beauty. Hitherto, I have raised two quite distinct colours, viz., pure white and bright-rose. This new type of Aster is likely to take the public fancy, being invaluable materials for floral designs as well as a first-class acquisition for the flower garden. Other pretty novelties are the Giant Lilac and Light-blue Comet Asters, which colours are quite new." The Asters of the Ray-type have terete florets resembling some of the straight-rayed Japanese Chrysanthemums, and they are pretty and distinct. The Giant Comet Aster of a bluish-purple tint is, we believe, new as yet to English gardens, and it is a decided acquisition.

PEARS AND PLUMS AT GOODRICH COURT.

BEING present at an excellent cottagers' show held, by the kindness of H. C. Moffatt, Esq., in the grounds of Goodrich Court, I took the opportunity my visit afforded to view the kitchen gardens, which is under Mr. Spencer's guidance. It is well known that hardy fruits are grown in Herefordshire second to none in the British Isles, and I was therefore prepared to see something unusually good at Goodrich. However, to the question, "What are your Pears like this season?" I received in reply, "Not so good as we have had them; but you must see them." On my way to the Pear-trees I passed a long wall with a west aspect, which is devoted to Plums. Here was a sight that would afford the most experienced pomologist pleasure—a number of healthy fan-trained trees, some eight-years planted, admirably trained over the areas allotted to them, and all of them carrying splendid crops of fine and beautifully-coloured fruit, which were evenly distributed over each tree, and each variety was wonderfully uniform in size. I did not ascertain if they had been thinned, but concluded from their regularity and evenness as regarded size that they had. They are in considerable variety, and the following struck me as being worthy of a note. Amongst Gages, the Green, Bryanston, Denniston's Superb, Guthrie's Late Green, and Reine Claude de Bavay, were noted, the last-named not being so heavily laden as the others. This is, however, a valuable late Plum, but it requires a fine autumn and a warm situation to bring it to perfection. It may be mentioned here, that I have seen this variety in splendid condition at Rendlesham Hall, Suffolk. Denniston's is a trustworthy cropper, and the tree succeeds under any kind of cultivation, but the fruit is, to my taste, too sugary in flavour, and inferior to Cullins' Golden, which ripens at about the same time. The fruits of Kirk's Belgian Purple and Goliath were of a very deep colour, and had a beautiful bloom upon them. For dessert and exhibition purposes the former has few rivals; the tree is also hardy, and a free and certain cropper. Jefferson was remarkably good in every point, large, and beautifully mottled. This delicious Plum, like Coe's Golden Drop, requires an abundance of sunshine to bring up its colour and flavour to perfection. Culinary varieties, besides some that I have already named, were represented by Prince Englebert, Victoria, Washington, and Pond's seedling, all of which carried heavy crops. Coe's Golden Drop, and Monarch, were also laden with good crops, but they were, of course, not ripe. Monarch is a grand late Plum, succeeding well under any mode of cultivation. It is valuable for marketing and as a kitchen fruit, while, owing to its being very late, it is sometimes used in dessert. Grand Duke, a very large, oval, late variety, of a purple colour, is a companion Plum to Monarch.

It is remarkable after the very dry summer to see Plums so fine as these, produced on a sandy loam, without having been watered. The fact, however, of the garden being somewhat recently formed, and the borders for the trees thoroughly prepared, will account for these satisfactory results.

On reaching the Pears, which are largely grown in great variety, they were not found to be so heavily laden as the Plums, although the size of the fruits left

Acanthophippium eburneum, (Krzl., affin. A. Curtisii, Rchb. f.). Bulbis subtetragonis 6–8 cm. longis, 2 cm. crassis sordide-purpureis; foliis petiolatis plicatis oblongo-lanceolatis acutis ad 20 cm. longis, 5 cm. latis; racemo bifloro (v. potius pauciflore); bracteis ovatis acuminatis cymbiformibus pellucidis ovarii pedicellati ½ to ⅔ aequantibus; ovario purpureo. Sepalo dorsali ovato-oblongo obtuso, lateralibus antice ovato triangulis obtusis postice in pseudocalcar leviter genuflexum; ovarii aequantem elongatis c. sepalo dorsali, exceptis apicibus ipsis solide coalitis extus et intus eburneis, intus basi roseo-punctulatis; petalis lanceolatis subaequilongis obtusis; labelli unguc quam ipsum longiore lineari lineis 3 elevatulis per unguem, lobis lateralibus erectis postice emarginatis semi-ovato-oblongis ab intermedio late ovato-obtuso vix sejunctis linea 1 elevata v. crista arguta per discum, addita utrinque linea vix elevatula, toto labello flaveolo basi parce punctulata, crista carunculca; gynostemio alb., antbera apiculata antice triangula. Totus flos 4 cm. longus, 1·5 cm. diam. *F. Kraenzlin.*

nothing to be desired, and they are without a trace of cracking, speck, or the effects of attacks of fungus of any kind. It may therefore be inferred that Mr. Spencer's remark referred to quantity and not quality. The trees are planted against buttressed walls, a cordon being placed upon each buttress, with horizontal trained specimens between. Knight's Monarch, Van Mons Léon le Clerc, Beurré d'Amanlis, and B. Superfin had the best crops amongst the cordons; and Marie Louise d'Uccle, Beurré Clairgeau, B. Bosc, B. d'Amanlis, Durondeau, Louis Bonne of Jersey, Nouvelle Fulvie, and Winter Nelis, among those horizontally trained. Those noted as carrying very fine, handsome fruits, were Duchesse d'Angoulême, Pitmaston Duchess, Beurré Clairgeau, B. Bachelier, B. Diel, Glout Morceau, Durondeau, Bergamotte d'Esperen, and Louise Bonne of Jersey. A very handsome, medium-sized variety, not often met with, is Forelle, which somewhat resembles Louise Bonne of Jersey, but is more highly-coloured, and has rich crimson spots on the side exposed to the sun. In the fruit-room I saw fine, high-coloured specimens of Clapp's Favourite, which reminded me of the fine fruits of this variety which have been exhibited by Mr. Rivers, of Sawbridgeworth. Walls 180 yards in length, and 10 feet in height, are devoted to Pear-trees, and 100 lineal yards are furnished with Plum-trees

I cannot omit to mention some splendid fruits of Apples which were growing upon wall-trees, the varieties being Cox's Orange Pippin, American Mother, and Melon-Apple. The fruit of the last-named were especially large, and the trees quite healthy. Exhibitors of delicate varieties of Apples might with advantage imitate this practice. I find that trees of the Melon-Apple grown as pyramids, even in a favourable situation, are delicate here. It is, however, a richly-flavoured and handsome Apple when well grown, and fully deserves the pains that Mr. Spencer evidently takes with it. I cannot refrain from mentioning the fine crops of Morello Cherries upon a north wall. The trees are large, and it was observed that they had made good fruitful wood, although they are losing some of their larger branches. A similar occurrence has happened at The Hendre this summer, and is the effect of gumming. It would be interesting to know if gumming is prevalent this year

Thomas Coomber, The Hendre, Monmouth.

Orchid Notes and Gleanings.

CYPRIPEDIUM SEDENI.

A large well-grown specimen of this species is a handsome object, and there is now in the possession of Wm. E. Groves, Esq., the Larches, Alderley, a plant having twenty flowers fully expanded. The plant is very healthy, and is growing in a moderately warm house.

Saccolabium cœleste.

There is an unusually fine plant of Saccolabium cœleste to be found growing in Mr. Groves' stove, and showing four of its S. cervifolium-like upright spikes of flower, each flower as closely set as an Orchis foliosa. The dichotomous stem has its leaves closely packed together as seen in Aërides Lobbii, only they are shorter and stiffer. The flowers are of pure white as regards the ground, and tipped with blue; and the lip is white at the base with the lower half of it of soft cœrulean blue. It is a beautiful plant, in the most robust health, and its four spikes will each carry about 100 flowers.

Cattleya speciosissima, Erlsdene vars.

Among the recent importations of Cattleyas speciosissima have come some varieties which are superior in size, colour, and substance of flower, to the best of those we had thirty years ago. The writer described in the *Gardeners' Chronicle* some thirty-two years ago a fine form under the name of C. speciosissima Lowii, but then it was exceedingly shy to flower, and it had not the sturdy habit of the new ones; moreover, those now under notice seem to bloom annually, and are consequently a great gain to the Luddemaniana section. Some experts tell us that if you place the plants in bottom-heat they will flower every year. If that be so, it is a capital "wrinkle" not only for this, but for some of the shy-flowering C. gigas, of which one sometimes sees a score of plants without any disposition to produce sheaths, though in excellent health.

The Erlsdene variety (*a*) is in form an ideal flower, the whole of the segments overlapping, and standing upon one plane, without any disposition to curl outwards at the edges. The sepals are lanceolate, and about one-half broader than the normal type; petals of great width, and the colour of a roseate-blush; in fact, the segments are concoloured. The lower portion of the lip is of circular outline, and the ground-colour similar to that of the segments, with blotches and spots of rosy-crimson; the upper portion, or convolute half, has a pretty flesh-coloured interior, with the two sides of the tube having clouds of pale yellow. The Erlsdene variety (*b*) is also an exquisite flower, and if not so perfect in form as variety (*a*), it has a magnificent labellum. Its lower portion is of great size, and inflated, too, to abnormal proportions, showing off at the base of the tube two immense yellow blotches, the tube itself having a flesh-ground colour, with crimson radiating lines above the yellow blotches, while the lower extremity in its pale ground has dashes of crimson spots and blotches. The plants were carrying three flowers upon a spike, there being some twelve flowers on the two plants. E. J. Sidebotham, Esq. (gr., Mr. Shiner), is the fortunate possessor, and he is justly proud of them. *J. A.*

Orchids at Vernon Lodge.

The pretty gardens of E. Tucker, Esq., at Preston, Brighton, though small in extent, affords a good illustration of horticulture, both in the extensive displays of hardy flowers and bulbous plants out-of-doors, and in the profusion of bloom to be found in the glass structures, in most of which Orchids are grown among general stove and greenhouse plants. The effect of the plants so arranged, and the good condition of some which are considered difficult to grow in houses solely devoted to Orchids, are equally surprising.

The cool Orchids are grown in a tolerably sunny house of ordinary greenhouse temperature, and among a fine display of the varieties of Lilium speciosum, L. auratum, and others, the flowers of the Orchids at present in bloom appear. Of these, the most prominent are some very strong spikes of Oncidium varicosum, O. crispum, O. Gardneri, O. prætextum, some scarlet Sophronitis, and orange-red Epidendrum vitellinum majus, a few Odontoglossums in flower, and many more in bud, and other pretty species.

In this cool, airy house, suspended from the roof, the Mexican Lælias and Cattleya citrina grow with a vigour which would excite the interest of many who take greater pains to grow them, but meet with less satisfactory results. The whole of the plants of Cattleya citrina have been in flower, making a fine show; the plants of Lælia majalis are strong, and possess stiff hard foliage, which indicates good health in this showy but rather troublesome species. The specimens of varieties of Lælia anceps are well-furnished with flower-spikes, which will soon make a bright display. In this cool-house, too, Vanda cœrulea is in flower and in grand condition, the leaves being broad, firm, and of a bright dark green colour. Few Orchids have given more trouble to the Orchid-growers than Vanda cœrulea; and it is only occasionally that I find it in a really healthy condition, and then generally in some garden in which Orchids are not the leading feature. Strangely, too, the conditions under which the best plants are found are apparently very different. Some time ago I found a specimen of large size in fine health, which had occupied the same position at the end of a warm moist house from the time it was first imported. But in most cases of really satisfactory growth and free flowering, the conditions are as in this instance, viz., a long sojourn in a cool house during the heat of summer, and a return to warmer quarters for winter. Among other plants in bloom in the cool-house was a splendid specimen of Cypripedium Charlesworthi, with several flowers upon it.

In the warmer house a noteworthy example of good culture was seen in a splendid plant of Oncidium sarcodes, of which when it flowered, Mr. Tucker sent me flowers and a drawing. The spike bore 184 flowers, and was a fine object. In flower here also were several varieties of Dendrobium Phalænopsis Schroderianum, Cattleya Harrisoniæ, with several spikes just expanding their flowers, which were white, but later become rose colour, a process which has disappointed many a novice who thought he had secured an albino; Cattleya granulosa, C. aurea, and other Cattleyas, the rich carmine-crimson Broughtonia sanguinea, several plants of the pretty terete-leaved Angræcum Scottianum, Miltonia Roezlii alba, &c. In a sunny corner of the garden a little house has been put up for Dendrobiums to ripen in, and which is now full of resting plants. The use of this little house for the purpose, Mr. Harper, the gardener at Vernon Lodge, says, makes all the difference in the health and floriferousness of the plants. *J. O'B.*

American Notes.

[From our own Correspondent.]

The twelfth annual convention of the Society of American Florists was held at Cleveland, Ohio, August 18 to 21 inclusive, the meetings being held in conjunction with the centenary celebration of the city. The occasion was an advantageous one for a combined national and local exhibition.

The annual convention of the Society of American Florists attracts such widespread attention, not solely by reason of its own merit, but through the fact that under its *ægis* are held the annual meetings of the various sectional or "special" societies, i.e., those for the Carnation, the Chrysanthemum, &c.; and also that most successful institution, the Florists' Hail Association which numbers six hundred and fifty-two members, and carries risks equal to a single insurance on 8,003,820 square feet of glass. It has paid out 7,380·85 dollars during the past year. Of single thick glass, one square foot out of every $65\frac{19554}{37401}$, and of double-thick glass, one square foot out of every $127\frac{19738}{31439}$ insured was broken. This is the largest percentage of loss that the Association had ever sustained in a single year.

The exhibition cannot be a very brilliant affair in the month of August, and is confined almost entirely to moderate-sized collections of trade stock.

Messrs. Pitcher & Manda of Short Hills, N.J., had, as their most noteworthy objects, a very pretty golden Myrtle (Myrtus communis), and Saintpaulia ionantha, a favourite plant here among amateurs. Its free-blooming quality is a great recommendation. Mr. H. A. Dreer, of Philadelphia, Pa., had Palms and Ferns, also Asparagus Sprengeri, which is likely to become a favourite here.

The groups which merited the most notice for their value and rarity were those of Siebrecht & Wadley, of New York, who had excellent specimen Palms; and that of your countryman, F. Sander, of St. Albans, whose plants had travelled most satisfactorily, and attracted considerable attention from the visitors. Among the subjects shown were Dracæna Godseffiana, Dæmonorops cinnamomeus, and Ptychoraphis augusta. A Special Mention was awarded in this case. Robert Craig, of Philadelphia, Pa., and W. A. Manda, of South Orange, N.J., also had worthy displays. The successful results of this year's display may act as an incentive for the institution of a regular annual flower show during the Convention meetings.

William Scott, of Buffalo, presided at the meetings, and in the course of a lengthy address urged upon the younger members of the profession the necessity of, at all events, a reading acquaintance with chemistry, geology, botany, &c. The florist of America is already far in the vanguard of scientific application to his business. One has only to read our horticultural press to see how very intelligently are discussed such things as the use of Bordeaux Mixture, Paris Green, carbonate of copper, &c., for the destruction of insect and fungous pests, and not only in the orchard but in the greenhouse and backyard, and in all truth it is a natural outcome of circumstances.

Botanical gardens were also eulogised as educators; the only weak point here is, that there are so very few such gardens, even so called, and some of them—well——!

The President elect of our national society, and who will preside at next year's session, to be held at Providence, Rhode Island, is Adam Graham. He, like his predecessor in the chair, hails from the "other side," but his native heath cannot be allowed much more than the record of his birth. Adam Graham was born in Fifeshire, Scotland, in 1840, and came over here when but a "wee laddie" of nine. Commencing his horticultural career in Philadelphia, he went to Cleveland to take charge of the grounds of Mr. Wade, donor of Wade Park, and subsequently started in business. He is a man of energy, and will undoubtedly well fulfil the duties of his office.

A MEDICINAL CACTUS.

ANHALONIUM is a small genus of Cacti of somewhat anomalous character. It was founded by Lemaire in 1839, but the authors of the *Genera Plantarum* reduced it to a sub-genus of Mammillaria. Recently Mr. J. M. Coulter, an American botanist, in a *Revision of the North American Species of Cacti*, shows good reasons for restoring the genus Anhalonium, and placing under it four species, viz., A. Engelmanni (Mammillaria fissurata), A. prismaticum (M. prismatica), A. furfuraceum (M. furfuracea), and A. pulvilligerum (A. elongatum). These four plants closely resemble each other in their short, fleshy, top-shaped stems, and flat-topped rosette of thick, fleshy, wrinkled, grey-green tubercles (leaves), which look like vegetable warts. The plants are quite different from a fifth species, which Lemaire at first (1845) called Echinocactus Williamsii, and in the year following removed into Anhalonium. Mr. Coulter makes a new genus for this plant, viz., Lophophora, a name which is scarcely likely to find adoption among growers of Cacti in this country, to whom Anhalonium Williamsii, the Dumpling Cactus, is well known. There is a good figure of it in the *Botanical Magazine* for 1847 (t. 4296), when a plant with four heads, received from the Real del Monte Company from the rocky hills of their district of mines in Mexico, flowered in the Succulent-house at Kew. There are now good examples of this Cactus at Kew. Single-stemmed plants are Carrot-shaped, 4 inches long, 1½ inch across the top, the whole brown, wrinkled, and apparently shrunken, except the cap like top, which is fleshy and dumpling-like, grey-green, marked with radiating creases, and bearing a few small scattered tufts of woolly hairs with a large tuft in the centre. The flowers spring singly from this central tuft, and are star-like, 1 inch across, the petals narrow and coloured white and rose.

According to Mr. Coulter, wild plants are often densely proliferous, forming hemispherical tufts in Texas and Mexico, where this species is a native. This Cactus has no claim to decorative qualities, but from its peculiar shape it appeals to those whose tastes are gratified by the grotesque among plants.

Hitherto we have known it only as a garden curiosity, but it appears to possess extraordinary medicinal properties, for which it is greatly valued by the American Indians, and which, if report speaks correctly, is likely to lead to its being valued by their more civilised brethren.

A small *brochure*, containing the reprint of a paper from the *Therapeutic Gazette* (America) for January, 1896, sets forth the medicinal properties of this Cactus, or rather a variety of it,* under the title of "Mescal Buttons, their therapeutic uses," by Doctors Prentiss and Morgan of Washington. The Indians have long regarded this plant as "a panacea in medicine, a source of inspiration, and the key which opens to them all the glories of another world. They consider it particularly effective in hæmorrhage and consumptive diseases." They also use it for fevers, headaches, and chest-pains. "I have also seen an Indian eat one between meals as a sort of tonic-appetiser. . . . I know from experience that the "mescal" is a powerful stimulant, and enables one to endure great physical strains without injurious reaction."

The conditions in which it seems probable that the use of mescal will produce beneficial results are nervous headache, nervous cough, abdominal pain due to colic or griping, hysteria, melancholia, &c.; it is also recommended as a substitute for opium and chloral. The medicine is prepared as follows:—a quarter of a pound of the plant is put into a jar containing 1 pint of alcohol and 1 pint of water, and allowed to stand for ten days or two weeks. It is then ready for use, a teaspoonful at a dose, at intervals, as the case requires. "The production of visions is the most interesting of the physiological effects of anhalonium. The visions ranged from flashes of colour to most beautiful figures, forms, landscapes, dances, &c." These visions are said to be due to the stimulating effect of the drug on the centre of vision in the brain. This rather suggests an attack of *delirium tremens*, or the effects of opium!

Although called Mescal, or Mescal Buttons, by the Indian traders, this plant must not be confounded with the mescal of the Apaches, an intoxicating drink obtained from the Agave.

The Indians of the southern plains regard this plant as the vegetable incarnation of a deity, and the ceremonial of eating it has become a great religious rite with them. Mr. James Mooney, of the United States Bureau of Ethnology, records the results of investigations made by him of the use of mescal by the Kiowa Indians. The early missionaries condemned its use as a crime, without result. "In spite of its universal use, and the constant assertion of the Indians that the plant is a valuable medicine, and the ceremony a beautiful religious rite, no one had ever tested the plant or witnessed the ceremony." Mr. Mooney, however, has done both, and is preparing a detailed account of all that he learnt of mescal, to be published by the Bureau of Ethnology. He gives a brief account of it in this *brochure*, from which it appears that the Indians meet usually on Saturday nights, and seating themselves in a circle round a fire, enjoy a feast of mescal for from twelve to fourteen hours. They eat the dried stem of the Cactus to the beating of drums and singing of songs, adding a drink of water. This is followed, by parched corn, rice, fruit and dried meat pounded up with sugar; then more mescal, when each man eats as many stems as he can, some eating ten or more at once. Cigarettes are then indulged in. No sleep is taken, the stimulating effect of the mescal being such as to make sleep unnecessary. It is not an intoxicant, and it has no after-effects or reaction of any kind. Mr. Mooney ate seven of the stems, and found them extremely disagreeable to the taste and nauseating, although their effect upon him satisfied him of the truth of what the Indians say of its mental effect. From this it would appear that in Anhalonium Williamsii we have a drug or stimulant which combines all the pleasures derived from the use of quinine, opium, morphia, champagne, &c., without any of their ill effects.
W. W.

SCOLOPENDRIUM CRISPUM.

(HOW TO PROPAGATE IT IN QUANTITY.)

IT is a thousand pities that this beautiful variety, or rather group of varieties, of our native Hartstongue is not in greater vogue as an evergreen decorative foliage plant, since nothing can form a handsomer ornament in a window or well-lighted corner than a good specimen of this charmingly frilled, and it may be, tasseled, Fern. The lustrous bright green fronds of the normal plants are in this variety transformed into deep ruches of emerald ribbon, the plain edges being even in some of its best forms transmuted into fine lacy-looking fimbriations, and the tips, in the rarer crested varieties, being decorated with wide-spreading tassels. One reason, undoubtedly, and probably the main one, of the rarity of these plants under domestic culture, is their usually barren nature. An utter absence of spores characterises most of the forms, but it is the object of this article to give a "wrinkle" not generally known, by the aid of which the spores can be dispensed with, and very large numbers of plants may be raised with greater ease, certainty, and rapidity, than by their mediation This is the method of raising from the bases of the old fronds, a method which, though long known as possible, and even mentioned in a few Fern-books, has never, to my knowledge, been so explicitly set forth as to convey a fair idea of the facility of the operation, and the certainty of its results. In point of fact, the material used is so unpromising in appearance, that few cultivators to whom the method is new, accept it as likely to yield a crop. Starting without faith, sooner or later they neglect the trial culture, and nothing therefore results. If however any of my Fern-loving readers will follow carefully what I am about to describe, and the course I find invariably successful, they may depend upon achieving like results. If we take up an old plant of the Hartstongue species, shake off the soil, and thoroughly wash the roots, we shall find a well-developed rootstock probably 2 or 3 inches in length, and about 1½ inch through. Cutting away with a sharp knife or scissors all the root fibres, we shall then see that this caudex is built up of a narrow central core to which is attached, closely packed together, a very considerable number of somewhat sausage-shaped blackish-green bodies, each about ¾ inch long. These as we shall next perceive by examination of the upper ones are nothing more or less than the persistent bases of the old fronds which have run their course, died down, and rotted away, leaving however always their small individual contribution to the root-stock as described. From the lower part of each of these basal portions it will be seen that two or three roots spring to add their quota to the general sustenance of the plant, and by cutting one of the bases across it will also be manifest that their vitality is maintained for some years after the death of the frond of which they originally formed a part. It will also be obvious that the roots also retain their contributory powers for an equal period, and that the plant is not dependent solely upon those freshly emitted each season from the bases of the new fronds. We have now seen the raw material from which we shall derive our crop, but here even the more experienced Fern-grower is apt to look dubious, for he will be utterly unable to detect the slightest evidence of bud or bulbil growth upon these bases, and failing this, his faith is likely to be a minus quantity.

We will, however, proceed now to consider how to treat this caudex, with a view to the greatest crop it can be made to produce; and commencing at the lowest, i.e., the oldest portion, we shall find that each sausage-shaped base can be pulled off from the central core, and, the root-fibre having been already trimmed, will only bear the stumps of its own particular set. Pulling these bases off one by one, we shall find quite a heap of several score resulting before we reach the top, and consequently arrive at the fronds themselves. This top, which is really the growing crown, can be installed in a small pot, and will speedily form a good plant again, so that we are not even the losers of the original by the drastic surgical operation we have performed. We now take each base as detached, and cut it with a sharp knife through the middle, i.e., across, making two pieces of it, or, if the plant be very robust, even into three, each piece being about a quarter or one-third of an inch long. From this one caudex, therefore, we shall probably have fully a hundred pieces, quite possibly many more; a hundredfold, however, is not a bad crop, especially of a barren Fern, which is usually simply halved or multiplied by two. We have not, however, done with these figures, as we shall see anon.

The next step is to plant the material, and for this purpose we will take a shallow 9-inch pan, fill it with well-drained, open compost, topped with a little extra silver-sand. See that no worms or other vermin are present; in fact, it is best to scald the soil with boiling water, as if for spore-sowing. Let it cool, and then gently insert the basal pieces perpendicularly about three-quarters of an inch apart, or a trifle closer, so that their tops are flush with the

* Plants of this variety, called Lewisii, lately received at Kew, show no difference from the type.

surface. It is immaterial which end is upwards. Cover with glass, and put away in a cold frame, with plenty of top-lights, but no sun, or very little, and wait results. In five or six weeks in the spring or summer every one of these pieces will reveal several whitish dots, some on the surface of the cuticle, and some actually on the cut edges. These whitish dots in another week or so will develop into tiny fronds, each dot an independent plant. Before long a little clump denotes that these plants have rooted, and if the cultivator is greedy, and his raw material scarce, he may lift each little clump of plants, carefully pick them off the still green base that bore them, instal them in another pan, replace the basal bits, and in all probability get some more from them later on, the buds being often too numerous to develop altogether. Now it is manifest we have our plant, barren as it is, and unpromising as the material appeared at the start, multiplied not merely one hundred, but several hundred fold, the number indeed mainly depending upon the care and patience of the cultivator. Mr. E. J. Lowe sent the writer a single frond of a very fine crispum in a letter, and although but a small portion of the base proper was attached, ten plants resulted from it. Every piece indeed seems capable of developing these buds, even pieces of the central core possessing the faculty. The bases may be divided longitudinally instead of across, and will even then yield buds along the edges: this, however, we do not advise, as the great exposure of the internal tissues saps vitality considerably. It is as well to wash the bases clean before insertion in the soil, as naturally any attached Conferva or Marchantia finds a congenial home in the fresh soil, and will soon invade it, and although this will not hinder the bud development, it will affect that of the young plants, and hence growth of this class must be kept under if it appears.

So far we have only treated of S. v. crispum, since it is, as we have said, usually barren, and does not lend itself like fertile varieties to propagation in quantity through the spores, but any robust variety may be treated in the same fashion with like results, with the advantage of true progeny being obtained. To this we have only met with one exception, a curious constantly cornute form found by Mr. Wolaston's son, yielding nothing but normal Hartstongues, both by basal cuttings and spores. We raised quite a host of plants both ways, with the same result. It must be mentioned here that it is only the bases that are utilizable in this way; the remainder of the stalk of fronds actually in existence will simply rot away, the capacity for bud production being confined to that portion which is perennial.

As it is very unlikely that this property is confined to the Hartstongue, though hitherto we have failed to establish its existence in any other British species, we think experiments with some of the exotic species which form similar caudices might be attended with good results. The fleshy scales of some of the Marattias, situated at the bases of their fronds, have been found by Messrs. Veitch to develop buds of similar character, though we believe far less freely. In making cuts through the fleshy caudex of Asplenium Adiantum nigrum we have observed buds to form on the wound, though we have failed with pieces detached from the root-stock. Many species, such as the Polystichums and some of the Lastreas, have the same power to a certain extent, but with some limitations, and in these cases dissection usually shows that a latent bud is already in existence, where activity is simply stimulated by the energy directed from the central axis of growth by some check to its development.

So far, then, the Hartstongue stands alone in its capacity for forming buds or bulbils, *ad libitum* on detached pieces of rachis deprived altogether of root stimulus, the stored-up energy of the cells sufficing to generate such outgrowths at any part of the surface as described. *Chas. T. Druery, F.L.S.*



FIG. 50.—GATEWAY WITH ROSE GROWING OVER IT, IN THE GARDENS OF W. C. WALKER, ESQ., PERCY LODGE, WINCHMORE HILL, N.

PERCY LODGE, WINCHMORE HILL.

THE pretty suburban garden around the residence of W. C. Walker, Esq., although evidently it was not laid out on any pre-arranged plan, abounds in pretty views and charming nooks, and is in every way better adapted to form a pleasant place for the recreation of the owner and his large family than a garden of a more conventional style would be. Climbing plants abound both upon and around the house, and pretty little gardens, shut in by tall shrubs, which must have been planted many years ago, form suitable places for different classes of herbaceous perennials, some or other of which are constantly in bloom. In spring, among other handsome objects, were two large beds of Auriculas planted in a south aspect, and which bloomed a fortnight earlier than those in other parts of the garden; and beneath the fine weeping Ash, under which a large quantity of Crocus were planted four years ago, was a brilliant display.

In another part of the garden the Honeysuckle hedge, with two arches in its length of some 60 feet, was a charming sight, being literally covered with fragrant flowers. Every year it is trimmed back with shears, and the result is that the whole becomes in its season a dense and beautiful bank of flowers. Similar effect is obtained on the several Rose-arches, one of which, covered with Dundee Rambler, leading to the paddock, we here illustrate (see fig. 50). In the centre is a small piece of ornamental water with rockery margin, planted with various plants, and ornamented by Cacti and other succulents, which are removed to the greenhouse before winter. Around are borders of mixed herbaceous perennials and annuals, such as Salpiglossis, Coreopsis, Sweet Peas, &c.; and overlooking this pretty nook is one of those pleasant little summer-houses with which the place abounds. Another portion of the garden is devoted to fruit-trees, but here also are there flowers of Carnations, Phloxes, Pentstemons, &c., with here and there the rich violet-purple tints of the Clematis, trained on arches and pillars.

On the outside of the garden, near the paddock, is another arrangement of beds and borders, the centre of the largest being occupied by a very handsome example of Heracleum giganteum (see fig. 51) some 8 feet in height, and the same across. The plant is very easy to cultivate, and if space can be given it, will form one of the most striking objects in the wilder part of the garden in the early part of the year.

THE GLASS HOUSES

consist of a neat block, chiefly arranged for the culture of Orchids, which are grown at Percy Lodge with much success. Everything that forethought can suggest is provided for the comfort of the plants, one of the latest and most satisfactory additions being the lath roller blinds, which have been fitted to the houses containing the varieties of Lælia anceps, and other Lælias and Cattleyas. These, it is found, are great

aids to Orchid culture, as they admit the maximum amount of light, and tend to keeping an even temperature as low as possible in the hot weather. Notwithstanding the very hot summer, a single spot only on the leaves under these lath blinds has been observed, and that, probably, was done instantaneously, in consequence of a blemish in the glass. In the Cattleya-house was a fine show of C. Mendeli, C. Gaskelliana, C. Warscewiczii, and C. Mossiæ, one fine specimen of the last-named having nineteen flowers. Also in bloom here were several good forms of Lælia crispa, one specimen having twelve spikes not yet open; three plants of the large, handsome fringed L. Digbyana, several fine plants of Cattleya eldorado, Cypripedium Curtisii, C. Godefroyæ and C. G. leucochilum, C. Lawrenceanum, C. Chamberlainianum, Epidendrum rhizophorum, and other, pretty species; and here, too, suspended from the roof are some vigorous specimens of Odontoglossum Londesboroughianum, which is not one of the easiest plants to grow and flower annually as it is done at Percy Lodge.

In the cool-houses the many specimens of Odontoglossum crispum are in fine condition, and some good varieties of it and O. Pescatorei and other species are in bloom; so also some showy Masdevallias, Oncidium macrantham, O. phymatochilum, O. crispum, Epidendrum vitellinum, and the yellow Lycaste aromatica, &c.

In some of the smaller warm-houses the plants of Dendrobium Phalænopsis Schroderianum are growing splendidly, and the few specimens of species of Phalænopsis are more satisfactory than is usually the case in gardens. Some of the Dendrobiums have made a remarkably fine growth, and even the reputedly difficult D. McCarthiæ, which is here now beautifully in flower, well responds to the efforts made to grow it to perfection. Disa grandiflora, and the other species of Disa, which some consider the easiest things possible to grow, are here found the least satisfactory; probably because they are grown too much like Orchids, and too little like ordinary greenhouse plants. A change on these lines has proved successful in many cases, and is to be tried at Percy Lodge.

In one house Gloriosa superba annually makes a great and lasting show of scarlet and yellow Lily-like blooms. In others, the Begonias, Gloxinias, Streptocarpus, &c., are good, and everything about the place is in such perfect order as to suggest a goodly number of assistants; but the truth is, that Mr. Geo. Cragg, the gardener at Percy Lodge, secures the good results to be seen with but very little aid, and by sheer diligence, skill, and an unbounded liking for his charge.

The show of the Winchmore Hill Horticultural Society was held in the grounds of Percy Lodge this season, and Mr. Cragg won the greatest aggregate of prizes, and the dinner-table decoration of Roses arranged by Mrs. W. C. Walker was the centre of attraction in the tent of floral decorations. *J. O'B.*

BOTANICAL DRAWINGS AT THE NATURAL HISTORY MUSEUM.

THE series of prints and original coloured drawings of plants stored in the Herbarium of the British Museum at South Kensington are known to but few persons. The series is of much historical interest, consisting, as it does, of specimens of the work of many distinguished botanists, and of the chief botanical artists of the period, from the middle of the seventeenth century to the present time. Hitherto the general public have remained unacquainted with this collection of pictures, although students furnished with proper recommendations have enjoyed access to them for purposes of research and scientific investigation. It is, therefore, satisfactory to learn that an opportunity has been found to enable visitors to the Natural History Museum to inspect some, at least, of the more interesting and beautiful of the drawings. Mr. G. Murray, the keeper of the Department of Botany has, with the approval of Sir William Flower, arranged a temporary exhibition of water-colour drawings selected from the collection.

It is intended to change these from time to time, to avoid injury from exposure to the light, and also with the object of exhibiting in course of time the most valuable part of the series.

Of the more noteworthy drawings at the present on view, are the examples of the work of the brothers Francis and Ferdinand Bauer, natives of Feldsberg, in Lower Austria. Francis, the elder, came to England in 1788, and was induced by Sir Joseph Banks to remain as draftsman at the Royal Gardens, Kew, his generous patron defraying the salary and providing for its continuance in his will.

Francis died in 1841, and is buried at Kew Church. His drawings of the plants at Kew become the property of the British Museum. Ferdinand Bauer accompanied Dr. Sibthorpe to Greece in 1784, and spent several years in England completing drawings of plants made during the journey.

In 1801 he went with Captain Flinders in the *Investigator*, as natural history painter to the expedition for the survey of the coasts of Australia, Robert Brown going as naturalist; and Bauer and he, remained some time in Australia, working on the flora of that country after Flinders' return to England. Among other artists whose work is shown, George Dionysius Ehret stands high. Nor should we omit to mention the name of James Sowerby (1757-1822), who is best known for his great work on English botany, and whose collections of plants form the basis for the largest and most interesting public herbarium of British plants. Sowerby's collection of models of British fungi occupies the first case to the right as you enter the public gallery of Botany. In connection with these models, mention must be made of another botanical artist, who is still with us, Mr. Worthington G. Smith, who has coloured and mounted in a successful manner, Sowerby's models, and who shows accurately-coloured drawings of native fungi.

DRY-WEATHER BEDDING-PLANTS.

WHERE a number of bedding-out plants are annually required, especially in districts where the rainfall is light, it is well, in view of the dry springs and summers, a cycle of which seems to have set in, to select, as far as may be convenient, some plants of a nature that make a fairly free growth, and afford the greatest quantity of flowers under dry, warm conditions. The present season has been unusually dry, little rain having fallen in southern districts from the end of March to August 18; therefore, those subjects that had grown and flowered satisfactorily previous to the latter date may be appropriately termed dry-weather plants. The following comprise some that have grown and flowered more freely this summer than the various bedding Pelargoniums, and the majority are easily raised from seeds in spring.

Double Zinnias.—I think the foremost place may be accorded these plants, as the beds have been a mass of bright bloom for many weeks past, and that without receiving any artificial watering. A bed filled with a mixture of bright-coloured Zinnias is very effective, especially when the strain is a good one, and the colour ranges from scarlet, crimson, and magenta to white. If seed of Zinnias be obtained from a trustworthy source, the varieties come very true to name, and quite double. The dwarf or Tom Thumb type of Zinnia, growing only to 6 or 8 inches high, is a useful plant for small beds, &c. The small amount of labour Zinnias require is much in their favour. My practice is to sow the seeds, in the second week in April, on a bed of light soil in a frame placed on a mild hot bed made of tree-leaves, and transplant direct from the bed, after due exposure, about the middle of the month of May.

Verbenas from seeds sown in pots or boxes in March, and pricked off into boxes as soon as large enough to be handled, make excellent dry-weather bedding-plants, especially if they can be planted out early. The plants are not injured by a slight frost, when they are duly hardened off before transference to the open ground. Beds of mixed Verbenas of a good strain are very effective in the flower-garden, and beyond some small amount of pegging down in the early stages of growth, the plants require but little after-attention.

Gaillardias of the picta Lorenziana type may also be raised from seed, and treated similarly to the preceding. They make quick growth, and in the hottest weather will flower profusely. The flowers are useful for cutting. Single Petunias are certainly dry-weather plants, but have a bedraggled appearance after heavy storms. During the recent hot weather our beds of mixed single-flowered Petunias were very showy and effective.

Antirrhinums, planted in a pair of beds in the Dropmore garden in a dry and rather shady position, where bedding Pelargoniums were always unsatisfactory, are this year very fine. The plants consist of a selected strain raised from seed; they bear flowers of crimson colour, and attain the height of 15 to 18 inches. The seed from which these plants were raised was sown about the end of the month of March, the seedlings pricked off into boxes when large enough to be handled, and planted out in the beds in the month of May. They grew rapidly, and for some time past have been a mass of flowers of one colour. They will continue in bloom for a long time yet, and are but little affected by either heavy rainfall or extreme drought.

Although the African Marigold is all but banished from many gardens, it is a very telling subject in a dry season, where a mass of colour is required, and is admirable for filling large beds, or planting in masses. Our plants have been full of flower for some time, and although they received no water after once they were established, they have not suffered in the least by the continued drought, but revelled in the sunshine, growing to a height of about 2 feet, and flowering profusely. We treat them in the same manner as Zinnias.

Ageratum cœruleum and the several dwarf varieties are remarkably full of flower, such as can only be obtained in a hot and rather dry summer; it is, therefore, one that should be planted in dry soils.

Isotoma axillaris, a Lobelia-like plant, now but seldom seen in gardens, attains to greater perfection in a hot summer than a wet one. The pale blue flowers, somewhat like those of a large Lobelia, are borne on rather erect stems; the foliage is also attractive. *H.*

METHODS OF PROPAGATION.

(*Continued from p.* 213.)

BUDDING FLOWERING TREES AND SHRUBS.—The red-flowered Horse-Chestnut (Æsculus rubicunda) can be budded with ease on the common sort, this being the usual plan in nurseries, while all the Pavias may be put on this stock, the summer-flowering P. californica, making, thus treated, a very pretty lawn tree.

Among flowering trees few exceed the Double Cherry in beauty. If any of your grafts have failed, you might utilise the stocks by budding them with the double-flowering Morello, or Waterer's fine large-flowered kind; but if you can get some buds of the new Japanese rose-flowered sort, named after the famous traveller, Von Siebold, do so, as it is a very fine variety, of which all gardens should have a tree. Be careful to mark these distinctly, or perchance one or two may be planted in the orchard in mistake, which will lead to disappointment, as, of course, no fruit is obtained from double-blossomed varieties.

The common Catalpa (C. syringæfolia) is a very striking flowering tree, and there are some very distinct florists' varieties — the best, perhaps, Van Geert's golden-leaved sport, for handsome foliage; and for blossom few trees exceed C. speciosa, which produces flowers almost as large again as the species and makes a noble and attractive tree. Both these forms may be budded on C. syringæfolia, as may another grand and vigorous kind, C. Bungei.

The ornamental Crabs have been taken under the head of grafting, but should any of the grafts have failed, buds should at this season be inserted in clean stocks; the buds may be inserted in the laterals, close up to the main stock or in that itself, if it be young and

free. If you can procure a few buds, do not omit to put in one or two of Parkman's double-flowering Crab, by far the handsomest of all that showy tribe. This may also be budded on the Paradise stock, on which it forms a handsome bush, and when in flower proves a most attractive object.

Of shrubs requiring a warm sheltered spot, and therefore not so generally useful as some others, there are the double-flowered Chinese Peaches, which may be budded, like the fruiting kinds, on the Mussel or common Plum stock. Both the pure white and purple-flowered sorts are worthy of culture, though they are rather stiff and inelegant in appearance, but this cannot be said of the variety Hancei, which has small and pendulous branches, which become covered in spring with conspicuous flowers.



FIG. 51.—HERACLEUM GIGANTEUM, IN GARDENS, PERCY LODGE, WINCHMORE HILL, N. (SEE P. 269.)

PLUMS.

While we are speaking of the Plum stock, there are some very desirable flowering Plums that may be propagated. First place must be accorded to Prunus triloba, which produces an abundance of bright rose-coloured flowers early in the spring, and may be budded low for dwarf plants and potting purposes, or standard high upon strong Mussel or Brompton stocks. The double white Chinese Plum (Prunus sinensis) may be budded on the same stocks, but it is too tender to be worked high. Both are useful for forcing if potted in 10-inch or 12-inch pots, but should be taken into a cool house as soon as they show the pretty coral colour in their buds, or they last but a short time.

THE LILAC

is so highly esteemed in France that it has become quite a florists' flower, and the varieties have multiplied in a bewildering manner. Mons. Lemoine, of Nancy, sent out the first really good double-flowering variety, named after himself, and since then, one he has called Madame Lemoine. The first has rosy-lilac inflorescence, and the latter is pure white. The advantage possessed by the double flower is in its longer persistence, which has been very marked this season. All the varieties may be budded freely on the common Lilac, and buds may be put on some of the strongest suckers that always are present round established bushes. If lifted in the autumn, when the bud is resting, and planted where required, they are little trouble. Among single kinds, a great advance on the well-known Charles X., is Souvenir de L. Spæth, having large individual flowers of very bright red colour approaching scarlet; and if buds can be had of this, it is well worth attention.

Among novelties, the vigorous, late-flowering kinds from Japan, Syringa japonica, and another from those interesting islands, with downy, young spring shoots (S. villosa), should be budded now, and may be allowed to run up into standard trees, a method of treatment which suits them best, as when planted in belts or borders, at intervals, they serve to break the monotonous line so often marring the beauty of such plantations.

THE TREE HOLLYHOCK.

The handsome flowering Tree Hollyhock (Hibiscus syriacus) has also been improved by the French florist, and now there are numerous kinds, each and all of which should be budded low on the common single-flowered form. The single kinds are useful, too, especially a pure white one, "Totus albus." (See *Gardeners' Chronicle*, August 22, p. 227.)

DOGWOOD.

The species of Cornus are useful as covert trees, and since Messrs. Lee introduced one called "elegantissima," they have given us many bright-foliaged shrubs, some of which are unique in their colouring. All may be budded low on the common Dogwood, Cornus mascula, any time during the summer when the sap is active, both in stock and bud-parent. C. elegantissima is still the best, and Spæth's golden form is a useful companion plant, but they should have a shady position in the shrubbery, as hot, direct sun is apt to scorch the leaves, due to the absence of chlorophyll therein. Budded high and grown in pots, they may be gently forced, and then are worthy subjects for the cool conservatory.

DAPHNES.

The deliciously-fragrant Indian Daphne may be increased by budding either on D. laureola (the Spurge Laurel) or D. Mezereum in the open ground, but in the north of the country they need protection during the winter. In the south, both it and the white form are hardy upon warm walls or fences.

MOUNTAIN ASH.

The useful forms of Mountain Ash are propagated by budding into the ordinary species. For variety, a few of the yellow-fruiting kinds may be budded in young trees of this, but if a really handsome lawn-tree is required, work the variety called hybrida, which is an erect, close grower, with handsome cut foliage, flowering later than the species, and producing bright scarlet fruit like it. Of weeping forms, Dawson's is the most satisfactory. All the Sorbus do best on rather poor soil of a calcareous nature.

THE TRAVELLER'S REST TREE

(Viburnum lantana) is common in most parts of England. This may be raised from its red berries and it forms a stock for the fine-flowering Japanese variety (V. plicatum), and also for the similar variety from China (V. macrocephalum). Both should be budded low down on the ground-line, and the stock headed-back in the spring. Another kind only lately in commerce (V. dilatatum) may be budded on the same stock, and it forms a useful addition to ornamental fruiting-trees. *Experience.*

(*To be continued*).

NEW MELON DISEASE.

A CORRESPONDENT ("H. C. T.") has sent us Melon-leaves, with the following note: "Up till a few weeks ago the plants were healthy and doing well. Then a few spots appeared on one or two of the leaves, afterwards spreading over the whole until there is not a healthy leaf left, and the fruit only a little more than half-grown. I have had them similarly affected in the same pit for several seasons, but not so early." The leaves are blotched with greyish spots from ½ inch to 2 inches long, and upon these spots, on the upper surface, a black mould flourishes. The hyphæ are very long, erect, straight and slender, of a dark olive colour, so that the septa are very inconspicuous. The conidia are quite three times as thick as the hyphæ, but colourless, 80 micro-millimètres long by 8 micro-millimètres thick, attenuated a little toward one end and rounded at the other, at first multi-nucleate, and then many septate. This mould may only prove to be a variety of Cercospora citrullina (Cooke), *Grevillea*, xii., p. 31, or possibly a distinct species. The latter is found upon leaves of Citrullus in the United States, and in that case the

spots are smaller and the conidia longer and much more slender, so that probably that upon Melon leaves will ultimately have to be considered distinct, with the name of Cercospora melonis. *M. C. C.*

BELGIUM.

SALIX SERICEA PENDULA.

THIS variety, which I mentioned when speaking of the nurseries of Plantières les Metz, is so named by horticulturists because when it is grafted as a standard it has pendulous branches, forming a pretty little weeping tree ; it is no other than S. sericea, Willd., a European species. Its other synonyms are Salix glauca and S. appendiculata.

STAPHYLEA × COULOMBIERI.

This is now showing fine branches covered with numerous white racemes, differing much from those of other Staphylea. M. Coulombier has grown this fine shrub since 1872. He received a plant from Segrez, where M. A. Lavallée cultivated it, and where it no longer exists. Its origin is unknown. It is named after M. Colombier, who has successfully propagated it. This species has the advantage that the plants flower when very young. I remarked at the time of my visit to Plantières that S. colchica and S. Coulombieri had been frozen to the ground in the winter of 1894-5. The latter variety flowered abundantly this year, while S. colchica did not bloom ; S. Coulombieri should, therefore, be more adapted to forcing than S. colchica. *Ch. De B.*

CULTURAL MEMORANDA.

HYDRANGEA HORTENSIS.

IF cuttings of mature wood be struck at this season, the plants will bloom well the following spring. The cuttings for this purpose should be strong, with a firm terminal bud, and should be cut below a pair of leaves, inserted in small pots filled with sandy loam and leaf-soil, and kept plunged in a gentle warmth till roots are emitted, but on no account should growth at the top be excited. When rooted, the plants should be stood in the open air, or on shelves fully exposed to sunlight, so as to insure thorough ripening. After the leaves have fallen, very little water will be required throughout the winter. Stand the plants in a cool position till February or March, when they should be well watered and repotted, if this be thought necessary, and afforded a slightly higher temperature. If large bushes are wanted, the bloom-buds should be kept pinched out till the plants have reached a desirable size. Cuttings taken during the growing season root readily ; but these will not flower the first season afterwards, although they soon make big plants, and flower well the following year. *H. Markham, Mereworth Castle.*

THE WEEK'S WORK.

FRUITS UNDER GLASS.

By W. POPE, *Gardener, Highclere Castle, Newbury.*

PINES.—The present is a suitable time to pot-up a quantity of suckers from the old stools that have ripened or are ripening their fruit. For potting-compost use a good sound loam from an old pasture or deer-park containing plenty of fibre. This should be pulled to pieces by hand, and the rougher portion only made use of. Add to each 2 bushels of loam, an 8-inch potful of fresh bone-meal, and pot firmly. The largest suckers may be put in 7-inch, and the smaller ones in 6-inch pots. Plunge the pots into a bottom-heat of 90° to 95°, and keep the atmosphere of the house rather close and moist for a time, shading the plants for an hour or two each day during bright sunshine until they have rooted and commenced to make growth, when shading must be discontinued, and more air given. If the soil is moderately moist when used, the plants will not require watering till rooting has taken place, but a light spraying overhead may be afforded occasionally during bright weather. Give the plants more headroom as growth advances, or they will become drawn and weakly. Succession stock is now growing freely, and as the amount of sun-heat is daily decreasing, care will be necessary to prevent the growth becoming soft and drawn. Maintain a drier atmosphere, and give a slight increase of artificial-heat ; syringing may be done only occasionally, and then early in the afternoons of fine days. Afford water only when absolutely necessary, and then let it be sufficient to saturate the soil thoroughly, occasionally using weak liquid-manure, or guano-water in a tepid state. Maintain the bottom heat at 85° to 90°, and atmospheric heat at 70° to 75° by day without sun, and ventilate freely when the weather is favourable. During the present month sufficient soil for next year's potting should be collected and stacked. The turf 3 or 4 inches thick from an old sheep pasture or deer park is generally the best, and this should be stacked grass downwards, with the top ridged to throw off the rain. Smooth Cayennes and other winter-fruiting sorts will now be swelling their fruits, and should have every attention. Damp down when dry with weak guano-water, and keep a moist atmosphere. Sprinkle the foliage and surface of the plunging material occasionally when the house is closed after a bright day, but avoid wetting the crowns or letting water lodge in the axils of the leaves. If the soil should be getting low in the pots, top-dress with rich fibry loam. Close the house sufficiently early in the afternoon to allow the heat to rise to 85° or 90° with sun, and allow a night temperature of 70°. Plants which have fruits now colouring will be best placed in a structure by themselves, where they can have a freer circulation of air and be kept rather cooler. Plants that are intended to commence fruiting early next year may be selected from those started in the spring, and placed where they can be rested for some six or eight weeks. Allow them just enough water at the roots and atmospheric moisture to keep them healthy, and reduce the heat gradually to about 65° at night. In a few weeks they should be in a comparative state of rest. Ventilate freely whenever the weather is favourable.

PLANTS UNDER GLASS.

By JNO. MCINTYRE, *Gardener, Woodside, Darlington.*

WINTER-FLOWERING PLANTS should now be shifted into the pots in which they will bloom. They may then remain a month or so longer in the pit or frames in which they have been kept through the summer, before they are removed to shelves indoors. Those in Peach-houses, provided they are near the glass, are well suited previous to their commencing to bloom.

LILIUM LANCIFOLIUM.—Plants that have yet to bloom should be placed indoors, where the flowers will develop better and be much cleaner than if they be allowed to remain any longer out-of-doors. The plants may be fed with liquid manure liberally at this stage.

MONTBRETIAS.—If desirable, these may be lifted in clumps from the open when in flower, and potted up for use in the conservatory. They should be more largely grown for this purpose, so useful are they.

FUCHSIAS.—Give the plants some diluted liquid-manure from the farmyard at each alternate watering ; it will help them to continue to bloom, and remain vigorous for some time longer. Plants that were struck in the spring for late-flowering, and that need to be repotted, should be attended to in this respect at once. Discontinue pinching the shoots, and allow the plants to flower.

PLANTS FOR SPRING FORCING, ETC., such as Azaleas, Rhododendrons, and Deutzias, that have been turned out-of-doors into a shaded position, may now with advantage be fully exposed to the sun ; every encouragement should be given them to become thoroughly matured.

POINSETTIAS.—The latest batch of these plants should be given their final shift. Use good loam and leaf soil, with a little sharp river-sand added, and well mix. The earliest plants will soon be showing flower, and may then be stimulated by affording them weak liquid-manure prepared from sheep's droppings. They should be kept in a temperature of 70° at night, with a rise to 80° during the day. Keep the house close and the atmosphere moist for some time yet.

GENERAL WORK.—Greenhouse flowering plants that have been planted out during the summer, such as Salvias, and which it is intended to bring in for flowering during the winter, may be growing too grossly. If this be so, a check should be given them by cutting through the roots 4 inches from the stem. This will also tend to the ripening of the wood. Although very old plants, S. splendens and S. coccinea are very showy and desirable ; during the winter the flowers are very valuable for cutting purposes.

Euphorbia Jacquinæflora, whether planted out in the stove or grown in pots, may be given a good sprinkling of Clay's Fertiliser, it will result in a vigorous growth being made. This plant well repays any extra attention given at this stage of its growth, for on the strength of the growth now made depends the length of the sprays of flower. It is possible to obtain sprays 8 or 9 inches long. In most of the structures where fire-heat has been temporarily dispensed with, such as ferneries, it will soon be necessary again to use a little, in order to displace the excess of moisture that accumulates. A little warmth in the pipes during the day will evaporate much moisture after watering. If the weather is at all favourable, ventilate at the same time that the fire-heat is employed. The heating apparatus ought to be overhauled annually ; and boilers and apparatus can now be cleaned and put in repair with but little inconvenience. The stove-plants will now require increased attention. If the weather be dull and sunless, allow the fires to be kept going, and afford abundance of ventilation. In this way the wood in stove-flowering plants will become thoroughly ripened before the autumn has passed, and therefore the less likely to be injured during the dull months of winter. Although shading may not be altogether dispensed with at present, the blinds must only be used on the very brighest days, and in the course of a fortnight their use may be discontinued for the season.

THE FLOWER GARDEN.

By HEDLEY WARREN, *Gardener, Aston Clinton, Tring.*

GENERAL REMARKS.—The recent showery weather has saved much labour in watering, and this may now be turned to other account. Remove or shorten back all protruding branches of evergreen trees in the shrubberies without more delay, and if it be intended to plant the shrubbery borders with spring-flowering plants or bulbs, they should at once be given a heavy dressing of manure, and afterwards dug. Continue to remove all decaying matter from plants in the flower-beds, and maintain a neat appearance as long as possible.

BEDDING PELARGONIUMS, ETC. — Cuttings of these put in last month will have commenced to make growth, and the plants should be gradually inured to full exposure, in order that the growth may be strong and stocky, which will prevent many losses during winter. Where bedding Lobelias are propagated by cuttings in preference to seeds, and there are no stock plants, a number of the plants in the borders may be cut down at once. These will soon produce a quantity of young shoots, which may be struck in light sandy soil in heat. Another method which answers equally well is to pot-up a few old plants, from which cuttings may be taken during the spring months.

HERBACEOUS BORDERS are now in many gardens at their best, and there is promise of a good display of bloom for some weeks to come. Harpaliums, Rudbeckias, Chrysanthemum maximum, Everlasting Peas, Gaillardias, and a host of other species are in bloom. Lobelia cardinalis and the variety Queen Victoria are grand plants. They are not only useful perennial bedders, but they furnish excellent flowers for cutting. This species is thought by some to be but half hardy, and they are lifted in the autumn, and wintered in cold pits or frames ; but should they be considered unsafe out-of-doors, the risk, if any, may be avoided if the crowns be covered with ashes, or some such protecting material. The full beauty of the plant is not developed when they are disturbed yearly. Old-established clumps always produce an abundant bloom, and are most effective when growing in masses. If the stock be a limited one, it may be increased by lifting the roots during October, and dividing the crowns. These may afterwards be planted in boxes at regular distances apart, or potted up singly into 3-inch or 5-inch pots, according to the size of the crown. During the first winter they may be allowed to remain in cold frames, or plunged in ashes or fibre out-of-doors where protection can be given as needed. Propagation may also be effected by seeds, which the plant usually produces freely.

SALVIA PATENS.—Massed beds of these afford such a wealth of colour that it is indispensable where a good blue-coloured flower is needed. In most

localities it is necessary to lift the roots in the autumn and store them in sand, or some other light material, in the same way that Dahlias are treated.

CEANOTHUS GLOIRE DE VERSAILLES is just in flower, and is one of the most beautiful of flowering shrubs. Although not quite hardy in some localities, it should be planted where there is any possible chance of it succeeding, even if it should need protection during the coldest winter months. The rich blue spikes of bloom are exceedingly attractive. If the plant is placed against a wall, protection is more easily afforded than in the shrubberies. Although this plant delights in plenty of moisture, yet undrained soil is most undesirable, and is more often than not the cause of failure.

THE ORCHID HOUSES.

By W. H. White, *Orchid Grower, Burford, Dorking.*

MASDEVALLIAS.—In most collections there are some plants that require to be re-potted through the compost having become sour and soddened. Strong healthy specimens may need additional rooting space, and large over-grown masses which have become bare of foliage in the centre should be turned out of their pots, carefully divided, and potted up afresh. A few days previous to disturbing the roots, allow the plants to become moderately dry, the roots will then be less liable to become injured. If Masdevallias be grown in a suitable temperature, they make a great number of long vigorous roots, and require pots of considerable size. The pots should be two-thirds filled with drainage, and the crocks fixed in the pots in an upright position, taking care to make them as hollow as possible. Over these place a layer of sphagnum-moss. In re-potting keep the base of the plants on a level with the rim of the pot, and carefully work in among the roots a compost consisting of equal parts of peat and sphagnum-moss, occasionally inserting a few thick pieces of crock. Make the compost moderately firm, but not sufficiently so to prevent water from passing through rapidly.

Many of the plants that were re-potted last season and are now in a satisfactory condition, will not need to be re-potted, but if the surface of the soil is covered with seedling Ferns or with conferva, it should be carefully picked out until the crocks are seen, and fresh peat and moss substituted. For the first few weeks after re-potting, water very sparingly, as an excess of moisture at that time will result in the loss of many leaves and roots; but as each plant becomes re-established, the quantity should be gradually increased. To avoid black and spotted leaves, prevent the plant becoming permanently saturated, especially through the autumn and winter, when every care should be taken that no plant is watered unless the soil is really dry; and *then* if the plant is not properly rooted, the compost should not be thoroughly soaked. An excess of atmospheric moisture during dull weather is also a cause of "spot." During the next six months afford water with discretion, and when the external temperature is falling, gradually reduce the amount of atmospheric moisture inside. When it becomes necessary to use fire-heat, care must be taken to prevent aridity in the atmosphere. It is very difficult to give precise instructions in this matter, as much depends upon the situation and construction of the house, and upon it being a naturally dry or moist one.

It is equally important to keep the plants free from insects; yellow thrips may attack the young leaves to such extent that healthy growth is impossible. As soon as insects are observed, use the XL All vaporiser, which will quickly eradicate and destroy them, but will not injure the tenderest leaf-growth. It is always advisable after using this preparation to closely shade the plants from the sun's rays for a day or two. To enumerate all the species and varieties of Masdevallia would be unnecessary here, but a few of the leading ones may be mentioned. Many of the species, as M. Veitchiana, M. amabilis, M. Barlæana, M. coccinea, and its numerous varieties of the Harryana type, are characterised by flowers of brilliant colouring. The best forms of the orange-scarlet M. ignea are well worth growing, as the flowers are very useful during the dull season, and remain a long time in perfection. The yellow-coloured M. Davisii is quite distinct and useful for hybridising purposes, so also is the white M. tovarensis, a species which should be in every Orchid collection, it being especially valuable for making button-hole bouquets. Among the plants most interesting to the botanist the following should be added: M. macrura, M. elephanticeps, M. Gargantua, M. peristeria, M. ephippium, M. coriacea M. melanoxantha, M. Schlimii, M. Trochilus, M. infracta, M. maculata, M. Reichenbachiana, M. cucullata, and the sensitive M. muscosa. A well-bloomed plant of M. polysticta forms a pretty object, each spike producing many small spider-like flowers. The Gnat Orchid, *M. culex*, now known under the name of Pleurothallis macroblepharis, is always a great attraction when in flower. M. racemosa Crossi is a pretty and distinct species; it grows with great freedom, but there is some difficulty in getting it to flower satisfactorily. The undermentioned dwarf-growing varieties are all pretty and free-flowering, and would make an interesting collection: M. Wagneriana, M. Armini, M. rosea, M. Estradæ, M. triaristella, M. ionocharis, M. triadactylites, M. caudata Shuttleworthi, M. hieroglyphica, M. floribunda, M. melanopus, M. picturata, M. Wendlandiana. These being of dwarf habit may, if the house is a naturally damp one, be suspended in small shallow pans close to the roof-glass, but should the atmosphere be dry, a light position upon the stage would be better. Masdevallia hybrids are extremely pretty and interesting, and M. Courtauldiana, M. Fraserii, M. Geleniana, M. Stella, M. Cairiana, M. Estradæ-caudata, M. Chelsonii, M. Shuttryana, M. Hincksiana, M. splendida, M. glaphyrantha, M. Henriettæ, &c., should be added to a collection where possible.

HEATING APPARATUS.—Thoroughly overhaul and put everything connected with the heating apparatus in working order, that if severe weather should occur during the winter, the maintenance of the proper temperatures may be obtained without difficulty. When cleaning out the boilers, hot-water pipes, &c., it is advisable to make the best use of all the sun-heat obtainable to keep up the temperatures, and to use the ventilators but moderately. At the same time use less water when damping-down, and keep the plants rather on the dry side than on the wet; thus, if any plant appears to be suffering from dryness at the root, about half the usual quantity should be afforded. These remarks are, of course, only applicable to the warmest divisions; the work need not affect those species in the cool houses in the least degree if done at once.

THE KITCHEN GARDEN.

By C. Herrin, *Gardener, Dropmore, Maidenhead.*

WINTER SPINACH.—The earliest Spinach plants should now be large enough to be thinned, and this may be done in two operations. Leave each plant 3 or 4 inches of space for the present, and if they are free from disease and wireworm, every other plant may be removed later. The leaves can be used then, but if they are not required, chop out the plants with the hoe. As more land has now become vacant, another sowing should be made of the Improved Victoria round-seeded variety. This will be useful should the early-sown plants become too large, for although strong plants are necessary to withstand a severe winter, extra size and soft growth is not desirable. The ground being at present moist and warm, germination will soon take place. The drills for this late sowing should be made 15 inches apart, and the ground be well trodden over previously. Before sowing the seeds, scatter over the ground and in the drills a mixture of soot and wood-ashes in equal proportions.

CAULIFLOWERS.—A second sowing of dwarf Erfurt Mammoth and Early London Cauliflowers may be made forthwith. In a season like the present it is probable that the plants from this sowing may be more satisfactory than from seeds sown earlier. If the plants become too large, buttoning may be a source of trouble later on. If a portion of the plants be wintered from each sowing, choose eventually the greater number from those plants which are a suitable size. This will be evident enough by the time the plants are ready for being pricked out into handlights or frames. Sow upon a fully-exposed border, and facing south or west, and after levelling the surface, scatter the seeds thinly in shallow drills drawn 9 inches asunder. In the event of showery weather, a sharp look-out must be kept for slugs, and a dusting of lime and soot applied if these are troublesome. Cover the seeds with garden-netting to protect them from birds.

SALADING.—Lettuce and Endive raised from sowings made a month since should be transplanted in quantity, to furnish heads for placing in frames, &c., for an early-winter supply. An open and sunny situation will be most suitable. A small sowing of Brown Cos Lettuce may be made thinly in an open position, to stand through the winter. Mustard and Cress should now be sown under hand-lights or in frames; it being liable to damp off if exposed to heavy rains. Radishes should still be sown for succession; the French Breakfast is a quick-growing variety, and this or a similar one should be chosen for sowing at this season.

GENERAL WORK.—Since the recent showers, weeds have sprung up very rapidly, and when the weather is dry regular use of the hoe should be made. The Chinese Artichoke (Stachys tuberifera) which made little progress during the dry weather, has now made a start, and the ground between the rows should be hoed over to prevent weeds and to encourage active growth, or the tubers may be small. Vegetable Marrows that were planted early have produced their first crop of fruits, and should be given some assistance by liquid-manure, in order to keep them in bearing. Vacant ground may be filled with any kind of Colewort, late Savoys, or other green crop. Any late-sown plants of the Drumhead Savoy put out now should furnish small heads that will stand severe frosts, and turn in during the early months of next year.

THE HARDY FRUIT GARDEN.

By G. Woodgate, *Gardener, Rolleston Hall, Burton-on-Trent.*

FIGS.—The Fig trees in this garden are still producing numerous fruits, which are both large in size and of good quality. Any fruits which may form on this season's wood should not be retained with the idea that they will stand the winter and ripen early, but they should be rubbed off forthwith. To do this will tend to the formation of fruit-buds, that will remain in a latent condition till next spring. Do not lay in any more shoots of the current season's growth than there is ample space for, or the wood that is left for producing next year's crop of Figs may, through lack of sun and air, be badly matured.

VINES.—Any that are trained on garden walls, &c., should have every lateral shoot pinched back to one good leaf, which will allow the sun to reach both young wood and fruit, and aid in maturing them. A few of the leaves may also be removed, if much crowded.

RASPBERRIES.—The canes which have fruited should now be removed, and a sufficient number of the strongest new ones tied in to take their places. If new plantations are to be made of the varieties in stock, any good surplus canes may be left untouched till the planting season, to be then transplanted to the new beds, being careful when digging up the roots not to disturb the roots which remain more than can be avoided. When not required for making plantations, or filling up vacancies, all superfluous canes should be removed with the knife.

ROOT-PRUNING.—Now is a good time to make a note of such trees that require root-pruning, or lifting and transplanting at the proper season.

FRUIT-GATHERING.—Many early varieties of Apples and Pears require almost daily attention at this season, taking the fruits as they become fit for use as dessert and cooking, or for storing, as the case may be. All fruit should be plucked when dry, and it is prudent to use only small flat baskets, so that the fruit be not much piled up, and it is advisable to place some soft material below the lowest tier to prevent bruising. In order to ascertain if a fruit is in a fit condition for being gathered, lift it gently until it comes to the horizontal position, when, if the stalk parts readily from the branch, it is fit. Peach and Nectarine trees with ripening fruits, should be examined once or twice a day, carefully taking those which are almost ripe. These will finish off and be of good flavour if placed in a cool fruit-room, being at the same time less liable to injury from wasps and flies.

STRANGE HABITATION FOR BEES.—In a dwelling on the farm of Jameston, on the estate of Ardoe, some 5 miles from Aberdeen, occupied by Mr. Walker, some bees have made a nest in a liquid-manure barrel standing in the farmyard, and laid up their winter stores of honey. It is not uncommon for bees to seek a lodging in the trunk of a decayed tree, the thatched roof of a house, or even a church; but it is unusual for the scouts—bees always send out forerunners to select a place of settlement—to choose a barrel with a narrow means of ingress and egress as a place for the community to settle in. There are no hives about the farm, and it is probable that the bees came from a long distance.

APPOINTMENTS FOR THE ENSUING WEEK.

SUNDAY, SEPT. 6 — Royal Agricultural and Horticultural Society of Ghent Sh.

TUESDAY, SEPT. 8 — Royal Horticultural Society's Committees.

WEDNESDAY, SEPT. 9 — Royal Caledonian Horticultural Society in Waverley Market, Edinburgh (two days).

THURSDAY, SEPT. 10 — Paisley Horticultural Society Sh. Thame Horticultural Society Sh. Exhibition of Produce from Small Holdings, at Botanic Gardens, Manchester.

SALES.

EVERY DAY, — Dutch Bulbs at Protheroe & Morris' Rooms.

MONDAY, SEPT. 7 — Dutch Bulbs at J. C. Stevens' Great Rooms.

TUESDAY, SEPT. 8 — Clearance Sale of Stove and Greenhouse Plants, Hay, Carriage, and other effects, by order of Mrs. Jewell, at Hall Place, Bexley, by Protheroe & Morris. Dutch Bulbs at J. C. Stevens' Great Rooms.

WEDNESDAY, SEPT. 9 — Fifteenth Great Annual Trade Sale of Winter-blooming Heaths at the Longlands Nursery, Sidcup, by order of Messrs. Gregory & Evans, by Protheroe & Morris. Dutch Bulbs at J. C. Stevens' Great Rooms.

THURSDAY, SEPT. 10 — Important Trade Sale of Heaths, Ferns, Carnations, and Roses at the Mill Lane Nursery, Cheshunt, Herts, by order of Mr. E. Rochford, by Protheroe & Morris. Dutch Bulbs at J. C. Stevens' Great Rooms.

FRIDAY, SEPT. 11 — Second Annual Trade Sale of Greenhouse and other Plants at the Avenue Nursery, Bexley Heath, by order of Messrs. P. H. & J. Cooper by Protheroe & Morris. Orchids at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK—58°.

Modern Grapes.

M. GUILLON, demonstrator at the National School of Agriculture at Montpellier, has lately published a treatise on the Grapes grown in the East (*Les Cépages Orientaux*; Paris: GEORGES CARRÉ, 3, Rue Racine). The book is of interest to our Grape-growers, as it deals with several varieties well known to them, such as the Muscat of Alexandria, Gros Colmar, here called Dodrelabi, and others. The descriptions have been taken from living specimens in the National School of Agriculture of Montpellier. After a short historical introduction, M. GUILLON goes on to speak of imperfect fertilisation (coulure), which he combats by girdling, pinching, and specially by artificial fertilisation.

The description of each variety includes an analysis of the must, or unfermented juice, showing the specific gravity, the quantity of sugar and of acid per litre, the average weight of bunch, the number of seeds, the date when spring growth begins, the periods of flowering, of maturity, and of defoliation, &c.

It may be of interest to cite the analysis of two of our best known Grapes, which are indeed far more extensively grown here than in France—Muscat of Alexandria (I.), and Dodrelabi, or, as we call it, Gros Colmar (II.):—

	I.	II.
Density (Beaume at 15°)	8°4	7°4
Sugar, per litre	135 gr.	114 gr.
Acidity, per litre	4·82	5·47

Gros Colmar is no better in France than it is here, though its fine colour and appearance render it a favourite in the markets. This Grape is said to be subject to "Shan Knig," under which curious appellation (for which the French printers are responsible) is designated what we usually call shanking. We have not observed that this Grape is particularly subject to this malady here. We append M. GUILLON'S conclusions:—

Grapes with white and elongated berries (large or small) are the best from many different points of view. They are ornamental, of a very pleasant taste, having firm flesh with a thick skin, which makes them travel better than others.

Those in which the berries are spherical (large or small) have generally an exquisite flavour, juicy flesh, a delicate skin, and many among them are near to the Muscat section.

Grapes with rosy and elongated berries have a very fine appearance, but the flavour is indifferent, rendering them more particularly suited for cooking. They constitute, by the form and colour of their fruit, as well as by their characteristics of bearing, foliage, and branching, the most homogeneous class. This homogeneity serves to explain the eastern origin of Vines, such as Cornichon and some others presenting the same appearances, but whose origin is scarcely known.

Grapes with rosy and long berries come near the Olivette section.

Grapes with black berries are the least interesting. Their fruit much resembles in colour and appearance that of the indigenous Vines, and as they have not been cultivated, a great number are but little productive. Further, their flavour is often too acid.

Judging by these illustrations, it would seem that white Grapes have a greater adaptive faculty than red ones, because from the latter, as is well known in the East, only products of mediocre quality are obtainable. This fact may be explained on the ground that red Grapes are generally less sweet and richer in acidity than the white. As variation in the proportion of the acidity has considerable influence on the flavour of the fruit, it follows that the least alteration in the proportion, induced by climate or whatever cause, alters the taste of the Grape in one way or another; that is to say, it becomes too insipid or too acid.

ABIES NOBILIS (see p. 275, fig. 52) well deserves its name. It is one of DOUGLAS'S introductions, and occurs in forests in Oregon, and on the Cascade Mountains, where it grows at an elevation of 3000 to 4000 feet, and attains a height of 200 to 300 feet. DOUGLAS sent seeds of it home so long ago as 1831 to the Royal Horticultural Society, so that there are now many specimens of good age and size scattered through the country. Some of the forms are much more glaucous than others, some have a more robust habit than others, and hence have arisen sundry varietal names, but there is, in general, little difficulty in recognising the species. It cones freely in a relatively young state, and the cones are particularly handsome, and have often been figured. In the votes taken at the Conifer Conference the highest number was awarded to this Silver Fir, as most suitable for planting in parks. The largest specimen noted in the Conference Report (1891) was one at Birr Castle, King's County, Ireland, which was recorded as having attained a height of 83 feet. As a timber-tree it is of secondary importance. Our figure was taken from a photograph kindly sent to us by Mr. WILLIAM MILLER, Combe Abbey, Coventry.

LILIUM PHILIPPINENSE.—This species, from the temperate regions of the mountainous districts of the Philippine Islands, at an altitude of 10,000 to 12,000 feet, is one of the most beautiful of Lilies, and might be described as a white Lilium Browni. It has been found to be hardier than Lilium longiflorum. The plant grows to a height of 2 to 3 feet, and the stem is slender and wiry, with linear leaves about 9 inches in length. The flowers are about 9 inches in length, trumpet-shaped, white, and very fragrant and they appear between August and October. It is well adapted for out-door and pot-culture. Some fine-grown blossoms of this beautiful Lily reach us from Mr. WARE, Hale Farm Nurseries, Tottenham, which quite bear out the above description kindly sent with them, excepting in so far as regards the colour, which would be more correctly described as French white, with a faint purplish tint on the keels, of the perianth segments, visible only on the outside of the same.

NATIONAL CHRYSANTHEMUM SOCIETY.—At a meeting of the general committee, held on the 24th ult., the secretary, Mr. R. DEAN, reported that the finances were in a satisfactory condition, and that the Jubilee Fund was growing, though, so far, it had fallen short of the sum actually required, and that further donations were desired. Mr. W. MEASE was appointed as judge at the October show, in the place of Mr. GEO. BECKETT, who had resigned; and Mr. D. INGAMELLS a member of the general committee, in the place of Mr. C. HICKS, who retires. Forty-two candidates for membership were elected, and five societies admitted to affiliation, including the Hamburgh Chrysanthemum Society, the first society of the kind established in Germany. This makes the twenty-second society affiliated during the present year.

THE HAMMERSMITH HORTICULTURAL SOCIETY.—On Friday, August 28, a number of the members of this suburban society, headed by the chairman, Mr. JAMES HILLIER, paid a visit to Messrs. H. CANNELL & SONS' nurseries at Swanley and Eynsford, inspecting the varied contents of the glass-houses, and the crops of flowering plants, vegetables, fruit trees, &c., growing in the open air, at both their establishments.

ROYAL HORTICULTURAL SOCIETY OF ABERDEEN.—The recent show of this Society was financially a failure, the takings amounting to £51 less than the expenditure. This was a great disappointment to Mr. J. MURRAY, Glenburnie Park, Aberdeen, the Chairman, and he, to obviate the necessity of encroaching upon the small balance lying at the bank to the Society's credit, set himself the task of making up the deficiency. Heading the list himself with £10, Mr. MURRAY proceeded to canvass a few friends of the Society, and in the course of a couple of hours he had succeeded in obtaining the desired sum, £51 6*s.* 8*d.*

ORCHIDS OF SOUTH AFRICA.—We are glad to announce the publication of the second part of Mr. BOLUS' *Icones Orchidearum Austro-Africanarum*, by Messrs WESLEY & SON, 28, Essex Street, Strand, London, W.C. The first part has proved of such standard excellence that Orchidologists will gladly hail this further instalment, to which we shall allude more fully on a subsequent occasion.

MELBOURNE BOTANIC GARDEN.—The *Australasian* of July 11 contains an illustrated article on the Melbourne Botanic Garden, the jubilee of which occurs this year. Mr. JOHN ARTHUR was the first Curator; he was succeeded by Mr. DALLOCHY, and in 1857 the Government botanist was appointed to superintend the garden, and was indefatigable in making known and distributing its riches. In 1873 Mr. GUILFOYLE was appointed, under whose management several improvements have been carried out.

POTATO GROWERS' STRIKE IN BRITTANY.—The *Bristol Times and Mirror* reports at Pont l'Abbé, 11 miles from Quimper, differences have arisen between the local Potato growers and the English buyers, which have led to an almost complete stoppage of the local Potato export trade. The growers have absolutely refused to sell their crops to the English agents, who have come, as usual, to Pont l'Abbé, with vessels for the conveyance of their purchases to England, at less than 3 francs per 50 kilograms. The agents offer 2 francs 50 cents. Several acts of violence are reported. One English agent, who had refused to accept a cargo at the price demanded, was hung over the water until he agreed to the peasant's terms.



Fig. 52.—ABIES NOBILIS, GROWING IN THE GARDENS OF THE EARL OF CRAVEN COMBE ABBEY, COVENTRY. (SEE P 274.)

"THE MUSHROOM, HOW TO GROW IT FOR PROFIT."—This is the title of the smallest manual on the culture of Mushrooms with which we are acquainted, containing as it does but seven and a half pages of printed matter. In these few pages Mr. JOHN COBBAN, of the Market Place, Rotherham, has contrived to give the essential points of his subject, and, as we think, with a fair amount of success. The cottager, allotment holder, and farmer will find useful information on the cultivation of the Mushroom out-of-doors, in cellars, under a greenhouse stage, and in pastures.

FAVOURITE FLOWERS OF GARDEN AND GREENHOUSE.—Yet another serial work on garden matters added to our already over-redundant stores, differing, however, from most of the preceding ones by reason of its coloured plates. The subject-matter follows the classification of the *Genera Plantarum*, the first number commencing with Clematis (Ranunculaceæ), proceeding to Thalictrum, Anemone, Hepatica, and Caltha. Mr. EDWARD STEP, F.L.S., has provided the text, including the lists of varieties, and also the cultural directions; the latter have, however, been revised by Mr. W. WATSON, assistant curator of the Royal Gardens, Kew. For those who want to know something more about the plants cultivated in their gardens than how to grow them, the present work should be of especial value. It is carefully edited, and well printed on thick paper, and the illustrations are, so far as we have seen them, true to nature. The publishers are FREDERICK WARNE & Co., 15, Bedford Street, Strand, London, W.C., who issue it weekly at the price of 1s. net.

FRUGIVOROUS BATS.—Mr. HART reports that bats cause considerable damage to fruit-trees by taking away the seeds of Coffee, Tea, and other plants, and invariably choosing the best and ripest. Under their feeding-place, which is generally the underside of some branch of a tree, there is frequently found a small heap of fruits, and advantage is taken of this peculiarity to secure seeds of tall trees from which seeds are not easily obtained otherwise. Early in the morning, before the heaps are dispersed by other animals, rare seeds and fruits may often be obtained in this way. "*Bulletin, Botanical Gardens, Trinidad.*"

MIDHURST HORTICULTURAL SOCIETY.—The annual show of this society was held in Cowdray Park on Wednesday, Aug. 26, the entries exceeding by more than one hundred those of last year. The exhibits were of such excellence that the judges had no easy task in awarding the prizes. There were numerous contributions not for competition, including some lovely Cactus Dahlias from Messrs. JACKMAN & SON Woking, and Miss MCRONALD, Chichester, who also showed, for the first time, a seedling Tomato very like Challenger in shape, but pure bright yellow in colour.

AMERICAN BLIGHT.—According to a statement made in the *Journal of the National Horticultural Society of France*, hydrochloric or muriatic acid, commonly called spirit of salt, may be used with advantage for the destruction of the American blight. It kills the insects, and promotes the healing of the wounds. It is recommended that a mixture of clay and cow-dung be mixed with the acid till a mixture is made sufficiently thick to be laid on the wounds with a paint-brush. In trying the acid, experimenters must not forget the very poisonous and corrosive nature of the acid, and act with becoming caution.

DUTCH HORTICULTURAL AND BOTANICAL SOCIETY.—FLORAL COMMITTEE.—On the occasion of the meeting of this society on August 8, 1896, the committee awarded First-class Certificates to Mr. A. Buis, jun., of Aalsmeer, for Phlox decussata fol. aur. var.; to Mr. C. G. van Dijk, of Zeist, for Rudbeckia laciniata fl. pl. var. Gold Ball, Cactus Dahlias Mrs. Barnes, and W. B. Wright; to Mr. K. Keessen, jun., of Aalsmeer, for Cornus Spathi var.; to Messrs. E. H. Krelage & Son, of Haarlem, for Gladiolus Lemoinei vars.; Yvette Guilbert, G. L. Emile Augier, G. L. Jane Dieulafoy, G. L. Professor Le Monnier, G. nanceianus Pacha, G. n. Canrobert, G. n. Général Duchesne, and G. n. Jules Finger; to Mr. C. G. van Tubergen, jun., of Haarlem, for Canna Austria and Canna Italia; and to Mr. N. de Zwaan, of Utrecht, for Begonia grandiflora erecta cristata. Certificates of Merit were granted to Mr. Egb. Kloosterhuis, of Veendam, for Acer pseudo-platanus argyreus and Robinia neo-mexicana; to Messrs. E. H. Krelage & Son, of Haarlem, for Gladiolus Lemoinei vars.; J. J. Weiss, G. L. Madame Desbordes Valmore, G. L. Deuil de Carnot, and G. nanceianus Julien Girardin. Votes of Thanks were given to Mr. J. W. Daudey of Haarlem, for Gloxinia narcissiflora; to Mr. C. G. van Dijk, of Zeist, for Astilbe rivularis, Eryngium Olivierianum superbum, Gladiolus Lemoinei in three varieties, and Rudbeckia purpurea.

BULBS IN THE PARKS OF THE LONDON COUNTY COUNCIL.—We are requested by Messrs. W. CUTBUSH & SON, of the Highgate Nurseries, to notify that the supply of the whole of the bulbs required by the London County Council for the parks under its charge are to be supplied by them this season.

TOMATOS.—Mr. W. H. MUNSON contributes to the Massachusetts Horticultural Society a paper on this vegetable, of which the following is a summary:—1. Lycopersicum esculentum, from which most of our common varieties of Tomatos have been developed, is a native of Peru, but is spontaneous or indigenous as far north as Texas and California, in a form closely approaching the "Cherry" Tomato of the gardens. 2. The Tomato was first cultivated in the south of Europe, and is mentioned as early as 1561. 3. The fruit was used for food in 1583, but was slow in coming into general use. Seven varieties were known at the beginning of the eighteenth century, but not till a hundred years later did the culture become general in England. 4. The Tomato was known and used as an article of food in this country in 1806, but was not grown for market until about 1829. 5. The modern large-fruited and irregular-shaped varieties, including the French upright and the grandifolium or Mikado type, have undoubtedly been developed from the "Cherry" Tomato or a closely-related form; and this development has apparently come about largely by the augmentation of the cells in the primitive type. 6. The results obtained from crossing the common Tomato with Lycopersicum pimpinellifolium indicate a promising field for the development of new types. 7. Solidity of fruit is an individual rather than a varietal character, and this character is often dependent on the amount of pollen received by the flower. 8. If properly handled in a glass house, Tomatos may be set in the field much earlier than is commonly supposed, with good results. 9. Trimming plants in midsummer has usually resulted in slightly hastening the maturity of fruit already set. 10. While heavy manuring does not lessen productiveness, the best fertilisers are those which act quickly and hasten growth early in the season. 11. For New England, the most profitable work with Tomatos may be carried on under glass. For this purpose Lorillard, Chemin, Optimus, and Golden Queen are the most promising.

MR. HORACE BROOKS MARSHALL, the pioneer of the railway bookstall trade, and head of the well-known firm of publishers and newspaper agents, Messrs. HORACE MARSHALL & SON, died on the 1st inst., in his sixty-seventh year.

THE BRITISH ASSOCIATION.—It is twenty-six years (*vide Times* of August 28) since the British Association met at Liverpool. The 1870 meeting was a remarkable one. The President was the late Professor HUXLEY. His masterly address on Biogenensis created a great stir. There is no lack of interesting subjects to engage the attention of the Liverpool meeting, and no dearth of competent men to deal with them. Dr. D. H. SCOTT, F.R.S., as president of the youngest section, K, Botany, proposes in his address to speak of the present position of morphological botany, shortly reviewing the results of modern research, both on recent and fossil plants, in so far as they throw light on the question of the origin and relationships of the chief divisions of the vegetable kingdom. The following fixtures have so far been made for Section K. A discussion on the Structure of the Cell-nucleus will be opened by Professor FARMER, of the Royal College of Science. A discussion on the Ascent of Sap will be opened by Mr. FRANCIS DARWIN, of Cambridge. Mr. THISELTON DYER will give an afternoon lecture on the Geographical Distribution of Plants.

PUBLICATIONS RECEIVED.—*Manual of Practical Orchard Work at the Cape*, by P. MACOWAN and EUSTACE PILLANS (Cape Town: RICHARDS).—*Agricultural Gazette of New South Wales*, July, contains a valuable article on ornamental and shade trees for the climate of Sydney.—*Transactions of the Massachusetts Horticultural Society for* 1895, part ii.—*Xenia Orchidacea*, vol. iii., part ix., by Dr. F. KRÄNZLIN, Leipzig, Brockhaus; will be noticed in a subsequent issue.—*Conspectus Sectionum Specierumque generis Paullinia*, L. RADLKOFER; Munich, F. STRAUB.—*Report of the Botanical and Afforestation Department, Hong Kong*, by CHARLES FORD.

SENECIO COMPACTUS.*

THIS handsome species, for a specimen of which we are indebted to Mr. Gumbleton, is remarkable for its dwarf, compact habit; although rarely exceeding 2 feet in height, it attains a diameter of from 3 to 6 feet; and as nearly all its crowded branchlets are terminated by flowers, it presents a most attractive appearance (fig. 53).

NOTES FROM THE ROYAL BOTANIC GARDENS, EDINBURGH.

THE following plants are now in flower in these gardens:—

Disa grandiflora.—These plants are this year flowering very freely, four plants in good-sized deep pans, carrying one hundred and twenty expanded flowers. One plant has been three years in the same compost, and has only now commenced to show signs of a renewal being required. Two years would appear long enough for them to remain without a shift. We use a compost of the best root fibre, containing a little loose loam and peat in equal proportion; with a good addition of clean crocks, sandstone, and chopped sphagnum-moss. Potting is done as soon as new growth commences.

Gmelina hystrix.—This, recently introduced, flowered at Kew in 1894, whence it was sent by Mr. Goldring from the gardens at Baroda. It has a scandent habit, with bright-evergreen foliage, and produces drooping terminal cymes of large, tubular, yellow flowers, which spring from brownish-green bracts. A small plant received from Messrs. F. Sander & Co. in the spring is now in flower here. It seems to delight in exposure to the sun's rays, and should make a good plant for clothing a pillar in the stove.

Bignonia purpurea.—This species is one of the most showy of the genus. It likes a good long run in which to develop its long branches, and plenty of light to ripen the wood. The flowers are freely produced in large panicles. The mauve colour in the flowers is a charming contrast to the green foliage; and if shoots are allowed to hang about a yard or more from the roof, the best effect possible is gained. A native of South America, it was introduced in 1822, and was figured in the *Botanical Magazine*, t. 5800.

Parnassia palustris.—A bed of this is in full

* *Senecio compactus*, T. Kirk, *Trans. New Zealand Institute*, 1879, vol. xii., p. 395.—"A much-branched compact shrub, rarely more than 2 feet high. Branches stout, erect, and with the under surface of the leaves, peticels, and involucres densely covered with appressed tomentum, forming a smooth surface. Leaves petioled, ascending ½ to 1 inch long, ovate or obovate obtuse, minutely wavel at the margin, crenulate. Flowers in leafy four to eight-flowered racemes, terminal and solitary, or axillary and crowded near the ends of the branches; less frequently the heads are solitary and terminal. Heads broadly ovate in bud, ¾ to 1 inch in diameter, broadly campanulate, pedicels ½ inch long, involucral leaves linear, obtuse, cottony; receptacle flat, rays spreading, broad. Achenes furrowed, silky. Pappus white. Hab., North Island, Castle Point, east coast, on limestone rocks, descending to sea-level.

flower along the margin of the pond in the garden, in which position it thrives well. The white flowers are borne in such quantities as to almost hide the ground from sight, a very large number springing from each clump. For beautifying damp and boggy places during August and September, this pretty British plant should more often be used, for when seen in clumps it produces a very fine effect. Another species in flower is P. nubicola, a Himalayan form of stouter and taller growth, but also bearing white blooms. *R. L. H., Royal Botanic Garden, Edinburgh.*



Fig. 53.—Senecio compactus: hardy shrub; flowers yellow. (see p. 276.)

From Mr. W. E. Gumbleton's Garden, Belgrove, Queenstown.

Home Correspondence.

Seedsmen's liability.—The paragraph in your issue of 15th inst. re-opens a vexed question with seedsmen. The wholesale tradesmen shelter themselves behind their non-liability clause. If a wholesale seedsman accepts an order for, say, early Cabbage, sends it out labelled as such, and takes payment for it, is he not at common law entitled to send early Cabbage? Would the judges not walk through this non-liability? If an assistant in a seed-store blunders by sending late for early Cabbage, is the firm not legally responsible for their assistant's blunders? It is all very well for the wholesaler to say in defence, "You saw in my invoice, if the seeds are not accepted on the terms of non-liability they can be returned." The retailer on receipt of the seed can say whether it is in good condition or not, and can very soon test its germinating power, but cannot tell, until it is too late, whether it is early or late Cabbage. If it turns out wrong, and the retailer suffers, why should the wholesaler escape by his unjust non-liability clause? It is said the retailer may also adopt non-liability. But how is it practical? His seeds are sold in small quantities for cash over the counter, how can he tell each customer that he is not responsible? Non-liability has the possibilities of injustice in it, and if at any time it is used in a tyrannical manner, retail seedsmen should combine in support of any one who is threatened, and see fair play. *A Retail Seedsman.*

Bouvardia triphylla.—This old variety of Bouvardia, introduced from Mexico in 1794, is now in great beauty at the Royal Nursery, Slough, where it has been planted in one of the flower-beds in the front of the nursery. It has been of some attraction to visitors, being something uncommon, and of very striking appearance. The plants are 12 inches to 18 inches in height, and they are covered with the bright scarlet flowers. The plants may be lifted on the approach of frost, and if potted up with care, the flowering period can be extended into November. It is evidently a suitable summer-bedding plant, especially in a dry and hot season. *C. H.*

Formaldehyde.—Referring to your paragraph, p. 221, August 22, on "Formaldehyde," your correspondent, "R. J. L.," will find all the information he requires about this substance in Dr. D. H. Scott's *Structural Botany*, p. 212, Formic aldehyde (CH_2O). Dr. Scott does not treat it as a marketable article, but as a chemical one, an intermediate or transition state from sugar to starch. Scott's equation is as follows: $CO + H_2 = CH_2O_6\ (CH_2O) = C_6H_{12}O_6$. *E. T.*

Nymphæa stellata zanzibarensis.—In a tank in one of the houses of Wm. E. Groves, Esq. (Mr. E. Robert Shaw, gr.), The Larches, Alderley Edge, Cheshire, is a collection of Nymphæas, and the most notable one amongst them is N. S. zanzibarensis. It is a very free-flowering species, and bears cordate ovate leaves of good size. The flowers are captivating from a beautiful shade of Gentian-blue spread all over the oblong ovate floret—the four which form the calyx being of a mauve tint. The disc, which is crowded with stamens arranged in circles, is yellow, and the stamens have a line of yellow up the inner centre, with sterile-looking anthers of Gentian-blue tint. Mr. Robert Shaw said that the plant continues to flower for six months, and the blooms form a good contrast with those of N. Devoniana and others. Its fragrance is like that of the Stephanotis grandiflora, but it is not so powerful. Pity these flowers only show their beauty during the light of day, closing at night. *J. A.*

Tropæolum speciosum.—This is flowering profusely on our rockery, the position being a partially shaded one. The plant was put out in March last, and is now 9 feet high, bushy in proportion, and has several hundreds of its beautiful scarlet flowers. When at the Botanic Gardens, Regent's Park, I frequently tried to grow this plant, but never succeeded in doing so. *W. Coomber, Lilford Hall Gardens, Oundle.* [The roots should be started in pots, and when some amount of growth has been made, planted out. Ed.]

Differences in Nepenthes.—In Kew Notes, p. 239, of your last issue, occurs the statement, "There is nothing remarkable about the flowers of Nepenthes, beyond the fact that, notwithstanding a considerable range of variation in the pitchers, leaves, and habit of the thirty or so species known, there is scarcely any difference in their flowers." Now, so far is this from being the case, that not only is there considerable differences in shape, colour, &c. between the flowers of the different species of the genus, but even in the same species differences occur in the male and female inflorescences. This leads me to ask a question regarding Nepenthes bicalcarata, a male plant of which flowered in the Edinburgh Botanic Garden some two years ago. Can any readers of the *Gardeners' Chronicle* say whether the female inflorescence of Nepenthes bicalcarata is panicled like the male? Perhaps Mr. Burbidge, who first introduced this species into this country from Borneo, could enlighten us on this point. *R. Lindsay.*

What is Rudbeckia newmani?—It has generally been supposed that this name, which is variously spelt, is an unauthorised synonym of R. speciosa (Wender); but *Index Kewensis* throws doubt upon this, giving both names as authorised botanical names of authorised botanical species. In that work I have R. Newmani (*sic*) (Loudon's *Hort. Brit.*) as a final name in square type; and R. speciosa (Wender) as another, and distinct. Asa Gray, in his *Flora of North America*, does not mention R. Newmani at all, and the *Kew Hand-List* does not include it. If there is such a plant, who has it; and where is it to be seen? But it is tiresome to have the name perpetuated as a misnomer for R. speciosa. *C. Wolley Dod, Edge Hall, Malpas.*

Tenacity of life in trees.—If "A. D." (p. 244), had ever been much in woods infested by rabbits, he would long ago have ceased to wonder at large trees continuing to live while a strip of bark of over 1 foot in breadth remained on one side. I could show him trees completely barked to the hard-wood

to a strip of less breadth than that on his Elms that have lived for years, and they continue to live. But the following fact may be interesting to the plant physiologist. On this estate and others in this part of Yorkshire, the Oak trees are peeled standing, not by the forester's desire, but by preference by the timber merchants, who purchase the lots standing, with all risks of removal, subject to estate conditions. They believe that timber so peeled keeps in better condition than when peeled after felling, and it costs much more to peel the trees standing than felled. Very well. Peeling begins as soon as the sap begins to rise, and is continued till the trees come into leaf, when the bark cannot be detached. Much depends on the weather. A few cold days occurring will arrest the flow of sap, and stop the work ; and the trees are never all ready at one time ; while, sometimes, a tree will peel on the south side, but not on the opposite side. The peeling begins before the trees come into leaf, and many of the earliest trees are completely stripped of their bark from bottom to top, except the topmost branches, which often form large spreading heads ; and the fact I wish to draw attention to is, that these large unbarked tops continue to swell their buds, and come into full leaf, while the peeled trunks, right up to the head, are barkless, and apparently as dry as a board for perhaps from 20 to 40 feet below. On some of the trees the leaves fade before the summer is over ; but I have seen many trees carry them till the end of the season. This season, owing to the drought, many trees have turned brown sooner. The second year settles them, however ; but I have no doubt that if one or two inches of bark were left on one side, the trees would continue to live. Query—where does the food come from that produces leaves and wood on the tops, after the bark is gone ? The moisture from the air might sustain the foliage for a while after it was developed, like a cut branch in a vase ; but in this case there is an extension of tissue. Is it the stored-up sap in the sap-wood that does the work ? Remember that this outside ring of sap-wood is barkless, exposed to the dry air for months, and to all appearance as dry as a deal, and the sap in it certainly thickened, and not moving much, if at all. *J. Simpson, The Woods, Wortley.*

CLIMBING SHRUBS.—Cratægus pyracanthus Lelandi is one of the prettiest and most useful decorative climbing shrubs for a villa or a mansion. It does well as a shrub, but on a wall it is highly effective at this season. It is not one of the best growers, its diminutive pale green leaves show it to be a comparatively dwarf plant, but at the preseut time it is clad with bundles almost touching each other of pretty orange-scarlet berries. For contrasting with other things if its neighbours are prevented from over-growing the plant, it is a rival to the Cotoneasters. *J. A.*

SCARCITY OF WASPS AND ABUNDANCE OF EARWIGS.—Will some reader of the *Gardeners' Chronicle* kindly explain the reason of the almost entire absence of wasps, and the extraordinary abundance of earwigs, this summer. I have been told that when earwigs are plentiful wasps are scarce ; and so this summer seems to prove, at least, just around here (Notts & Oxon). Every crack and crevice is alive with earwigs, and the damage done by them, both in the garden and field, is considerable. I should have thought that such an extraordinary mild winter, and the dry summer, would have been in favour of the wasp. *C. Collett.*

EXTRACTION OF PERFUME FROM PLANTS.—There is a chemical method lately come into use for extracting essential oils from plants, by the use of carbon disulphide. Can any reader of the *Gardeners' Chronicle* supply information on the subject, or refer to literature of a recent character ? *Geranium.*

BELGROVE.

THIS pleasant residence, situated in the largest of the chain of islands which bisect longitudinally the famous harbour of Queenstown, is synonymous to most horticulturists and lovers of plants with rare plants, the owner, W. E. Gumbleton, Esq., being an enthusiast in their cultivation, with a keen perception of their requirements in the matter of position, soil, aspect, and the other points which go to make plant-growing either out-of-doors or under glass a success.

Belgrove has many and great advantages. It lies high above the sea-level, although it enjoys, of course, a humid climate, and the heat is always tempered by the sea air ; it is naturally well-drained, and that, doubtless, suffices. Trees of indigenous species, as well as most that are exotic, thrive, and arrive at a good size ; and the general slope of the grounds and aspect of the best side of the dwelling is southerly ; indeed, the land slopes rather abruptly in that direction. There is a flower garden in the widest acceptance of the term ; in that contains some of the best of the ordinary bedding plants, besides much more at which many of the rank-and-file of gardeners and amateurs look askance, as being little fitted for the purpose of filling the beds. We shall, however, see that the collection of plants in the Belgrove garden has many valuable features and attributes, which render them especially suitable for spring and summer decoration out of doors.

Before we enter the garden proper, let us glance at the very floriferous collection of plants which fill the greenhouse or conservatory attached to the house at the western end. The chief display was afforded by zonal Pelargoniums, numbers of which have been obtained from French nurseries. Of these, we may mention Jules Chrétien, a fine truss of a beautiful scarlet hue, and white eye or central patch ; Monsieur Porier, with an effective truss of rosy-purple ; Madame Alcide Bruneau, a very pretty flower of a faint blush tint, and a Picotee-like margin, not very double, yet forming a large truss ; Madame Buveron, one of the quite new race of spotted Pelargoniums, a pink-coloured flower, with spotting of a deeper shade. There were several of these spotted Pelargoniums of various colours and various degrees of spotting, all of which seem to be most desirable decorative greenhouse plants.

Raised by M. Bruant, of Pelargonium fame, were some zonals of various shades of rose-pink, namely, Dr. Marmotek, Coralie Bajac, Madame Cadeau, and La Vienne. Some excellent varieties of zonals were remarked in Blue Peter, Mrs. Wright, and King of the Purples, all of which are varieties going a step in the direction of the much-wished-for blue colour. Colchicum autumnale Bornmülleri, a very early-flowering variety, was growing in a pot in the house, and well worthy of its place, the flowers of a bright lilac colour being comparatively large and striking. Colchicum montanum is a species likewise very early in coming into bloom ; the colour is deep lilac or purple, marbled with a dark tint ; Disa grandiflora, as we could see, had been grandly in flower, and the plants were taking their rest before being divided and repanned. A remarkably showy plant for the greenhouse at this season is Hydrangea mandschurica, three or four blooms decorating each plant, which were but cuttings last autumn. The colour of the blooms is a shade of pink, and the diameter of a fair-sized head of bloom 5 to 6 inches, and with few of them on a plant, they reach 8 to 9 inches. Nerine Fothergilli major gave a striking note of colour at one end of this house, the flowers approaching a scarlet hue.

Mr. F. Sander's new plant, Browallia speciosa major, or as it is sometimes called, "the Myosotis of the Antilles," is a good flowering subject for pot culture at this season. The flowers open of a deep blue tint, and change with age to a lighter one. A flowering plant of a very desirable colour is Aplopappus ericoides, flowering from the month of July to the end of September. Mr. Gumbleton's plant measured 2 feet in height, with a diameter of 1 foot. He thinks it is likely to prove hardy at Belgrove. It has short Erica-like leaves, and light yellow-coloured flowers, disposed in loose, terminal corymbs. A figure of this plant will appear in these pages shortly. Aplopappus belongs to Compositæa, and the species in question is a native of California. We remarked a fine dark-coloured seedling form of Saintpaulia ionanthe (named splendens), raised on the place. It seemed very desirable as a variety. Hunnemannia fumariæfolia, a monotypic genus, the species having showy yellow-coloured flowers resembling those of Escholtzia californica, was noted. It is an annual plant, best raised from seeds sown in March. A plant of Crinum MacOweni was just about to open its flowers. It is a showy species, and the bulbs in this case were very large, and the flower-stalk extremely robust. Calceolaria alba is a species seldom met with in private gardens, although it is a pretty enough plant when in bloom. The flowers are white, and rather smaller than those of C. floribunda, globular in shape, and appearing numerously in terminal spikes.

On the wall of the mansion there is growing a plant of Rosa Brunoniana, which flowers enormously in its season, and makes summer shoots of 12 to 15 feet in length.

Situated at the end of the mansion, and separated from the greenhouse above mentioned by a gravelled walk, is a small rectangular flower-garden, in which are to be found growing many of Mr. Gumbleton's floral treasures. The beds are cut out in the turf, and they presented at the time of our visit a very brilliant picture of regulated floriferousness and vigour. The garden has a low wall faced with a narrow border, and here were found Amaryllis Belladonna excelsa, a dark-stemmed very early "Lily," and a white-flowered Gazania, said to be a form of G. pygmæa (bracteata of Brown). This plant has the curious peculiarity of producing plain, and also pinnatifid leaves. Gerbera Jamesoni formed a splendid object in this border, and showed all the vigour of a well-established plant. We think that a bed of this fine South African plant would be too dazzling for most persons. In a small bed, a little distance from the wall, there were growing with great vigour, masses of Crinum Powelli—the type form—showing many very strong spikes of flower ; C. P. alba and C. P. intermedia, a large and stronger grower than the type with pink-coloured flowers, and of proportionate size. Alongside of these plants grew Gazania speciosa, a flower of pure yellow, without any orange-colour in the eye, but with very broad ray-florets ; Fuchsia Melville's Bedder, of dwarf stature—in fact, a miniature F. Riccartoni—is a pretty subject for a narrow border, a small bed, or a place on the rockery.

Among perennial Asters mention should be made of A. turbinellus, a showy lilac-coloured flower. It is still a rare plant in gardens. Aster Thompsoni is also a lilac-coloured species, and one that is earlier in coming into bloom. Rudbeckia Golden Glow is a pure yellow-coloured double-flower, the plant growing to a moderate height. A figure of this variety will shortly appear in these pages.

Mr. Gumbleton, pointing to a clump of the recently-introduced Incarvillea Delavaye, from China, remarked that the plant grew better out of doors than in a pot in the greenhouse. Heliopsis Pitcheriana is a good plant ; Haplocarpha Leichtlini is a showy yellow-flowered plant, useful in borders ; and Lythrum elatum is a pretty purple-flowered plant of 2 feet in height, and a neat habit of growth. Amongst Anchusas, a place should be found in every garden for plants of A. Barlieri variegata, if only for its early flowering ; and amongst the genus Lychnis (Agrostemma), for some of L. Walkeri×, a cross between L. coronaria and L. Flos Jovis. Helenium autumnale superbum is one of Lemoine's raising, a showy tall variety, throwing a long succession of flowers on lateral shoots.

Of Lobelias of the cardinalis type, growing together in one small bed, were L. Lugunensis, corallina, and Amaranthis, all good varieties, of various shades of colour. The annual Cosmeas, C. pinnata, C. rosea, C. Erlinda, C. E. purpurea, and C. sulphurea, made a nice show. A plant of Physalis Franchetti had grown to the height of 1½ foot, and bore a solitary fruit. One of the prettiest beds in this garden was planted chiefly with Delphinium Brechi, a Larkspur of about 1½ foot high, and very much branched and floriferous. Another plant of annual duration is Cynoglossum petiolatum, with blossoms of a bright, deep tint of blue. The yellow-flowered Lynaria macedonica made a showy line round a small bed. It grows here to a height of 2 feet. Osteomeles anthillidifolia is a plant with a pretty leaf. A plant of the double-flowered white Camellia Sasanqua grows against the low wall, and may, in course of time, make a good plant. Close by was a plant of Fremontia californica doing well. The early-flowering Colchicum byzantiunm is a species of a deeper tint than C. Bornmülleri, and very early in coming into bloom, and desirable in beds or pots on

that account. Dimorphotheca Echlonias, a South African Composite, possessing large white flowers, which have a purple disc, likes a warm spot even in this mild locality. It reaches a height of 2 feet.

The tuberous-rooted Begonias which are planted in beds by themselves were exceedingly floriferous and vigorous, and some of the best were Lafayette, a brilliant scarlet; Duke of Fife, Viscount Cranbrook, Lady Brooke, Laing's Beauty, Whittaker Heaton, a double-flowered pink variety; the Rev. E. Lascelles' Orion, still one of the best of those which "look up;" Camilla, another of this type; Henshall Russell, Mont Blanc, W. E. Gumbleton, rose-red flowers; Perseus, and H. J. Laing, which are two good "starers." We have never seen anything better than these plants, although, in most Irish gardens, the tuberous Begonia flowers with remarkable freedom. They had been even better than when we saw them. Some beds of Tigridia were noted, but the plants are not doing well.

(To be continued.

SOCIETIES.

ELGIN AND MORAYSHIRE HORTICULTURAL.

AUGUST 19.—The show was a most successful one, and the entries were exceptionally large. A large number of professional gardeners were present with most worthy and beautiful exhibits.

J. E. GORDON, Esq., M.P., ON HORTICULTURE.

In opening the annual show of the Elgin and Morayshire Horticultural Association at Elgin on the above date, Mr. GORDON, M.P. for Moray and Nairn, made some very interesting remarks on horticulture. After complimenting the society on its vitality and usefulness—it has been in existence since 1843—he said he should like to congratulate those members of the society who were gardeners by calling, and who belonged to what he might call the apostolic succession of cultivators of the land. They were men who from generation to generation, had handed down the acquired knowledge and practice of gardening from father to son, and without whose intervention in their own day, they would have suffered great loss in their social system. Books were very good, and precepts and laws were very good, but they required the living hand and the living brain to hand down from generation to generation those things which the different ages of mankind had gathered and learned from nature and passed down to posterity. He also wished to congratulate the amateur gardeners, and for these reasons—that they had turned themselves to a second industry, that they did not allow the deadening effects of routine to put an end to their energy, that they were anxious to raise fresh powers by turning from those long hours of daily routine to a fresh industry and fresh interest—really a recreation when they took to horticulture. Any efforts of their society that could induce inside workers to think of outside interests, to think of the four great chapters of nature—spring, summer, autumn, winter—and that could draw away their thoughts from the more morbid interests and take them out into the fresh air, were calculated to do a great amount of good. Another thing that such a society as theirs did was to encourage them to put into the soil something that would outlast themselves. He thought that if there was a race that deserved the contempt of other races in the world it was that race who passed through life without planting the surface of the earth. There were such races, but they were thought of as being at the very earliest stages of human development. Anyone passing through a country where there were fine trees, and signs of gardens and orchards, felt that they were passing through a land where mankind had distinctly risen to a high level. He thought their society might teach them to make some amount of effort where they had a little power over the soil to let no year go by without themselves putting in some one fruit tree, some one flower, and some one berry-bearing bush. How often after, when they had removed from the place, would their thoughts go back to it, and they would write to the owner and ask how the plants were thriving!

Mr. GORDON was enthusiastically cheered by his horticultural friends for his inspiriting address.

BRIGHTON AND SUSSEX HORTICULTURAL.

Some Errors in Fruit Culture.

AUGUST 20.—The somewhat wide-reaching subject of "Fruit Culture" was put down for consideration at the monthly meeting of the Brighton and Sussex Horticultural Society, held on the above date, at the Imperial Hotel, Queen's Road, Brighton. A paper had been promised by Mr. G. BUNYARD, of Maidstone, but, in view of the large scope of the question, he decided to limit himself to "Errors in Fruit Culture." In introducing the lecturer, Mr. J. CHEAL, Vice-chairman, who presided, said that there was no one better qualified to enlighten the society upon the matter than Mr. Bunyard.

Giving his hearers the benefit of the varied experience he had gained in the course of the many years he had passed as a nurseryman, Mr. Bunyard went very carefully into the mistakes that he found were usually committed in the culture of fruit trees, explaining why they were mistakes, and giving advice as to the best course to be pursued. Dealing first with the general aspect of the topic, he spoke of mistakes that applied to all fruit trees, such as planting them too deeply, or covering them too thickly with manure, and thus depriving the roots of the amount of sun and air they required. In many gardens, and especially in old ones, the soil was made too light—that is, it contained an excessive proportion of vegetable matter. Other errors consisted of failing to separate plants that required different treatments, neglecting to supply sufficient moisture to the ground in situations protected from rain; pruning too early in the season; improper root-pruning; and planting too closely together. Mr. Bunyard particularised the treatment that should be given to different kinds of fruit. Incidentally he mentioned that nurserymen were expected to be encyclopædias of information, and he gave the impression to his hearers that they would not be wrong in applying that term to himself. From the mass of information he gave as regards the culture of Grapes, Figs, Peaches, Nectarines, Cherries, Apricots, Apples, Pears, Plums, Strawberries, Raspberries, and Currants, he seemed to have made a study of each variety, and to be possessed of much knowledge concerning them. In the concluding portion of the paper, Mr. Bunyard turned his attention to the new varieties of Apples, Pears, and so on, that had been introduced of late, giving his opinion as to their qualities, good or bad. He thought that in recent years great advances had been made in the science and practice of fruit culture.

At the conclusion of the paper a brief discussion took place, the speakers describing the information given as most valuable and interesting. A hearty vote of thanks was accorded to Mr. Bunyard.

DEVON AND EXETER HORTICULTURAL.

(Continued from p. 250.)

AUGUST 21.—TRADE EXHIBITS.

Messrs. ROBERT VEITCH & SON, Exeter, had a splendid display of plants, a strong feature of which was a fine exhibit of Caladiums, Cannas, some of the new Water Lilies, and some Alpine and herbaceous plants.

The EXETER NURSERIES Co. showed a very fine collection of miscellaneous plants—Clerodendrons, Ferns, Allamandas, Stephanotis, Crotons, Palms, &c., and some beautifully-made-up floral designs.

Mr. JAMES WALTERS, Mount Radford, showed several boxes of Roses, Dahlias, and herbaceous plants.

The JADOO FIBRE Co. had an interesting collection of plants and fruits growing in Jadoo. The Pyramid Apples in pots caused much attraction, some of the fruit (Peasgood's Nonsuch) being considerably over a pound each.

Messrs. JARMAN & Co., of Chard, had a good assortment of cut flowers, noticeable being the Cactus Dahlias, Matchless, Earl of Pembroke, and Mr. F. Fell.

Mr. W. B. SMALE, Torquay, exhibited some very fine Dahlias of the Juarezii type, Mrs. Wilson Noble (salmon), Mrs. Montefiore (deep rich crimson), Mrs. Gordon Sloane (dark cerise), Mrs. F. C. Smale (pure white).

Messrs. CURTIS, SANFORD & Co. showed a fine assortment of cut Roses.

Mr. GODFREY, Exmouth, had a collection of Begonias, Pelargoniums, Carnations, and grand Cannas, many being seedlings of his own raising.

Messrs. IRELAND & Co., Barnstaple, exhibited Apples, some on branches; and Messrs. TUPPLIN & SONS, Newton Abbot, Carnations.

SANDY AND DISTRICT HORTICULTURAL.

AUGUST 27.—This was the twenty-eighth exhibition of a Society which in a remarkable manner caters for the country people. Sandy is in the centre of a market-gardening and agricultural district, and the show, in addition to the horticultural produce in great variety, included farm and market gardening produce, needlework, honey, butter, eggs, trussed fowls, poultry, pigeons, rabbits, cage-birds, &c., and domestic animals. These necessitated the use of a number of tents, which formed an irregular circle round the grounds of Sandy Place, the residence of Mrs. FOSTER, in which the show was held. Considering the enormous amount of detail which had to be got through, the arrangements were very good.

Classes Open to All.—These include one for ten stove and greenhouse plants in flower. Mr. J. CYPHER took the 1st prize with Bougainvilleas glabra and Sanderiana, Phœnocoma prolifera Barnesi, Clerodendron Balfouriana, Ixoras Pilgrimi and Williamsii, &c.; Mr. W. FINCH, Coventry, was 2nd, his leading specimens being Allamanda grandiflora, A. Williamsii, Erica Turnbulli, and its variety alba.

Some fairly good zonal Pelargoniums were shown, and also pretty plants for table decoration. Mr. EMPSON, The Gardens, Ampthill House, Ampthill, was 1st, with a very pretty group of plants.

Cut Flowers.—Messrs. G. & W. BURCH, nurserymen, Peterborough, were 1st for Roses, and had capital blooms of Crown Prince, Duchess of Bedford, Mrs. Jno. Laing, A. K. Williams, &c. 2nd, Messrs. HARKNESS & SONS, nurserymen, Bedale, also with some very good blooms for the season. For eighteen Teas, Messrs. HARKNESS & SONS were 1st, having Niphetos, Maman Cochet, Maréchal Niel, The Bride, Ernest Metz, &c., in good form; 2nd, Messrs. G. & W. BURCH, their leading varieties being Jean Ducher, Etoile de Lyon, and François Kruger.

With twenty-four spikes of Gladioli, Messrs. HARKNESS & SONS were 1st, having finely-developed examples of Baroness Burdett Coutts, Conquérant, Delilah, Comte Raimbaud, &c.

Dahlias were a prominent feature, and Mr. S. MORTIMER, Swiss Nursery, Farnham, was 1st, with finely-finished blooms of Hero, John Hickling, John Walker, General Gordon, Shirley Hibberd, R. T. Rawlings, Glow-worm, Thos. Goodwin, Wm. Powell, Duke of Fife, Arthur Rawlings, Mrs. Gladstone, Nubian, &c.

With twelve fancy Dahlias, Mr. MORTIMER was again 1st, having Duchess of Albany, Dandy, Rev. J. B. M. Camm, Sunset, Dorothy, Mrs. Saunders, Hercules, Mrs. J. Downie, Frank Pearce, &c.

Messrs. KEYNES & Co., nurserymen, Salisbury, were placed 1st with twelve bunches of Pompon Dahlias. Cactus and single-flowered Dahlias were also shown.

In the Amateur division for twelve Dahlia blooms, Mr. R. BURGIN, St. Neot's, was 1st; and Mr. T. LOCKIE, Diddington Hall Gardens, 2nd. The latter had the best twelve and six fancy varieties. Roses, Asters, Marigolds, hardy plants, in very fine bunches, &c., were well shown.

Fruits and Vegetables were very good, and the latter especially numerous. The best collection of eight dishes of fruit came from Mr. EMPSON, who had Madresfield Court and Muscat of Alexandria Grapes, fine Peaches, Nectarines, Apples, Pears, Plums, and Melons; Mr. G. R. ALLIS, Old Warden Park, Biggleswade, was 2nd, with Alicante, finely-finished Muscat of Alexandria Grapes, &c. Collections of six dishes of fruit were also shown. Mr. G. R. ALLIS had the best collection of three dishes each of dessert and culinary Apples, having excellent fruits of Worcester Pearmain, Kerry Pippin, Quarrenden, Lord Suffield, Mère de Ménage, and Lane's Prince Albert.

Mr. C. MOORE, St. Neot's, was 1st with two bunches of Black Hamburgh Grapes; and also with the same number of any other black Grapes, having finely-finished Gros Maroc.

Mr. EMPSON was 1st with two finely-finished bunches of Muscat of Alexandria Grapes; and he was also 1st with any other white, having good Buckland Sweetwater.

Peaches, Nectarines, and Figs were well represented. There were good Plums, culinary and dessert; and single dishes of Apples and Pears.

Vegetables were very good in collections. There was a struggle between Mr. T. LOCKIE and Mr. W. J. EMPSON for the special prizes offered by Messrs. Sutton & Sons for six dishes, the former taking 1st prize. Messrs. James Carter & Co. secured a capital competition for their special prizes.

WILLESDEN FLOWER SHOW AND FÊTE.

AUGUST 27.—Under the title of the Willesden Great Show there was opened, on the above date, in the White Hart Fields, Church End, an interesting exhibition of flowers, fruit, vegetables, bread, confectionery, &c. The exhibition, which remained open for three days, also included a collection of horses and dogs, while the programme of entertainments comprised athletic sports, military competitions, horse-riding and jumping. The spacious grounds were dotted with marquees of different sizes, in which the various exhibits were artistically arranged. Mr. N. REED, chairman of the Willesden District Council, performed the opening ceremony.

ACCRINGTON AND DISTRICT HORTICULTURAL.

AUGUST 29.—The first exhibition of this society took place in the Town Hall, Accrington. It is a spacious hall, and it was well filled. There were 124 classes under the various sections. The plants were chiefly arranged on the floor in varied designs, and the cut flowers, fruits, and vegetables were set upon tables surrounding the hall.

The 1st prize exhibitor for a group of plants arranged for effect was Mr. DARBYSHIRE, nurseryman, Accrington, whose firm also obtained a special award for a large central group. The chief plants was a centre plant of Araucaria excelsa, which was surrounded with white Chrysanthemums, then a good coloured lot of Dracænas, Coleus, and Crotons, these being intermixed with suitable Ferns, and enlivened with tuberous Begonias. Mr. THOMAS BARNES was 2nd with a group, scarcely less effective, in which Kentias, Dracænas, Pteris, well coloured Crotons, and a fine fringe of Maidenhair Fern, and varieties of Club Moss were used.

W. H. HACKNEY, Esq. (Thos. Edsforth, gr.), had some good stove plants, and his Ferns, particularly an Adiantum Farleyense, were noteworthy. He had also Begonias, the best of which were, however, contributed by A. WATERHOUSE, Esq. The best Coleus came from Mrs. BUNTING (J. H. Wright, gr.); and the best Roses, which were mostly Teas, came from Mrs HICKS (T. Smedley, gr.). Mr. WATERHOUSE exhibited some good native Ferns, chief among them being several Athyriums and the Crested Scolopendrium, and Osmunda regalis cristata. Messrs. THOMAS & HENRY CLARKE, Knoyden Nurseries, ex-

hibited a fine lot of single and double-flowered Begonias. Dahlias were clean and good, the best coming from Messrs R. TAYLOR, J. C. WOLSTENHOLME, and JAS SHUTTLEWORTH.

Fruit was not present in large quantity, but the black Grapes from Mrs. BUNTING and from J. E. RILEY, Esq., the President of the Society, were large and well-finished bunches of Hamburgh. The Muscats from Mrs. HICKS were models of form and had fine berries, but not quite rich enough in colour. Apples and Pears were not so large nor fine as in ordinary years, and the smaller fruits were past their best.

Vegetables were exhibited largely, and the Cauliflowers from Mr. HENRY DAVIES and from Mr W. M. KEELL were as fine in quality and of as large a size as we have seen this season. The Potatos, too, were excellent, the rougher-skinned ones, as usual, taking premier positions. Celery, both red and white, was exceptionally fine.

NATIONAL CHRYSANTHEMUM.

SEPTEMBER 1, 2, 3.—The first of the season's shows under the auspices of the National Chrysanthemum Society was opened on Tuesday last in the Royal Aquarium, Westminster. So far as the show was an exhibition of Chrysanthemums, it was, as usual, a comparative failure. We regard it as a matter for congratulation, that the efforts to extend the Chrysanthemum season at the wrong end, which this exceedingly early fixture may be supposed to encourage, continue to meet with but little success.

The few Chrysanthemum blooms that were staged had but little attraction for visitors compared with large exhibits of Dahlias and Gladioli. These afforded great variety, and the flowers possess much brighter colours than is obtained in Chrysanthemums. The exhibits of Dahlias were not quite so good as we have before seen at this show, but this circumstance was no doubt due to the fact that the plants have not had sufficient time to recover from the effects of the hot, dry weather, and the display at the Palace on Friday may be expected to show better quality.

The 1st prize for twenty-four bunches of Chrysanthemum blooms was taken by Mr E. F. SUCH, nurseryman, Maidenhead, and a creditable show the exhibit made. Among the varieties were Blushing Bride, Mr. J. R. Pitcher, Madame Marie Massey, Percy Seedling, Harvest Home, Golden Fleece, Jacantha, Early Blush, Madame C. Desgrange and others. The only other exhibitor in the class was Mr CHAS. SHAW, Hall Street, Sherwood, Notts. In this exhibit the varieties that showed to best advantage were Vicomtesse d'Averne, Madame Crimeaux, Madame Marie Massey, and Strathmeath.

The best collection of twelve blooms of the variety Madame C. Desgrange were from Mr. B. Calvert, gr. to Col. ARCHER HOUBLON, Hallingbury Place, Bishop's Stortford. The blooms were very fine, being large, full, and pure in colour. There were four exhibits, and the second place was taken by Mr. J. Sandford, gr. to G. W. WRIGHT, Esq., Wood House, N. Finchley. 3rd, M. C. W. Forbes, gr. to D. NICOLS, Esq., Regent House, Surbiton.

The variety Geo. Wermig secured the 1st prize in the class for twelve blooms of a large flowering Chrysanthemum for Mr. B. CALVERT. Indeed, the same variety was shown by the winners of the three prizes in this class. The blooms in the 1st prize exhibit were of good quality and much larger than the others.

Mr. CHAS. SHAW was awarded a 2nd prize for twelve Pompon Chrysanthemums, and a similar prize for six bunches of large-flowered Chrysanthemums.

For six bunches of Chrysanthemums (yellow varieties), Mr Jas. Watt, gr. to HENRY BELL, Esq., Fitzjohn Avenue, Hampstead, N.W., was 1st; the golden form of Madame C. Desgrange was the variety exhibited.

For three bunches of large-flowering Chrysanthemums, Mr. CHAS. SHAW was the only exhibitor, and gained a 2nd prize.

Mr. J. H. WITTY, Nunhead Cemetery, S.E., was awarded a Silver-gilt Medal for a group of Chrysanthemum plants in flower, consisting principally of varieties of M. C. Desgrange, and a few of the earlier-flowering reflexed varieties, which were fringed with a band of the button-flowered sorts.

A Silver Medal was awarded to Mr. CHAS. SHAW, nurseryman, Hall Street, Sherwood, Notts, for a smaller group. Some of the plants in this group were very freely-flowered, Madame Marie Massey, Norbert Perrier, Blushing Bride, and Early Beauty for instance.

Mr. D. B CRANE, 4, Woodview Terrace, Archway Road, Highgate, obtained a 1st prize for an epergne of Chrysanthemums for table decoration. This consisted of Golden Privet, highly coloured Croton leaves, and other pretty and graceful foliage, but very few Chrysanthemums. Nevertheless, the effect was good.

OTHER FLOWERS.

Gladioli.—Messrs J. BURRELL & CO. Have House Nurseries, Cambridge, who made an extensive and excellent exhibit of Gladioli, were awarded the 1st prize for an unlimited collection. The exhibit extended almost across the available space in the building.

Dahlias. The class for forty-eight blooms in not fewer than thirty-six varieties (nurserymen), was won by Mr. J. WALKER, Thame, Oxon, with an exhibit including many varieties of much excellence, and the same exhibitor won the class for thirty-six blooms, distinct. Mr. J. T. WEST, Tower Hill, Brentwood, had the premier exhibit of twenty-four blooms distinct and also that of twelve blooms distinct.

In the amateur and gardeners' classes, that for twenty-four blooms was taken by Mr J. STREDWICK, Silverhill, St Leonards, and the class for eighteen blooms also. Mr. J. STREDWICK had the best collection of twenty-four bunches of Pompons (open), and Messrs. J. BURRELL & CO. had the best twelve bunches.

Single flowered varieties were exhibited well in several instances. Messrs. J. CHEAL & SONS, Crawley, winning for twenty-four bunches, distinct (open); and Mr. J. Hudson, gr. to the Messrs. de ROTHSCHILD, Gunnersbury House, Acton, for twelve bunches (open).

The three classes for decorative and Cactus-flowered varieties were the most attractive, that for eighteen bunches being won by Messrs. J. CHEAL & SONS, with a collection in which were included many very pretty Cactus forms.

The best collection of twelve blooms was from Messrs. J. BURRELL & Co., and Mr. J. STREDWICK was awarded 1st in the class for six bunches (amateurs).

Non-competitive Exhibits.—This section of the display included exhibits of Dahlias from Mr. THOS. S. WARE, Hale Farm Nurseries, Tottenham; Messrs. J. CHEAL & SONS, Mr. E. F. SUCH, nurseryman, Maidenhead, who also contributed hardy flowers; Messrs. W. CUTBUSH & SON, Highgate Nurseries, who had also many perennial Asters and other hardy flowers; and Messrs. CARTER, PAGE & Co., London Wall, E.C.

Mr. H. J. JONES, Ryecroft Nurseries, Hither Green, Lewisham, exhibited Dahlia blooms, and numbers of zonal Pelargonium flowers arranged effectively with Lilium, Ferns, &c.

Mr F. G. FOSTER, Brockham, Nurseries, Havant, had a collection of Sweet Peas; Mr. J. HUDSON, Gunnersbury House Gardens, a few blooms of Nymphæas; Messrs. S. SLOCOCK & SON, Hounslow Nurseries, Middlesex, a collection of fruit; and Mr A. PENTNEY, The Gardens, Worton Hall, Isleworth, a collection of vegetables.

Floral Committee.

SEPTEMBER 1.—The greater number of the subjects before the committee were Dahlias. Of several new show Dahlias staged for Certificates, one only was successful, viz, Mrs. Stephen Walker (Mortimer), a delicate light flower, of exquisite form; colour light, tinged with pale pinkish heliotrope.

Certificates were also awarded to Cactus Dahlias Starfish (Keynes & Co.), fine bright, soft tint of scarlet; Keynes' White (Keynes & Co.), delicate creamy-white—one of the best white varieties yet produced, being true Cactus; Bridesmaid (Keynes & Co.) pale salmon, tinged with a soft shade of pink; Cactus Fantasy (Burrell & Co.), bright soft red, the petals incurving in a remarkable manner—very novel and distinct; Cactus Mrs. Gordon Sloane (Cheal & Sons), pinkish terra-cotta—a true Cactus, of fine quality; Cactus Regulus (Burrell & Co.), bright scarlet-crimson, very fine—a true Cactus form; Cactus Mrs. Kingsley Foster (Stredwick), orange, having a flush of a soft shade of pink; Pompon Dr. Jameson (West), bright shaded crimson; single, Polly Eccles (Girdlestone), deep apricot, fine shape. Dean Cusilda (Girdlestone), range ruby, tinted purple—very distinct; and Naomi Tighe (Girdlestone), clear yellow, with a crimson ring round the yellow eye. Rose Mrs Ramsey (Ramsey) received the same award. A new design in showboxes was commended; it was from Mr Wells. It consists of a box 3 inches deep, the front being upon hinges, and the back capable of adjustment by means of attached legs. When packed for travelling, the back is let down, when the box becomes flat; a cover is then placed over the blooms and box, which then becomes 12½ inches high, and can be corded. The corners of the covers are blocked to prevent injury to blooms.

FLOWER SHOWS IN THE FYLDE DISTRICT.

Of the flower shows held in the Fylde District of Lancashire last week, that at Lytham attracted, perhaps, the most attention. For years there has been no such exhibition in this salubrious pleasure resort, and the revival is due to the efforts of the Ratepayers' Association in that place. As an initial effort the show was a success. There were 180 entries, divided into two classes, one section being limited to cottagers and artizans residing in the Fylde, and cultivating their own gardens, and the other open to general competition. Preston exhibitors were well represented, and obtained most of the prizes. The display of Begonias and "specimen plants" were the features of the exhibition.

The Hoghton and District Floral and Horticultural Society held its sixteenth annual show on Saturday, in the grounds attached to the historic mansion—Hoghton Tower. The patrons included Sir JAMES DE HOGHTON, Bart., and Lord BALCARRES, M.P. The exhibition was considered the most successful yet held under the auspices of the Society, the year having been favourable to growers; cut flowers were exceptionally noticeable, and included some beautiful blossoms.

The same day The Singleton and Thistleton Floral and Horticultural Society held its annual show, this being also the 16th. There was a record entry, the number being 324. In the matter of quality too, the exhibits were considered ahead of last year.

GLASGOW, AND WEST OF SCOTLAND HORTICULTURAL.

SEPTEMBER 2.—This society held its annual exhibition in the St. Andrew's Hall on the above date. In some of the classes, especially those for fruit, the competition was not so strong as usual, but in most of those for plants, cut-flowers, and vegetables, it was well sustained, and the quality of the exhibits was first rate. Many honorary exhibits of much excellence were staged. The platform presented a grand display of flowering plants, and of Palms, Dracænas, Crotons, and other foliage plants.

Plants and Flowers.—In the centre of the hall, Messrs. J. & R. THYNE's large table excited great admiration. The Crotons were probably finer in colour than any ever seen in Glasgow—Golden Ring, Prince of Wales, and angustifolia were of extra merit.

Messrs. SMITH & SIMONDS had a large table of flowering plants, such as Liliums, &c., in variety, interspersed with Palms, choice Ferns, and Dracænas. Close to this exhibit stood a splendid table of Begonias from Mr. WARE, Tottenham, London; the flowers in form, size, and colour were excellent. Princess of Wales, blush; Princess May, white, crimped; and Landa, a very large single, were among the few exquisite varieties which were named.

Messrs. DOBBIE & Co. showed in their usual form, filling one side of the centre hall with the choicest Dahlias of every class. A new single-flowered variety, Lady Clare, was distinct and fine; Marguerite, single Cactus; and Queen Mary, and Victoria were of special merit. Their African Marigolds Lemon Queen and Prince of Wales, made a showy exhibit. Leeks, Celery, and Potatos from the same firm were very perfect in form, and of much excellence.

Mr. CAMPBELL, Blantyre, had a capital display of Carnations in great variety of colour and form; Marguerites and Cannas were also included in his exhibit.

Mr MICHAEL CUTHBERTSON, Rothesay, showed a fine collection of herbaceous plants; also capital Leeks, Celery, &c., and great numbers of new and choice Violas.

The Gleichenias from Mr. MITCHELL, of Sherwood, were deservedly placed 1st; he had a large pair of beautiful plants. Bouquets were very numerous, and many baskets of flowers arranged for effect were tabled.

A table of plants arranged for effect was set up by Mr. MILLER, gr. at Auchenrait, and was awarded 1st prize; the plants were mostly of the foliaged class, and remarkable for high colour and health. Heaths were especially finely flowered, Mr. MILLER was 1st, and the 2nd prize went to Mr. WILSON, Westmount.

For three Orchids, Mr. WILSON was 1st. He had Cattleya Gaskelliana, very fine, and an Odontoglossum crispum, with a splendid spike; Mr. REID, Kennusbead, was 2nd. Among a long line (specially good of table plants), Mr. CRAIG, florist, Stirling, was 1st, with Pandanues Veitchii, Croton angustifolius, and Dracæna superba, all very fine in colour.

Crotons were good generally, Mr. HANDSBOROUGH, Beechwood, was 1st. Palms (as specimens) were fine, Mr. WILSON was 1st. There was a large exhibit of the finest varieties of Gladiolus from Mr. C. MAIN, nurseryman, Prestwick. Dahlias were numerous, Mr. MILL, gardener at Blantyre, was 1st, for twenty-four blooms; Mr. SMITH, gardener, Howood, was an excellent 2nd.

Roses from Messrs. J. COCKER & SONS, Aberdeen, were remarkable for colour and freshness, and the collection was awarded 1st prize for twenty-four blooms; Mr. CROLL, Dundee, was a capital 2nd.

There were large exhibits of annuals, Sweet Peas, Carnations, zonal Pelargoniums, Pansies (show and fancy), herbaceous plants, Antirrhinums, Pentstemons, Asters, Marigolds, Liliums, and other brilliant flowers.

Fruit was not equal to exhibits on some former occasions. Messrs. BUCHANAN, of Kippen, had a grand display of over fifty bunches of Cooper's Black Grapes, handsome in bunch and perfect in colour; also of Vine leaves and Tomatos, which received a special award.

The only collection of fruit in the larger class came from Mr. MURRY, Culzean Castle Gardens. He had white Muscat Grapes, rather small in berry; Madresfield Court, good bunches; a nice Queen Pine, capital Brown Turkey Figs, Elruge Nectarines, Sea Eagle and Noblesse Peaches, very good; and fine Pears.

In a collection of six dishes from Mr. D. MCBEAN, were capital Black Alicante and Gros Maroc Grapes, and grand Pears.

For a collection of six dishes of hardy fruit, Mr. JOHN MCMILLEN, Castle Simple, had a fair exhibit, in which were finely-coloured Falcon Peaches.

For four bunches of Grapes, Mr. LESLIE, Pitcullen, Perth, was an easy 1st, showing White Muscats, Duke of Buccleuch, Madresfield Court, and Gros Colmar.

For two bunches of Black Hamburgh, Mr. WHITE, The Castle, Largs, was 1st; and Mr. MCBEAN was a close 2nd.

For two bunches other than Black Hamburghs, Mr. LESLIE was 1st, showing fine Madresfield Court.

For two bunches of White Muscats, Mr. LESLIE was the most successful.

For two bunches other than White Muscats, the 1st prize went to Mr. WHITE, Blairmore, for bunches of good Foster's Seedling.

For Black Grapes, other than Black Hamburghs, the 1st prize went to Mr. SHANKS, Falkirk, who had grand bunches of Madresfield Court, but they were not ripe.

For the heaviest bunch, a large-spreading bunch from Mr LESLIE was 1st. This was Muscat Hamburgh, 9 lb. in weight. The colour was imperfect, but the flavour was first-rate.

Apples were well exhibited in most of the classes, the cooking varieties being of fine quality and of large size. The dessert Apples were somewhat deficient in size and colour. Plums were best represented by Jefferson and Magnum Bonum. Nectarines were good. Mr. MILLAR, gr., Tullichwan, was 1st with good Elruge; and Mr. LESLIE had a capital dish of the variety Pine-apple. There were nine entries for twelve Pears, but the quality was generally weak.

Vegetables.—The hall in which the vegetables were arranged was filled throughout with as fine examples as was ever seen in the north. Cauliflowers, Onions, Turnips, Celery, Potatos, Peas, Carrots, and Beet, were of great excellence, and the competition was very keen. A collection of eight sorts from Mr. MCBEAN was one of the best he has ever shown. Tomatos, Cauliflowers, Leeks, Onions, Cucumbers, and Celery, were of extra fine quality, and large. In a collection for twelve sorts, Mr. HARE, of Carluke, was a splendid 1st; Mr. MCBEAN being placed 2nd by two points. A special prize for Onions was gained by Mr. MURRAY, Culzean, with Ailsa Craig, weighing 6 lb. 7 oz, and of beautiful form. The judges and officials dined at the Grand Hotel, Colonel HARRINGTON STUART presiding. The financial statement was satisfactory, and the excellent Secretary, Mr. JOHN COATS-WINTER, was heartily congratulated upon his good management.

THE DECADENCE BOGEY.

IN the face of the splendid collection of returns issued month by month from the Statistical Department of the Board of Trade—and of which a brief notice is to be found in these columns after each issue of the "Trade and Navigation Returns," there are to be found men who, not inferentially, dispute the accuracy of the figures given by asserting that "We are going to the dogs," and will soon have to shut up shop—handing over the goodwill, &c., to Germany and France. "Bogey" has been shown up so often, that disproving the existence of cause for alarm has come to be a sort of burden. The decadent notion has been a trifle too obtrusive of late, but fortunately an accumulation of facts is always going on at Whitehall, and as former returns had gone out of print, it was some time since arranged to have a reprint brought up to date, and to-day the decadence Bogey is rapidly beating a retreat in face of the tremendous mass of figures covering the eighty-six large folio pages of the *Bluebook* now before us, the title of which gives a hint as to what is within the covers:—"Comparative Trade Statistics: Statistical Tables, showing the progress of British trade and production from 1854 to 1895, in continuation of tables presented by the Board of Trade to the Royal Commission on Trade Depression, 1896; and of those contained in paper No. C. 6394 of session 1891." This extensive title gives but a faint idea of the actual contents, which relate to every branch of trade and manufacture connected with the growth and expansion of the nation and the empire, during nearly half a century. Naturally we cannot devote much space to the working out of conclusions here, but a few items may be given by the way of comparisons of British and German exports and imports. In our own case, imports are solely for home consumption, and in that of exports, of goods manufactured at home.

But before proceeding further, a few figures may be taken illustrative, not of German competition, but of our dependence on all the world for our—

SUPPLY OF WHEAT.

The imports are given in millions of hundredweights, as follows:—1854, 14·87; 1855 to 1859, 15·96; 1860 to 1864, 28·81; 1865 to 1869, 29·82; 1870 to 1874, 39·56; 1875 to 1879, 52·02; 1880 to 1884, 57·62; 1885 to 1889, 56·11; 1890 to 1894, 65·46. The comparison between Alpha and Omega is edifying as to price per cwt., the figures for 1854 is 15*s.* 8¾*d.*; 1890 to 1894, the price averaged 7*s.* 2¼*d.*—less than one-half. The prices per quarter for the quinquennial periods above noted are as follows:—57*s.* 7*d.*, 49*s.* 9*d.*, 53*s.* 7*d.*, 55*s.*, 47*s.* 8*d.*, 42*s.* 5*d.*, 31*s.* 7*d.*, 29*s.* 8*d.*, and 23*s.* 1*d.* To proceed with statistics relating to—

IMPORTS AND EXPORTS.

From 1875 to 1879, British imports and exports amounted to £15 10*s.* 4*d.* per annum per head of population; from 1880 to 1884 it was £16 8*s.* 6*d.*; 1885 to 1889, it was £14 17*s.* 10*d.*; 1890 to 1894, it was £15 10*s.* 2*d.* per head. The average gross annual total from 1890 to 1894, which was £715,000,000, is the highest total ever attained. From 1875 to 1879 the total was £632,000,000; the figures, however, represented more than double those for 1855 to 1859. From 1875 to 1879 the total fell short by £83,000,000 of the total from 1890 to 1894. For the year 1895 the total is £703,000,000—the highest total since 1892. The highest ever attained was £749,000,000, in 1890. With some fluctuations, the table noted records almost continuous progress and prosperity. Now for a few facts concerning Germany:—From 1875 to 1879 the amount of German imports and exports was £7 9*s.* 1*d.* per head, as against our £15 10*s.* 4*d.*; from 1880 to 1884 it was £6 16*s.* 11*d.* as against £16 18*s.* 6*d.*; from 1885 to 1889 it was £6 14*s.* 11*d.* against our £14 17*s.* 10*d.*; from 1890 to 1894 it was £7 4*s.* 11*d.* against our £15 10*s.* 2*d.* Surely there is here no cause for misgiving to us—then why decadence? The foreign trade of the German Empire is less than half that of this country. From 1880 to 1884 the value of German exports exceeded that of the imports by £1,000,000—Germany having been placed at a disadvantage by her foreign customers, and, as one writer put it, was actually carrying on her external trade at a loss. German figures have a habit, like our own, of fluctuating, for in 1879 they went up to £7 9*s.* 1*d.* per head of population; in 1894 the figures were £7 4*s.* 11*d.* Thus, it will be seen that our friends have made but little progress in 20 years.

Alarmists pointing to the doubling of our trade between 1859 and 1874, take up the cry that lower price totals sometimes show a decrease of trade—shutting their eyes to the fact that the values of imports very often decrease, and not the quantities. The trade continues good, and will doubtless continue to grow. Germany may take greater risks, and offer cheaper goods on purpose to get trade, but in the end it will be found that risky trade is bad trade, and that cheapness too often means rubbish. Sir R. Giffen has proved up to the hilt that there is no decadence in either the volume or the value of British trade.

A few figures here respecting timber and tea must be interesting to all. Growers in the land of Li will peruse the latter with deep regret—competitors in Ceylon and India having driven them nearly out of the home market.

IMPORTS OF TIMBER.

Respecting timber imports, we take a few figures respecting timber—sawn Fir sufficing. In 1860 to 1864 we imported, in millions of loads, 1·76, at £3 0*s.* 9*d.* per load: in 1865 to 1869, 2·23, at £2 15*s.* 8*d.*; in 1870 to 1874, 2·94, at £2 17*s.*; in 1875 to 1879, 3·43, at £2 14*s.* 6*d.*; in 1880 to 1884, 3·73, at £2 10*s.* 11*d.*; 1885 to 1889, 4·04, at £2 5*s.* 9*d.*; 1890 to 1894, 4·72, at £2 3*s.* 11*d.* per load.

We close with the following items respecting our

IMPORTS OF TEA.

The imports of tea between 1854 and 1894 are (in millons of pounds), as follows:—1854, 85·79—the price per pound, 1*s.* 3½*d.*; 1855 to 1859, 76·89—1*s.* 4¼*d.*; 1860 to 1864, 112·30—1*s.* 6½*d.*; 1865 to 1869, 136·60—1*s.* 7*d.*; 1870 to 1874, 164·48—1*s.* 4¾*d.*; 1875 to 1879, 191·90—1*s.* 3¾*d.*; 1880 to 1884, 212·72—1*s.* 0½*d.*; 1885 to 1889, 221·91—11¼*d.*; 1890 to 1894, 239·52—10¼*d.* *C.*

Obituary.

MR. HENRY LAWLEY.—We regret to record the death of Mr. Henry Lawley, which occurred on August 17, at the age of sixty-four years. The deceased was head gardener at Franks Hall, Kent, for thirty-six years, and was a much-respected and excellent gardener.

LAND UNDER POTATOS.—From the preliminary statement for 1896, compiled from the returns collected by the Board of Agriculture on June 4, we learn that 563,741 acres were planted with Potatos this year, as against 541,217 in 1895, 504,454 in 1894, and 527,821 in 1893.

MARKETS.

COVENT GARDEN, SEPTEMBER 3.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arums, p. 12 blooms	2 0	4 0	Marguerites, per 12 bunches	1 0	2 0
Asters, English, doz. bunches	3 0	6 0	Orchids:—		
Bouvardias, per bn.	0 4	0 6	Cattleya, 12 blms.	6 0	12 0
Carnations, 12 bun.	4 0	6 0	Odontoglossum crispum, 12 bm.	2 0	6 0
— 12 blooms	0 6	2 0	Pelargoniums, scarlet, per 12 bun.	2 0	4 0
Chrysanthemums, doz. bun.	4 0	6 0	— per 12 sprays	4 0	6 0
— doz. blooms	0 6	1 6	Pyrethrums, 12 bn.	2 0	4 0
Eucharis, per dozen	1 0	2 6	Roses, Tea, per doz.	0 9	1 6
Forget-me-nots, p. doz. bunches	1 6	3 0	— coloured, doz.	0 9	1 6
Gardenias, per doz.	1 0	3 0	— yellow (Maréchal), per doz.	2 0	4 0
Gladiolus, coloured, per doz. sprays	1 0	1 6	— red, per dozen	0 6	1 0
Lavender, doz. bun.	6 0	9 0	— red, doz. bun.	4 0	6 0
Lilium Harrisi, per doz. blooms	2 0	5 0	— Gloire, doz. bn.	4 0	6 0
— lancifolium, doz. blooms	0 9	2 0	— Safrano, p. doz.	1 0	2 0
Maidenhair Fern, per 12 bunches	4 0	8 0	Stephanotis, 12 sps.	1 6	2 0
Mignonette, p. doz.	2 0	4 0	Stocks, p. doz. bun	2 0	4 0
			Sweet Peas, 12 bun.	1 6	3 0
			Tuberoses, 12 blms.	0 2	0 4

ORCHID-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Adiantum, per doz.	4 0	12 0	Ferns, various, doz.	5 0	12 0
Aspidistra, per doz.	12 0	30 0	Ficus elastica, each	1 0	7 6
— specimen, each	5 0	15 0	Foliage plants, doz.	12 0	36 0
Asters, doz. pots	3 0	5 0	Heliotrope, per doz.	4 0	6 0
Chrysanthemum, p. doz.	4 0	9 0	Lilium Lancefolium, p. doz. pots	9 0	15 0
Cock's-combs, doz.	3 0	4 0	Marguerites, p. doz.	6 0	10 0
Coleus, per doz.	2 0	4 0	Mignonette, p. doz.	4 0	6 0
Dracæna, each	1 0	7 6	Palms, various, ea.	2 0	10 0
— various, p. doz.	12 0	24 0	— specimens, ea.	10 6	84 0
Evergreen Shrubs, in variety, doz.	6 0	24 0	Pelargoniums, doz.	6 0	9 0
Ferns, small, doz.	1 0	2 0	— Scarlets, p. doz.	2 0	4 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples, cooking, in variety, per sieve	2 6	4 0	Grapes, Gros Maroc, per lb.	1 0	1 6
— dessert, in variety, per ½-sieve	2 6	4 0	Figs, per doz.	0 9	1 0
Grapes, Alicante, 1st quality, per lb.	1 0	1 6	Melons, each	0 6	1 0
Alicante, 2nd quality, per lb.	0 9	1 0	Nectarines, 1st size per doz.	3 0	4 0
Hamburgh, 1st quality, per lb.	1 0	1 6	— 2nd do., p. doz.	1 6	2 0
— Hamburgh, 2nd quality, per lb.	0 6	0 9	Nuts, Cob, per 100 lb.	25 0	
— Gros Colmar, per lb.	1 0	1 6	Peaches, 1st size, per doz.	3 0	6 0
Muscats, English, per lb.	1 6	1 9	— 2nd do., per doz.	1 6	2 0
— Muscat, Channel Islands, per lb.	1 0		— 3rd do., per doz.	0 9	1 0
			Pears, Williams, p. half sieve	2 6	3 0
			Pine-apples, St. Michael, each	5 0	6 0
			Plums, in variety, per ½ sieve	2 0	3 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Beans, Scarlet Runner, p. sieve	2 0	4 0	Mushrooms, (Indoor) per lb.	0 6	
Cucumbers, home-grown, per dz.	1 0	2 0	— (Outdoor), per half-sieve	2 0	2 6
— Ridge, per pair (about 14 oz.)	5 0		Peas, per sieve	5 0	6 0
— Dutch, per doz.	1 0		Tomatos, home-grown, smooth, per doz. lb.	2 6	3 0
Marrows, Vegetable, per 5 doz. tally	2 0	3 0	— ord. kinds, do.	1 6	2 0

POTATOS.

Trade better for best samples. Prices 70*s.* to 75*s.*; Ordinary, 40*s.* to 50*s.* per ton. *J. B. Thomas.*

FRUIT AND VEGETABLES.

LIVERPOOL: *September* 2. *Vegetables:* Turnips, 6*d.* to 9*d.* per dozen bunches; Swedes 1*s.* 4*d.* to 1*s.* 8*d.* per cwt.; Carrots, 8*d.* to 10*d.* per dozen bunches; Onions, English, 6*s.* 6*d.* to 7*s.* 6*d.* per cwt; Parsley, 4*d.* to 6*d.* per dozen bunches; Lettuces, Cos, 6*d.* to 1*s.* per dozen; Cucumbers, 1*s.* to 1*s.* 6*d.* do.; Cabbages, 9*d.* to 1*s.* 6*d.* do.; Cauliflowers, 1*s.* 6*d.* to 2*s.* 6*d.* do.; Celery, 1*s.* 6*d.* to 2*s.* 4*d.* do.; Beans, 1*s.* 6*d.* to 1*s.* 9*d.* per bushel. Beans, kidney, 4*d.* to 6*d.* per pint. Radishes, 3*d.* to 4*d.* per dozen bunches; Potatos, kidney 2*s.* to 3*s.* per cwt; Main Crop, 2*s.* 6*d.* to 3*s.* 6*d.* do. Brussels, 1*s.* 6*d.* to 2*s.* do.

GLASGOW: *September* 2.—The following are the average prices for the past week. *Fruit:* Pears, 2*s.* 3*d.* per case; Apples, 6*d.* to 10*d.* per lb.; Green Gages, 6*d.* to 8*d.* do.; Tomatos, Guernsey, 4*d.* to 5*d.* do.; do., Scotch 7*d.* to 8*d.* do.; Plums, 3*d.* to 4*d.* do.; Grapes, home, 2*s.* do. *Vegetables:* Turnips, 2*s.* to 2*s.* 6*d.* per dozen bunches; Cabbages, 8*d.* to 9*d.* per dozen; red do., 2*s.* 3*d.* to 2*s.* 6*d.* do.; Cauliflowers

English, 1*s.* to 1*s.* 3*d.* do.; do., Edinburgh, 1*s.* to 1*s.* 3*d.* do.; Parsnips, 5*s.* 6*d.* to 6*s.* per cwt.; Herbs, 1*d.* to 2*d.* per bunch; Leeks, 2*s.* 6*d.* to 3*s.* per dozen bunches; Onions, Globe, 3*s.* to 3*s.* 6*d.* per cwt.; Parsley, 8*d.* to 10*d.* do.; Onions, Silver, 6*d.* to 7*d.* per dozen bunches. Carrots, 4*s.* 6*d.* to 5*s.* per cwt.; do., new, 1*s.* to 1*s.* 6*d.* per dozen; Peas, 1*s.* 9*d.* to 2*s.* 6*d.* per stone; Cucumbers, 4*s.* to 4*s.* 6*d.* per dozen; Lettuces, round, 6*d.* to 8*d.* do.; do., Cos., 9*d.* do.; Radishes, 9*d.* to 1*s.* per dozen bundles; Horseradish, 2*s.* 9*d.* to 3*s.* per bunch; Bean, Broad, 1*s.* to 1*s.* 3*d.* per stone; do., French, 2*s.* to 2*s.* 6*d.* do.; Mushrooms, 1*s.* to 1*s.* 3*d.* per lb.; Rhubarb, natural, 2*s.* to 3*s.* per cwt.; Beetroot, 7*d.* per dozen; do., new, 3*s.* 6*d.* to 4*s.* per dozen bunches; Cress, 3*d.* per basket; Potatos, 8*d.* per stone.

SEEDS.

LONDON: *September* 2.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., describes to-day's market as thinly attended. Trifolium, as might be expected, now meets with a decreasing sale. White Mustard continues in brisk request at full rates. There is also some sowing demand for Rye-grass, Lucerne, Cloverseed, &c. Winter Tares, with only a moderate supply, keep firm in value. Seed-rye is very steady. As regards Canary seed, there are not wanting indications of an early advance. Hempseed also tends upwards. Blue Peas and Haricot Beans meet with more attention.

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	TEMPERATURE. Above (+) or below (−) the Mean for the week ending August 29.	TEMPERATURE. ACCUMULATED. Above 42° for the Week.	Below 42° for the Week.	Above 42°, difference from Mean since December 29, 1895.	Below 42°, difference from Mean since December 29, 1895.	RAINFALL. More (+) or less (−) than Mean for the Week.	No. of Rainy Days since Dec. 29, 1895.	Total Fall since Jan. 1, 1896.	BRIGHT SUN. Percentage of possible Duration for the Week.	Percentage of possible Duration since Dec. 29, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch		Ins.		
0	2 −	74	0	+ 231	− 318	18 +	163	35·3	27	24
1	2 −	81	0	+ 215	− 241	0 aver	129	15·5	32	31
2	2 −	93	0	+ 262	− 222	2 −	107	11·3	28	37
3	2 −	103	0	+ 210	− 229	1 +	108	12·4	32	37
4	3 −	96	0	+ 245	− 247	0 aver	102	11·7	24	34
5	2 −	117	0	+ 289	− 240	0 aver	93	10·7	33	39
6	1 −	95	0	+ 267	− 228	3 +	138	26·8	34	33
7	2 −	98	0	+ 349	− 258	7 +	121	19·0	24	35
8	2 −	108	0	+ 389	− 206	3 +	100	14·1	36	43
9	2 −	90	0	+ 278	− 233	7 +	141	24·1	25	29
10	1 −	106	0	+ 380	− 210	3 +	117	19·6	18	34
*	1 −	125	0	+ 496	− 109	3 +	110	11·3	50	49

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending August 29, is furnished from the Meteorological Office:—

"The *weather* during this week was cool and unsettled. Very heavy rain was experienced in the extreme north and northwest, and considerable quantities in the west generally, while in the east and south the falls, although rather frequent, were less heavy. Thunderstorms occurred in many parts of Great Britain between the 25th and 27th.

"The *temperature* was below the mean, the deficit ranging from 1° to 2° in the 'Grazing' districts, and from 2° to 3° in the 'Wheat-producing' districts. The highest of the maxima were recorded on the 23rd, when they varied from 79° in England, S.,' and 75° in the 'Midland Counties,' to 68° in 'Scotland, W. and Ireland, N.,' and to 66° in 'England, N.W.' The lowest of the minima were registered either on the 26th or 27th, and ranged from 33° in 'England, S.W.' (locally at Llandovery), and from 37° in 'Scotland, E.,' to 44° in 'England, S.,' Scotland, W., and Ireland, S.,' and to 51 in the 'Channel Islands.'

"The *rainfall* greatly exceeded the mean in 'Scotland, N.,' and was considerably above it in all the western districts. In the east and south, however, the fall did not differ very much from the normal.

"The *bright sunshine* was deficient over 'England and Ireland,' but was rather above the mean in most parts of 'Scotland' as well as in the 'Channel Islands.' The percentage of the possible duration was as high as 50 in the 'Channel Islands,' but elsewhere it ranged from 36 in 'England, S.W.,' and 34 in 'Scotland, W.,' to 24 in the 'Midland Counties and England, N.W.,' and to 18 in 'Ireland, S.'"

NOTICES TO CORRESPONDENTS.

BOOKS: *J. G. British Flora*, by Bentham and Hooker, together with the book of illustrations of the same (Reeve & Co., 5, Henrietta Street, Covent Garden). *Fern Growing*, by E. J. Lowe (J. C. Nimmo, 14, King William Street, Strand, W.C.)

CALANTHE VEITCHI: *Western.* The treatment most likely to induce some at least of the Calanthes to flower at the time you desire, is to keep them in the position you now have them, which seems to be a very favourable one. See that there is good ventilation in the part of the house that they occupy, and discontinue watering till the leaves have withered and fallen off. During this period the flower-spikes will be slowly developing; and after they are well up, a little water occasionally will help them. You seem to have grown them quite correctly for early flowering.

DISFIGURED GRAPES: *Constant Reader.* Your Muscat berries are affected with "rust," which results from an injury to the skin received when young and tender. No one without an intimate knowledge of the circumstances under which the Vines have been cultivated, can say to which of the following probable causes the injury in this instance should be attributed. When very young, and thinning is being done, if the berries are touched with the hand, or with the head, rust may ensue. Cold draughts of air at about the same period, or a dry, parched atmosphere, or sulphurous fumes, will cause rust, and the use of sulphur upon the hot-water pipes, unless carefully attended to, is liable to injure the berries at a very young stage. When once such injury is done, the berries should be cut out and removed.

GARDEN AND NURSERY DIRECTORIES: *F. S.* There are two published, one at the office of *The Garden*, 37, Southampton Street, Covent Garden, W.C., the other at that of the *Journal of Horticulture*, 171, Fleet Street, E.C. The price in each case is 1*s.* net.

GRAPES: *J. T. T.* The bunches were badly shanked, and judging from the smallness of the berries, and their general bad quality, it seems that the Vine is in a bad condition. We would rather recommend you to make a new start with young Vines, and a properly-made border, than try to improve the old ones.

MIGNONETTE: *T. B.* There is no fungus disease upon the plants sent, and no evidence upon them of the cause of failure. No trace of the Mignonette disease, common in the United States, can be found. The mould on some of the dead leaves is a common saprophyte. Clearly the source of falling away must be found outside the plants themselves, which cannot be predicated from the material sent. It must belong to the soil or the treatment. *M. C. C.*

NAMES OF FRUITS: *C. B. W.* We cannot undertake to name varieties of Tomatos. Both of those you send are of the Perfection type, and there are now so many varieties of that type, that between many of them there is no essential difference.—*F. Wicks.* Plum, Prince Engelbert. *Paddy from Cork.* Apple, Keswick Codlin; green and brown Pear; Comte de Lamy; yellow Pear, over ripe.—*J. Kitley.* Apple, 1, Hoary Morning; 2, not known.—*W. W., Fifeshire.* 1, believed to be Lord Grosvenor; 2, Bedfordshire Foundling; 3, Rymer; 4, Tower of Glamis; 5, Reinette du Canada; 6, not known.—*J. P.* 1, Sugar-loaf; 2, Frogmore Prolific; 3, Williams' Favourite.—*H. W.* Plum: Jefferson; 1, Pear Williams' Bon Chrétien; 2, fruit spoiled in transit, probably Clapp's Favourite; 3, Pear Louise Bonne of Jersey. Apple: 1, Emperor Alexander; 3, Cellini.—*C. K.* 1, Duchess's Favourite; 2, Forge. The specimens of Plums were not sufficiently good for the purpose of identification.—*A. B. C.* 1, Louise Bonne of Jersey; 2, Beurré d'Amanlis; 3, Belle de Bruxelles; 4, not known; 5, Duchesse d'Angoulême; 6, Josephine de Malines; 7, Apple, New or Winter Hawthornden. *J. B.* Pear Souvenir du Congrès; Plums, 2, Kirke's; 3, Jefferson; 4, not known; 5, Prince Englebert or Mitchelson's.—*Aber.* Your fruit is unknown to us, some old Scotch sort, not grown in the south.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to be so good as to consult the following number.*—*W. V.* 1, Prunus Pis-ardi; 3, Adiantum cuneatum; 4, Acer Negundo variegatum.—*A. B. C.* 8, Spiræa bella, if the flowers are pink, not a good specimen; 9, Calycanthus floridus, probably—send when in flower; 10, Eryngium amethystinum.—*T. W. R.* Acer circinnatum, Pursh.—*G. H.* 1, Caladium bicolor; 2, Prince Albert Edward; 3, Barraquini; 4, Chantini; 5, E. G. Henderson; 6, Meyerbeer.—*H. D. M. W., Dumbarton.*—Juncus supinus var.—*E. James, Enfield.* 3, Ceratopetalum glandulosum; 4, Melaleuca?—flowers abnormal; 6, Chironia linioides.—*J. A.* Chenopodium acutifolium, British.—*N. J. H.* Euphorbia Lathyris, so far as may be judged from the one leaf sent.

OMISSION: SHREWSBURY HORTICULTURAL SOCIETY'S SHOW.—We are requested by John Cowan & Co., Limited, Garston, Liverpool, to inform our readers that a Gold Medal was awarded them for a group of Roses; and Messrs. Laing & Mather state that a Silver Medal was awarded them for a collection of Carnation blooms, and a Certificate of Merit for a stand of their new Carnation Viscountess Melville.

PEAR WITH INTERNAL BROWN SPOTS: *A. B.* The Pear sent showed no external sign of disease, but when cut the flesh was found to be disfigured by large brown spots deeply seated in the flesh, and mostly harder than the surrounding substance. The microscope revealed no mycelium, or any other trace of fungus, and hence it is difficult to account for the spots. When cut and exposed, the spots protrude, resembling a sort of gummosis, many of the cells being dissolved. We are at a loss to suggest a remedy. *M. C. C.*

ROSE SHOOTS DYING: *C. W. D.* The result of a lack of nutriment in the soil, or because owing to long drought the roots could not take it up.

SEEDLINGS OF PINUS: *D. Marl.* The roots have been eaten by the larvæ of the weevil Otiorhynchus niger. The needles first become yellow, and finally dry up. There is nothing for it but change of ground for the seed beds.

SPOT ON CARNATION LEAVES: *B. C.* When the disease has gained a footing on the plants, it will gradually over-run them, and there is no known cure for it. Perhaps the occasional use of the Bordeaux Mixture in mild form on all of the plants before any spotting is observable might prevent an attack. We would advise the destruction of the plants forthwith by burning as the only means of stamping out the disease.

SYCAMORE LEAVES WITH BLACK SPOTS: *J. B.* The black spots are caused by a fungus, Rhytisma acerinum. In July yellow spots or blotches are seen, which in August turn black, and the leaves usually fall early. There is no known means of cure or prevention beyond raking up the leaves and burning them, not letting them lay in ditches, or in the grass under the trees.

TENANT'S GLASSHOUSE: *Nurseryman.* So long as you do not fix the superstructure with bolts or screws to the foundations of bricks laid in the soil, it remains your property, and you can remove it at will.

TOMATOS AND BORDEAUX MIXTURE: *S. W. D.* A somewhat diluted form of this mixture may be used on Tomato-plants carrying green fruits, because it can be washed off them before they are fit for use; but we would not advise its use on plants with ripening fruits.

TOMATOS AND CHRYSANTHEMUMS: *J. H.* It is a common thing for Tomatos to go in the manner yours have, and the cause is attributable to a check, most probably at the root, at some stage of their growth. Sometimes the injudicious use of liquid-manure will cause it. The Chrysanthemums were doubtless injured by insects (earwigs), in an early stage of their growth, and the injury then scarcely visible has developed with the growth of the plants.

COMMUNICATIONS RECEIVED.—J. Morley and J. Bowden, next week.—A. B., next week.—G. Burrows.—L. B.—R. L.—R. Macfee.—C. M. R.—E. M.—G. J. B.—J. McI.—T. B.—W. P. (next week)—C. W. D. Main & Sons. W. T. V. A. P.—H. H. D'Ombrain. A. D. A. F. B. E. C. M. T.—W. H. Bewley. E. M. E. G. W. J. B. J. M. Hereford.

PHOTOGRAPHS, SPECIMENS, &c., RECEIVED WITH THANKS.—J. V. & Sons.

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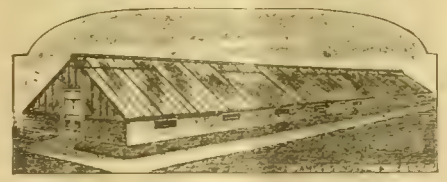
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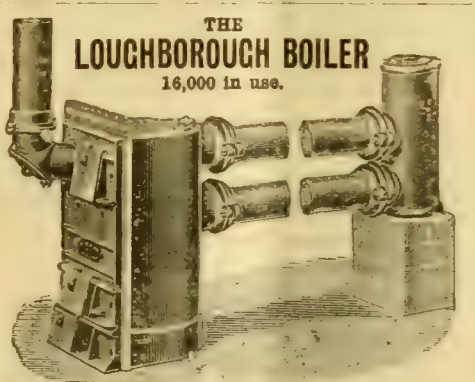
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9	„ ..	0	5	6	20	„ ..	0	11	0
10	„ ..	0	6	0	21	„ ..	0	11	6
11	„ ..	0	6	6	22	„ ..	0	12	0
12	„ ..	0	7	0	23	„ ..	0	12	6
13	„ ..	0	7	6	24	„ ..	0	13	0
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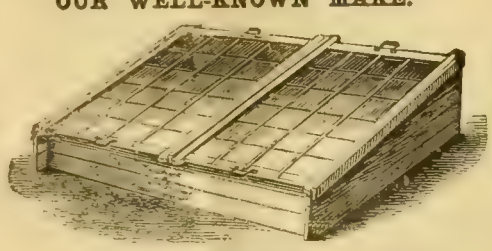
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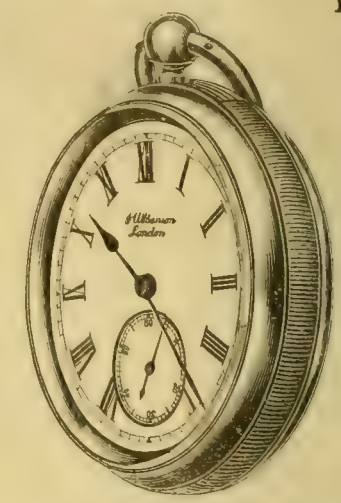
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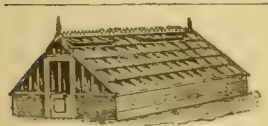
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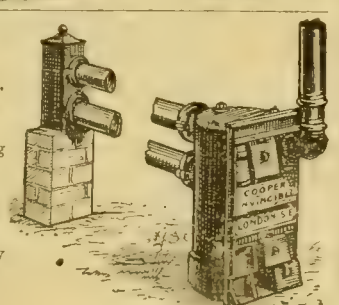


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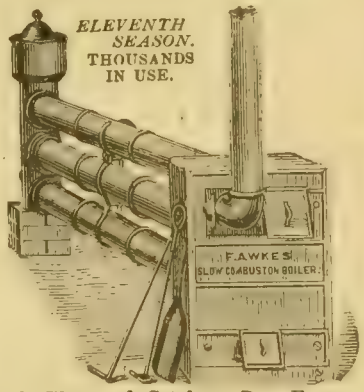
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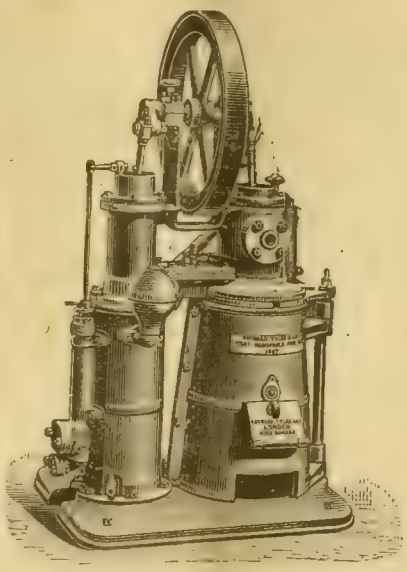
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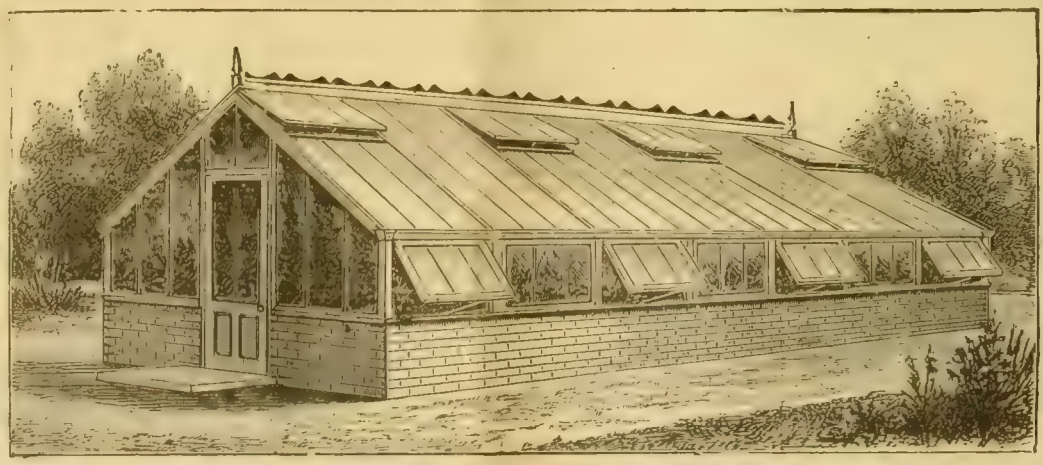
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Editorial communications should be addressed to the "Editor;" Advertisements and Business Letters to "The Publisher," at the Office, 41, Wellington Street, Covent Garden, London, W.C.
Printed for the Proprietors by Messrs. BRADBURY, AGNEW, & Co. (Limited), Lombard Street, Precinct of Whitefriars, City of London, in the County of Middlesex, and published by HARRY GILLARD COVE, at the Office, 41, Wellington Street, Parish of St. Paul's, Covent Garden, in the said County.—SATURDAY, September 5, 1896. Agent for Manchester—JOHN HEYWOOD.

The Gardeners' Chronicle

ESTABLISHED 1841. No. 2907.

No. 507.—VOL. XX. { THIRD SERIES. } SATURDAY, SEPTEMBER 12, 1896. [Regt. as a Newspaper. { PRICE 3d. POST-FREE, 3½d.

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Free on rail. Cash with Order.
W. J. MYATT, Hextable, Swanley Junction, Kent.

MALMAISONS.—Princess of Wales (deep Pink), beautifully Clove-scented (the queen of Malmaisons for cut flowers and decorations), fine plants, 12s. per doz.; Malmaisons, Blush, 9s. per doz. BORDER CARNATIONS (Selfs), Picotees, Flakes, and Bizzares, the finest named varieties extant, my selection, 6s. per dozen.
CHAS. A. YOUNG, Floral Nursery, West Derby nr. Liverpool.

MR. ROBERT SYDENHAM'S BULBS are acknowledged by all to be the best and finest. References can be given to customers in nearly every town in the United Kingdom. EMPEROR NARCISSUS, extra fine bulbs, 5s. per dozen; average size, 4s. per dozen. BARRI CONSPICUUS, 3s. 6d. per dozen; 25s. per 100. HORSFIELDI, extra selected bulbs, 2s. 6d. per dozen; good average size, 2s. per dozen; 15s. per 100. SIR WATKIN, 3s. 6d. per dozen. Orders over £5, Ten per cent. discount. Full list on application. North Tenby Street, Birmingham.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings, Patentees of the Duplex Upright Tubular Boilers, King's Road, Chelsea, S.W. Telegraph Address "Hortulanus, London," Telephone, No. 8728.

FORTHCOMING SALES BY MESSRS. PROTHEROE & MORRIS,

Horticultural Auctioneers and Valuers.

CENTRAL AUCTION ROOMS and ESTATE OFFICES. 67 and 68, CHEAPSIDE, E.C. CATALOGUES FOR ALL AUCTIONS SENT FREE BY POST ON APPLICATION.

Dyson's Lane Nurseries, Upper Edmonton.

ELEVENTH GREAT ANNUAL UNRESERVED TRADE SALE of POT PLANTS.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. H. B. May to SELL by AUCTION, on the Premises, Dyson's Lane Nurseries, Upper Edmonton, on MONDAY NEXT, Sept. 14, at 11 o'Clock punctually (there being upwards of 1600 lots), an unusually well-grown Stock, consisting of—

TEA ROSES IN POTS,

The grandest lot ever offered, including extra strong well-ripened plants of M. Niel, W. A. Richardson, Climbing Niphetos, Climbing Perle des Jardins, Crimson Rambler (extra fine stock of this new pillar Rose, and other sorts for forcing).

FERNS, many thousands in various sizes.

TREE CARNATIONS,

including choice new varieties, Primrose Day, W. Robinson, H. Gibbons, Uriah Pike, Winter Cheer, Miss Joliffe Improved, and other best winter-flowering sorts; also large quantities of Germania, Gloire de Nancy, &c.

BOUVARDIAS, large quantities of all the best sorts ERICA HYEMALIS, very fine stuff. FICUS ELASTICA VARIEGATA. CROTONS, a splendid lot of beautifully-coloured plants. VINES and strong Canes of Muscat of Alexandria and Gros Colmar. STRAWBERRY plants, Stevens' Wonder and Royal Sovereign, in pots. PALMS, consisting of fine specimens of Kentias, Arecas, Cocos, Latanias, &c.; also great quantities of smaller plants. GENISTAS, unusually fine bushy stuff. SOLANUMS, bushy, and well berried. Cyclamen, Double Primulas, Gardenias, Poinsettias, Azaleas, Camellias, and other useful flowering plants. Hydrangeas, Lapagerias, Ampelopsis; and Passifloras, Clematis Jackmani, and other leading sorts.

IVIES, choice variegated sorts.

Aspidistras, Araucaria excelsa, Ficus elastica, Aralias, and a great variety of other useful flowering and foliage plants. Large quantities of small Genistas, &c., for growing on.

May now be viewed. Catalogues may be had on the Premises; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Lee, Kent, S.E.

GREAT ANNUAL TRADE SALE, to commence punctually at 11 o'clock, there being upwards of 1,600 lots to sell in the one day.

MESSRS. PROTHEROE AND MORRIS are instructed by Messrs. B. Maller and Sons, to sell by Auction on the premises, the Burnt Ash Road Nurseries, Lee, Kent, S.E., adjoining Lee Railway Station, S. E. Railway, on TUESDAY NEXT, Sept. 15, at 11 o'clock precisely, without reserve, a remarkably well-grown stock of

WINTER-BLOOMING HEATHS

AND OTHER

STOVE and GREENHOUSE PLANTS

Consisting of:—

15,000 Erica hyemalis	4,000 Solanum capsicastrum, well berried
2,000 ,, gracilis	1,000 Adiantum cuneatum
1,000 ,, Cavendishii	1,400 Lomaria gibba
1,000 ,, vertricosa of sorts	600 Tea Roses (in pots)
700 ,, caffra	3,000 Bouvardias (of sorts)
All well set with bloom-buds,	1,000 Cocos Wedelliana
1,000 Ampelopsis Veitchii	1,000 Cyclamen persicum
1,500 Epacris (to name)	500 Crotons, beautifully coloured
1,000 Boronia megastigma and others	2,000 Tree Carnations
500 Grevillea robusta	500 Asparagus tenuissimus and plumosa nana
6,000 Genistas	

and a fine lot of Stephanotis floribunda, Gardenias, Myrtles, Abutilons, Dipladenias, Hydrangeas, with a large quantity of young Ericas, Hyemalis and other varieties, Genistas, and Aralia Sieboldi, all in 60-pots for growing on.

May now be viewed. Catalogues may be had on the premises; at the Seed Warehouse, 61, High Street, Lewisham, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

N.B.—Intending purchasers are invited to inspect the stock, which is unusually well-grown. The Heaths are especially fine, all varieties being well set for bloom. The Genistas are all fine bushy plants, and the Tree Carnations are also particularly good.

In the High Court of Justice, Chancery Division.

PEACOCK v. OLYMPIA, LIMITED.

OLYMPIA adjoining Addison Road Station. IMPORTANT CLEARANCE SALE of valuable SPECIMEN PALMS and OTHER PLANTS. By order of the Receiver for the Debenture-holders.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION on the Premises, Olympia, Addison Road, W., adjoining Addison Road Station, on WEDNESDAY, September 30, at 1 o'clock precisely, the valuable collection of about

500 SPECIMEN and HALF SPECIMEN PALMS

and other DECORATIVE PLANTS, comprising 17 Seaforthia elegans, 8 to 10 ft.; Latania borbonica, Phœnix, Coryphas, Thrinax, Chamærops, Ficus, Specimen Bamboo, Green Bays, Ornamental Shrubs in tubs; Aloes, green and varigated; Cycas revoluta; Geraniums; Solanums, and other miscellaneous plants.

Catalogues may be had of the person in charge of the Gardens; of JOHN HOLMES, Esq., Solicitor, 34, Clement's Lane, E.C.; of Messrs. EDWARD MOORE & SONS, Chartered Accountants, 3, Crosby Square, London, E.C.; and of Messrs. PROTHEROE and MORRIS, Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

South Woodford.

Near George Lane Station, G.E. Railway.

UNRESERVED ANNUAL SALE.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, The Nurseries, South Woodford, Essex, on WEDNESDAY NEXT, Sept. 16, at 10 for 11 o'Clock precisely, by order of Mr. John Fraser (without reserve), in consequence of the number of lots—

MANY THOUSANDS OF

WINTER-FLOWERING & other PLANTS

including:—

15,000 Erica hyemalis	200 Maréchal Niel Roses, 10 to 12 feet
2,000 Erica caffra	1,000 Tea-scented Roses, in pots
1,000 Tree Carnations	1,000 Climbing Roses, in pots, including Crimson Rambler
4,000 Erica gracilis	1,000 Deutzia gracilis, established in pots for earliest forcing
5,000 Genista fragrans	10,000 Bouvardias, including all the best sorts for cutting
10,000 Ampelopsis Veitchii, 4 to 5 feet	5,000 Solanums, beautifully berried
2,000 Lapageria rosea superba	1,000 Ceanothus in variety
6,000 Cyclamen persicum (Fraser's superb strain)	
2,000 Passiflora, Constance Elliott and cœrulea	
6,000 Variegated and other Ivies	
5,000 Clematis Jackmanii and other best named sorts	

Together with considerable quantities of ARAUCARIA EXCELSA, MAGNOLIA GRANDIFLORA, LONICERAS of sorts, Scarlet TRUMPET HONEYSUCKLES, Hardy FUCHSIAS, White JASMINES of sorts; also, a large number of small ERICAS, for growing on; and several lots of fine strong-flowering Bulbs of NARCISSUS HORSFIELDI, fine for cutting, together with a few lots of the beautiful RHODODENDRON ROSAMOND, well set; fine plants of R. PONTICUM, full of buds, and EUONYMUS fit for potting.

Also a few lots of HEMEROCALLIS AURANTIACA MAJOR, without doubt the best hardy plant recently introduced.

May now be viewed. Catalogues may be had on the Premises; and of the Auctioneers, 67 and 68, Cheapside, E.C., and Leytonstone, E.

N.B.—The plants offered in this Sale are of superior quality. They have been grown in New Greenhouses, in the pure fair of Epping Forest, and cannot fail to give purchasers entire satisfaction.

Enfield Highway, N.

TWENTY-EIGHTH ANNUAL TRADE SALE of STOVE and GREENHOUSE PLANTS.

MESSRS. PROTHEROE AND MORRIS are instructed by Mr. John Maller to SELL by AUCTION, on the Premises, the Brimsdown Nurseries, Green Street, Enfield Highway, N., almost adjacent to the Brimsdown Station, G.E.R., on THURSDAY NEXT, Sept. 17, at 11 o'Clock punctually, owing to the large number of lots, about—

60,000 REMARKABLY WELL-GROWN

STOVE and GREENHOUSE PLANTS,

mostly in No. 48 pots, and fit for immediate Sale, consisting of—

20,000 Winter-Flowering HEATHS,

including Hyemalis, Gracilis, Wilmoreana, Cavendishii, Ventricosa, Perspicua, erecta, &c.

3500 TEA ROSES, in pots,

including Maréchal Niel, Gloire de Dijon, climbing Niphetos, L'Idéal, Reve d'Or, W. A. Richardson, Mdme. Moreau, climbing Perle des Jardins, Bridesmaid, Reine Marie Henriette, The Bride, Sunset, Kaiserin Augusta Victoria, Graziella, Catherine Mermet, Beauté Inconstant, Mdme. de Watteville, Perle des Jardins, Maman Cochet, Niphetos, Mdme. Pierre Cochet, La France, Augustine Guinoisseau, Mdme. C. Testout, &c., &c.

Also PAULS' CARMINE PILLAR, ALISTER STELLA GRAY, and TURNER'S CRIMSON RAMBLER.

5000 SOLANUMS, large, & well-berried.

1000 Ferns, P. tremula, Polypodiums, &c.	300 Canna, Mdme. Crozy, and Reine Charlotte
2000 Geraniums, new and choice varieties	1000 Bouvardias, to name
4000 Genista fragrans	2000 Calla æthiopica
1000 Hydrangea Hortensis	600 Epacris, to name
1000 Palms	500 Begonias, Mdme. Charrat, &c.
1000 Grevillea robusta	500 Poinsettias
400 Ficus elasticus	500 Ivy-leaves, new varieties.

Large quantities of Passifloras, Ampelopsis Veitchii, Taxonias, Stephanotis, Allamandas, Bougainvilleas, Asparagus, Pandanus Veitchii, Crotons, Aralias, Carex, Eulalia japonica, Carnations, Primula verticillata, Genista elegans, New Chrysanthemums, &c.; also small Heaths, Genistas, and Aralias, in No. 60 pots, for growing on.

Helenium superbum, and Violet Princess of Wales, and others.

May now be viewed. Catalogues may be had on the Premises; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

N.B.—The whole of the Stock is in first-rate condition. The Ericas and Solanums are unquestionably the finest lot offered at this Nursery for many years; the former being very well set for flower, and the Solanums large and well berried.

Two Great Sales of Fruit Trees.

PRELIMINARY NOTICE.

MESSRS. PROTHEROE AND MORRIS beg to announce that they have received instructions from Mr. W. HORNE, to hold TWO GREAT SALES of FRUIT TREES, &c., on the Premises, Perry Hill, Cliffe, near Rochester, on WEDNESDAY, October 21, and WEDNESDAY, November 18, 1896.

Further particulars will appear.

Second Portion.—Sidcup, Kent, S.E.

About ten minutes' walk from the new Eltham (late Pope Street) Station, S. E. Railway.

FIFTEENTH GREAT ANNUAL TRADE SALE OF WINTER-BLOOMING HEATHS.

Particularly well grown, and beautifully set with flower. Also, ROSES and other Stock, forming together one of the largest and best collections of plants ever offered by Auction.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the premises, The Longlands Nursery, Sidcup, S.E., about 10 minutes' walk from the new Eltham (late Pope Street Station), S.E R., on FRIDAY NEXT, September 18, at 11 o'Clock, owing to the large number of lots, by order of Messrs. Gregory & Evans, an enormous quantity of unusually well-grown plants, comprising nearly

60,000 WINTER and SPRING-FLOWERING HEATHS,

in the best possible condition, particularly well set with flower-buds, and unsurpassed in the Trade, including:—

8,000 Erica hyemalis	8,000 Erica gracilis
2,000 ,, ,, alba	2,000 ,, Wilmoreana
2,000 ,, Cavendishii	1,000 ,, coccinea minor
2,000 ,, magnifica	

An unusually grand lot of

10,000 CLIMBING ROSES,

in 24, 32, and 48-pots, exceptionally well grown, and no doubt the finest ever offered at this Nursery;

5,000 BOUVARDIAS, best varieties; 5,000 SOLANUMS FICUS, Double PRIMULAS, ARALIA SIEBOLDI,

25,000 FERNS,

in 32, 48, and 60-pots, all well-furnished plants, and best leading varieties, and other Stock.

May now be viewed. Catalogues had on the Premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, E.C.

N.B.—The stock of plants this season will be found well up to their usual standard, special attention being invited to the Heaths, Roses, and Ferns, which are undoubtedly the best ever offered at this Nursery.

Friday Next.

IMPORTATIONS RECEIVED DIRECT.

150 lots, comprising 300 fine masses of

CATTLEYA MENDELII,

received direct,

200 CYPRIPEDIUM LAWRENCEANUM, and

470 DENDROBIUM LOWII,

received direct.

Also 250 lots from Messrs. W. L. Lewis & Co., including a NEW SOBRALIA, white sepals and petals and purple lip; ODONTOGLOSSUM ERSTEDII, TRICHOPILIA GALEOTTIANA, and the rare EPIDENDRUM ENDRESII, CATTLEYA HARRISONIÆ VIOLACEA; together with 100 lots of ESTABLISHED ORCHIDS, and ORCHIDS in FLOWER and BUD.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, September 18, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next, September 18.

THE DELVES HOUSE COLLECTION OF ORCHIDS.

MESSRS. PROTHEROE AND MORRIS have received instructions from Mrs. T. P. Watson, Delves House, Streatham, to SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, September 18, at half past 12 o'clock, without reserve, the whole of the above COLLECTION of ESTABLISHED ORCHIDS, including:—

Cattleya Schroderæ	Dendrobium Leechianum
,, Hardyana	,, nobile Cooksoni
,, Mendelii	,, Guiberti
,, Sanderiana	,, splendidissimum grandiflorum
,, Trianæi robustica	Lælio Cattleya Aurora
Cymbidium Lowii	Lælia purpurata Williamsi
Cœlogyne cristata, Chatsworth variety	Odontoglossum Halli Cucoglossum
,, ,, maxima	,, Pescatorei Veitchii (?)
Dendrobium cristallinum album.	,, pulchellum maximum
,, nobile murrhinianum	and many other fine varieties.

The Plants will be on view the morning of Sale. Catalogues may be had of the Auctioneers, 67 and 68, Cheapside, E.C.

EVERY DAY.

DUTCH BULBS.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., EVERY DAY, at 12 o'Clock each day, large consignments of NAMED HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other BULBS from Holland, received direct for Unreserved Sale, Lotted to suit the Trade and Private Buyers; together with white ROMAN HYACINTHS, paper-white NARCISSUS, SNOWDROPS, special TULIPS, &c.

On view morning of Sale, and Catalogues had.

SALES BY AUCTION.

Maidenhead.

SALE of well-grown GREENHOUSE PALMS, FERNS, &c., by order of Mr. Robert Owen.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at the Floral Nurseries, Castle Hill, Maidenhead (one mile from Maidenhead Station), on TUESDAY, Sept. 22, at 2 o'Clock, 3,000 Greenhouse Palms and Ferns, 500 Cyclamens, 200 Cannas, 1,000 Cupressus, Arbor Vitæ, Retinosporas, and other Shrubs, 1,000 German Iris and Herbaceous Plants, Fruit Trees, and Privet; and 20,000 Dutch Bulbs, including Hyacinths, Crocus, Spanish Iris, &c.

On View. Catalogues on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

OCTOBER 9, 1896.

PRELIMINARY NOTICE.

20,000 ORCHIDS.

THE GREATER PORTION WILL BLOOM EARLY THIS WINTER AND THE COMING SPRING.

7000 DENDROBIUM PHALÆNOPSIS SCHRODERIANUM,

In absolutely perfect condition. We guarantee them the best and finest lot in every way ever imported. The plants will bear flowers on the present growths in about November and December, and on their new growths about April and May; thus two crops of blossoms may be had in about six months.

9000 CATTLEYAS, LÆLIAS, CYPRIPEDIUMS, and DENDROBES.

A Consignment of L.ELIA ANCEPS, of a grand White Type.

NEW SOBRALIAS,

And new Importations of grand kinds, full particulars of which will appear in future Advertisements.

In all, about

20,000 PLANTS, WITHOUT ANY RESERVE.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. F. SANDER & Co., St. Albans, to SELL the foregoing in their Central Auction Rooms, 67 and 68, Cheapside, E.C.

Central Auction Mart, Bristol.

ESTABLISHED ORCHIDS, including Cattleya eldorado alba (in flower), C. aurea, Cypripedium bellatulum album, C. Gertrude Hollington, C. grande atratum, and other rare hybrids; Lælia anceps Stella (in spike), Sobralia Veitchii, &c.; and IMPORTED ORCHIDS in variety, from Messrs. W. L. Lewis & Co. Also, a grand lot of ORCHIDS in FLOWER or BUD, including choice Cattleyas, Cypripediums, Lælias, Miltonias, Odontoglossums, Oncidiums, Vandas, &c., too numerous to particularise, from Messrs. Charlesworth & Co. And 100 splendid imported pieces of the true Pacho type of ODONTOGLOSSUM CRISPUM, from Mr. Aimé van den Bogaerde.

MESSRS. DUROSE SUTTON AND CO. will SELL the above by AUCTION on THURSDAY NEXT, September 17, 1896, at 12 o'Clock.

Catalogues may be had of the Horticultural Auctioneers and Valuers, 1, Queen Anne Buildings, Bristol; and Frome, Somerset.

GREAT FOUR DAYS' SALE.

DUTCH BULBS-DUTCH BULBS

IMPORTANT TO THE TRADE.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on MONDAY, TUESDAY, WEDNESDAY, and THURSDAY NEXT, September 14 to 17, at half-past 12 o'Clock precisely each day, several SPECIAL CONSIGNMENTS of BULBS from some of the first Growers in Holland, just received in excellent order, and lotted to suit both large and small buyers.

30,000 FREESIA REFRACTA ALBA.
15,000 PAPER-WHITE NARCISSUS GRANDIFLORA.
20,000 SNOWDROPS, IRIS, CRINUMS, DAFFODILS, and rare NARCISSUS.
10,000 EARLY WHITE ROMAN HYACINTHS.
PALMS and DRACÆNAS, from Ghent.
VALLOTAS, LILIUM HARRISI, L. CANDIDUM, &c.

On view mornings of Sale, and Catalogues had.

Thursday Next.

SPECIAL TRADE SALE of IMPORTED ORCHIDS, by order of Mr. J. W. Moore, comprising
100 Lots of CYPRIPEDIUM CHARLESWORTHII.
300 Lots of CYPRIPEDIUM SPICERIANUM.
100 Lots of VANDA CŒRULEA.
Including some magnificent pieces. Also 4 splendid plants of CYPRIPEDIUM BELLATULUM ALBUM, &c.

MR. J. C. STEVENS will SELL the above by AUCTION at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, September 17, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

DUTCH BULBS-DUTCH BULBS

SALES NEARLY EVERY DAY TILL THE END OF DECEMBER.

MR. J. C. STEVENS begs to announce that he has arranged with several of the first Nurserymen in Holland to Continuously Supply his Sales, during the present season, with only really First-class Bulbs, of the best quality.

ORCHIDS! ORCHIDS!

ALL ORCHID CONNOISSEURS

SHOULD SEE

JOHN COWAN & CO.'S

CATALOGUE of a Large and Fine

Private Collection,

which they have just purchased, and which they are offering for Sale from Tuesday Morning Next, the 15th inst.

They are also offering, at the same time, a grand importation of the finest Pacho type of

ODONTOGLOSSUM ALEXANDRÆ,

and a fine lot of PILUMNA NOBILIS.

Catalogues post free on application to the Co.,

THE VINEYARD & NURSERIES,

GARSTON, NEAR LIVERPOOL.

HADLEIGH, SUFFOLK.—TO BE DISPOSED OF, the Lease, Goodwill, Stock in Trade, and Glass Erections, &c., of above NURSERY, comprising about 1¾ acres of Land, convenient DWELLING-HOUSE, Packing and Potting Sheds, SEED SHOP, and Fittings. Lease about nineteen years unexpired. Rent £27. No other Nursery within several miles. Price £150. Apply to—
WILLIAM BADMAN, Cemetery Nursery, Gravesend.

Surrey, 10 Miles from Covent Garden.

FLORIST and FRUITERER'S BUSINESS FOR DISPOSAL.—Thorough good Concern, in thriving Suburban Town. No Agents.
S., Box 916, Messrs. Deacon's, Leadenhall Street, E.C.

Enfield Highway, Middlesex.
TO NURSERYMEN AND OTHERS.

FOR SALE by Private Contract, OAKFIELD NURSERY, occupied by Mr. E. F. MALLER, comprising about Four Acres of Land, with Residence, Stabling, Outhouses, and Twelve Large Greenhouses, with heating apparatus, in good repair, together with the valuable Vines and other Nursery Plants and Stock. Lease 14 years unexpired from Midsummer last, at the low rental of £50 per annum. The Greenhouses and heating apparatus are tenant's fixtures, removable at the expiration of the Lease. For price and other particulars, apply by letter to—Mr. MARK MACER, Enfield Highway.

CYCLAMEN SEED should be sown now. We have still a few more ounces than we require for our own sowing of our well-known strain. Price on application.
HUGH LOW AND CO., Bush Hill Nursery, Middlesex.

CARNATIONS.—Wanted, cash offers for 500 Mrs. Reynolds Hole, 200 Mrs. Muir, 100 Alice (white), 100 Pride of Penshurst, strong layers, free on rail, or in lots to suit purchasers.
F. W. BRADLEY, New Road, Peterboro.

5,500,000 BULBS. None better, none so cheap (Trade supplied). Tulips 1s. 4d. per 100, named Hyacinths 2d. each. Order at once. Satisfaction guaranteed.—SELLENS, Bulb Grower, Coventry.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

PEACHES and NECTARINES.—Standard-trained Fruiting Trees. GRAPE VINES, good solid Canes; worth a visit
WILL TAYLER, Hampton, Middlesex.

PTERIS TREMULA, P. cristata, and P. major, in store boxes, 3s. per 100.—J. & G. STEVENS, Grove and Clay Lane Nurseries, Plumstead Common.

EUCHARIS, strong and clean, in 32's, some throwing up flower-spikes, 30s. per doz. Winter-flowering CARNATIONS, in 48's, splendid stuff, 12s. doz. BOUVARDIAS, in 48's, extra bushy, 10s. per doz. Samples and names on application.—WALSHAW AND SON, Scarborough.

CLEARANCE SALE of ORCHIDS.—Owing to the enormous success of the West's Patent Orchid Baskets, we offer our whole stock at the great reduction of 20 per cent. off Catalogue.
LEEDS ORCHID CO., Roundhay, Leeds.

LOVELS' YORKSHIRE STRAWBERRIES. Prepared Runners from Maiden Plants:—
Thury, Paxton, President, and others.
Sample packet, 6d.; 100, 4s. 6d., carriage paid for cash. List.
W. LOVEL AND SON, Strawberry Farm, Driffield.

Important to Mushroom Growers.

CUTHBERT'S SPECIALITE MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5s.
R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

Palm Seeds—Plant Now.

KENTIAS, SEAFORTHIAS, CORYPHAS, PHŒNIX, COCOS, and others, 100 in variety to name, as sample, sent free, 2s. 6d.; 500 ditto, 9s.; 1000 do., 16s. Trade price per 1000 or 10,000 on application.
MORLE AND CO., The Conservatories, Finchley Road, N.W.

Hyacinths, Tulips, Crocus, Lilies, &c.

C. G. VAN TUBERGEN, Jun., Haarlem, Holland. Wholesale CATALOGUE now ready, and may be had free on application to—
Messrs. R. SILBERRAD AND SON, 25, Savage Gardens, Crutched Friars, E.C.
N.B.—Many new, rare, and interesting plants and bulbs will be found in this Catalogue.

50,000 EUONYMUS, Green and Golden, all splendid bushy plants.—GREEN: 12 in. to 15 in., at 30s. per 100; 15 in. to 18 in., at 40s. per 100; 18 in. to 21 in., at 55s. per 100; 21 in. to 24 in., at 75s. per 100; 25 in. to 40 in. at special prices.
GOLDEN: 5 in. to 12 in., at 3s. to 8s. per dozen. Cash with order. J. J. CLARK, Goldstone, Brighton.

STRAWBERRIES.—STRAWBERRIES.—11 acres.
ROYAL SOVEREIGN, rooted runners, 25s. per 1,000.
STEVENS' WONDER, ,, ,, 10s. per 100.
EMPEROR WILLIAM, ,, ,, 15s. per 100.
Catalogue of these in pots, and all other kinds in cultivation, sent post free.—H. CANNELL AND SONS, Swanley, Kent.

CYCLAMEN, prize strain, several hundreds in 60's, ready for 48's, 3s. per dozen; 24s. per 100. Also a few hundreds in 48's, well set with very fine bloom, from 7s. to 12s. per dozen.
Cash with order.
Canonbury Nurseries, Baker Street, Enfield.

NARCISSUS.—For Sale, 7000 Poeticus, 1s. 6d. per 100, 10s. per 1000.
6000 Gardenia flora, 2s. per 100, 14s. per 1000.
On Rail for cash.
FINDLAY, Maresfield Gardens, Maresfield, Sussex.

STRAWBERRIES, Strong-rooted Runners.—Royal Sovereign, President, Vicomtesse, 25s. per 1000, for cash.—H. RICHMOND, Ashton Keynes Nursery, Tottenham, Middlesex.

SAMPLE BEFORE YOU PURCHASE.

HYACINTHS, the pick of Holland, 1s. per dozen.
,, 2nd size, named, 2s. per dozen.
TULIPS, Duc Van Thol (scarlet), 2s. per 100.
,, La Reine (rosy-white), 2s. 6d. per 100.
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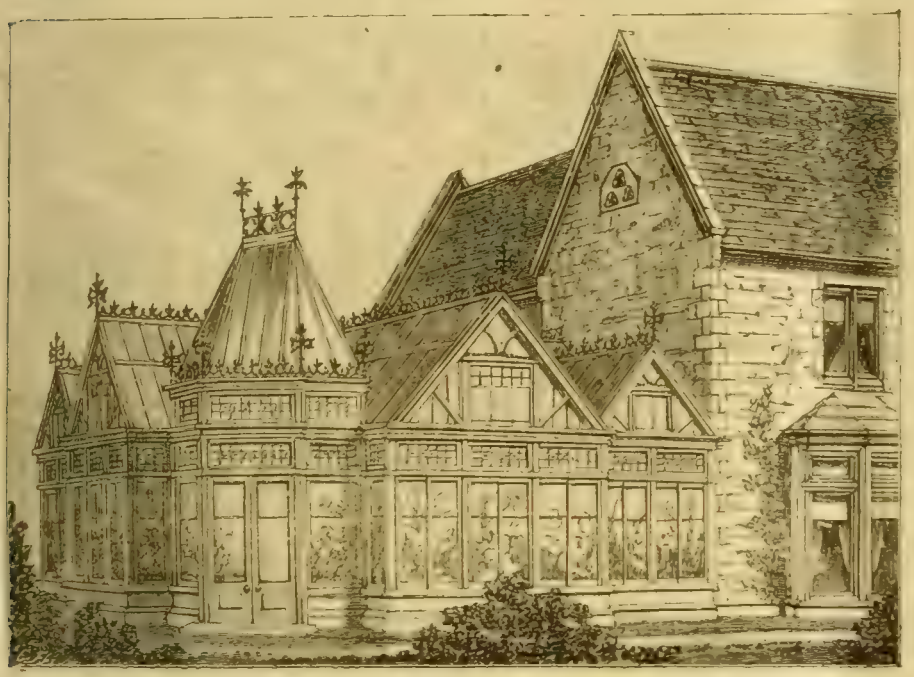
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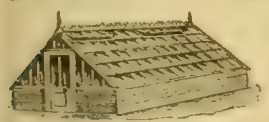
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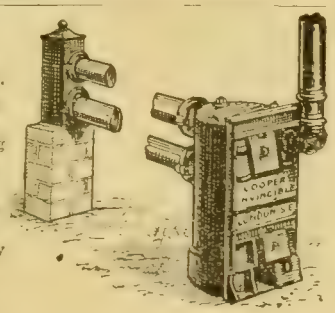
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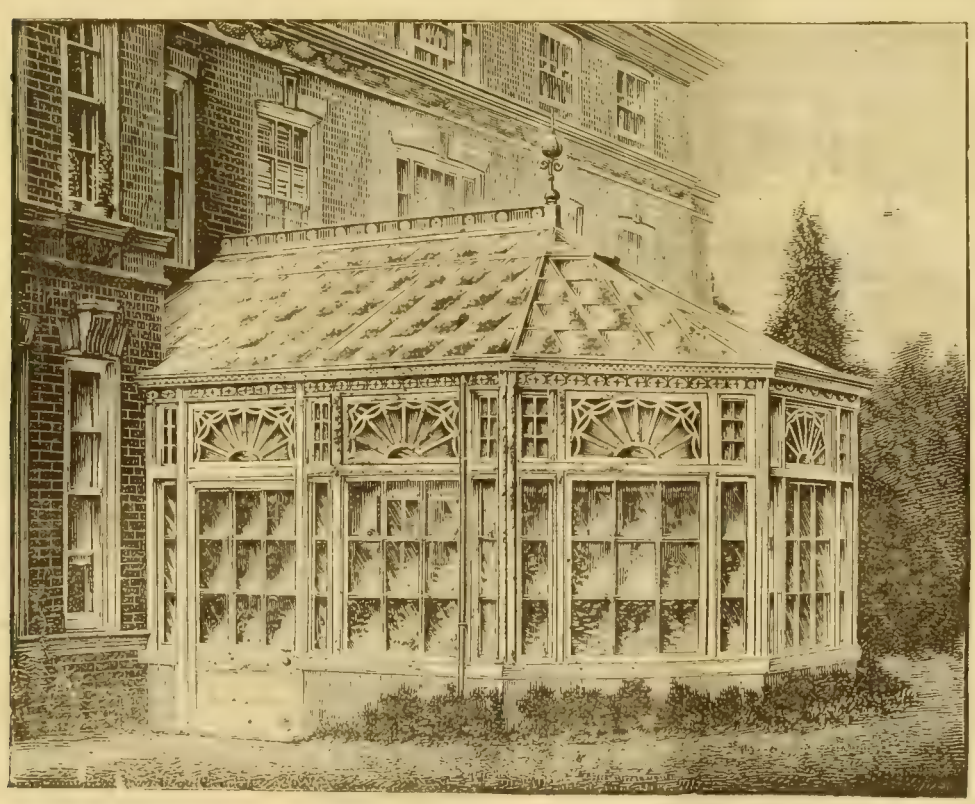
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THE

Gardeners' Chronicle.

SATURDAY, SEPTEMBER 12, 1896.

THE POET LAUREATE'S GARDEN.

WE are always anxious in these days to know as much as possible about our celebrities, and when any of them are interested in our favourite pursuit, it is only a laudable curiosity which leads us to enquire about their surroundings. The Poet Laureate has thrown himself so thoroughly into our very best style of gardening, and has written so charmingly about it, that we feel sure the gardening world will be glad to hear something about his home. Here we are met with an initial difficulty. In his two delightful books, *The Garden that I Love* and *In Veronica's Garden*, he has so explored every nook and corner, and has described it and its contents in such graceful language, that our more prosaic account of it will disappoint many of our readers; but we have not all a Pegasus at our command, and cannot invest even common things with the charm of refined prose or flowing verse.

Swinford Old Manor, the home of the Poet Laureate, is situated within two miles of the town of Ashford in Kent, and on the borders of Godinton Park, of which estate it forms a part. It is in the midst of truly Kentish scenery: we have the park on one side and on the other a country road, well wooded and shady, which in this county we call a lane; there are hop-gardens around, and much of that soft restful beauty which so gladdens those who are true lovers of nature. We have called it the home, not the residence, of Mr. Austin, for we think that word more correctly conveys the idea of its character (see fig. 56, p. 300). There is nothing of grandeur about it, but a quiet homely aspect natural enough, for it was not very long ago a farmhouse, and it owes but little of its attractiveness to situation, and when we come to write of the garden, we have not to deal with a place where lavish expenditure is bestowed upon everything connected with it, but where the beautiful effects are due to the fine taste and cultured refinement of its owner, and not a little to the fair mistress herself. There are some few things which seem to have been borne in mind in its arrangement; no flower or plant has been excluded because it was common, nor have any been admitted simply because they were rare, and thus flowers of all kinds, annuals, perennials, flowering shrubs, Roses, alpine plants and bulbs, all find a place here. There is, however, one class of plants that is rigidly excluded—what the owner calls invalids; if a plant exhibits what gardeners call "miffiness," and requires coddling, the owner will have none of it, however rare and beautiful it may be. Nor is there any adherence to any one par-

ticular style, to the exclusion of all others; and there is a partial system of bedding out with a much larger portion of mixed borders. Some persons throwing off one system rush to the other extreme; the place where bedding out has been carried to its fullest extent is all at once so changed that no trace of it is to be found. Now this, while very English, is very unwise; therefore one is glad to see a combination of both systems. Then, again, Mr. Austin greatly objects to having large bare spaces in his borders or beds, consequently the former are filled up, and everywhere an abundance of bloom meets the eye, and while the garden presents the appearance of being thoroughly well kept, there is no sign of primness about it. Of the two approaches to the house, that through Godinton Park is, without doubt, the one to be preferred. We come then upon the splendid Oaks, Beeches, Elms, and Hawthorns which adorn it, and pass by the Chestnut bole of which mention is made in *In Veronica's Garden*, a grand landmark for all the country round; the road afterwards leads you in front of the old Tudor House, in which are some of the choicest bits of the architecture of that period anywhere to be met with, the hall and staircase being especially beautiful. One can hardly help indulging in a regretful feeling in looking at it, when we recollect that it has now finally passed out of the possession of the family who have held it for generations, although it must be said that the present owners are likely to do everything in their power that can add to the beauty and dignity of the place.

It is only a short distance after you have passed this house that you come directly in front of the Poet Laureate's home, and at whatever season of the year the visitor approaches it, he will find a scene of brightness and beauty. We have seen it at various seasons: in spring, when the early flowers of the year come to tell us that winter is gone; and we have seen it in autumn, both early and late, and we must confess our preference to it at this later period, for although it is quite true, as the poet has pleasantly written, that we can do nothing of any moment with the garden then, there is the restful feeling that you may leave it all "in its quiet, sunny, self-complacent serenity." "There is a quiet assurance of unbroken weather, of daily sunshine tempered by white billowy clouds, that move not, and that contain no menace of rain. The shadows on the lawn are very long and very soft, the fruit mellows on the wall, the Sunflowers extend their golden discs athwart the garden-paths, and the second bloom of the Roses is more tender, more touching than the first." Is there anywhere so charming a description of the garden in autumn as is contained in this chapter of his book?

In the spring the beds on the lawn are filled with Forget-me-Nots, out of which rise yellow Tulips, with their golden cups; while all around in the borders are to be found Primroses, Polyanthuses, Daffodils, Snowdrops, Chionodoxas, and all the various bulbs which go to make up the beauty of our spring gardens—and the beds of Tea Roses are throwing up their brilliant-coloured young shoots. The bulbs are replaced in due time by Begonias, Pelargoniums, and other bedding plants, while all round the borders herbaceous plants, Cannas, especially the dwarf-flowering Gladiolus-flowered varieties, assert themselves and afford both glow, varied colour, and richness of foliage to the garden; annuals also are used with no niggard hand, and add greatly to the interest and variety of the garden.

The last time we were there the owner was in tears, metaphorically speaking. "What is one to do," was his exclamation, "with a garden in such weather as this? not a drop of rain for weeks, and although the well has not failed, yet it has been hard work." Still the garden did not bear much evidence of the drought, although there were more bare spots of earth than suited the taste of its owner, and the lawn was a little browned; yet to the ordinary observer all looked very bright and pleasing. The house is now being added to, and there was much consultation as to the Roses with which the new part of the building should be covered, for the poet has, like ourselves, a strong feeling that an English country residence ought not to exhibit blank, staring walls, but be covered with the very best things that can be obtained. It may be that in our climate we do not require the shady groves which are ever the theme of those who praise the sunny climes of the south; but we do want our houses to be clothed with beauty, both of foliage and flower. Such, then, is our Poet Laureate's home, which may lack the romantic charms of those of some of his predecessors; it is not a Rydal Mount, but it is a fitting home for one who is so intense a lover of nature and of the beautiful as is Mr. Alfred Austin. *H. H. D'Ombrain.* [We are indebted to the kindness of Messrs. Macmillan & Co., the publishers of Bedford Street, Covent Garden, W.C., for the illustrations accompanying this article. ED.]



FIG. 54.—A GARDEN SCENE. (SEE P. 295.)

From "In Veronica's Garden."

NOTICES OF BOOKS.

"FLORA CAPENSIS."*

THE second part of the sixth volume of the *Flora Capensis* needs but a few words of introduction. Like the first, it is the work of Mr. J. G. Baker, F.R.S., the Keeper of the Herbarium and Library of the Royal Gardens, Kew. It contains the continuation of the Amaryllideæ and part of the Liliaceæ, to the completion of which the whole of the third and concluding part will be devoted.

Most of the genera described include species of great horticultural interest. This is especially the case with Crinum, Nerine, Cyrtanthus, and Hæmanthus, which belong to the former family, and with Asparagus, Kniphofia, Gasteria, Aloe, and Haworthia, which belong to the latter.

Two points suggest some remark. A considerable number of species appear never to have been collected but once. Many are still only known from descriptions and figures published in the last century, and are unrepresented in herbaria. It is difficult, however, to believe that any are really extinct. The fact is more probably accounted for by the extremely local limitation of species in South Africa, which is hardly parallelled in this respect by any other flora in the world.

In the case of succulent genera such as Aloe and Haworthia, herbarium specimens are lamentably deficient. But Mr. Baker has had the advantage of having had under observation for years the collection of succulent plants at Kew, which in extent is undoubtedly unique. Many of these have been, in all probability, under cultivation at Kew since their introduction in the last century. The advantage of consulting living specimens is of peculiar advantage in describing the Petaloid Monocotyledons. But in the case of the succulent genera, it may be safely said that, without it, the task would not be possible at all. Unfortunately when the majority of these plants were introduced, little importance was attached to their exact localisation; and this, therefore, for the present, must remain for the most part undetermined.

I have again to express my obligation to Mr. N. E. Brown and to Mr. C. H. Wright, assistants in the Herbarium, for their valuable assistance in the work of passing the sheets through the press. And I must remedy an omission in expressing my thanks to the well-known South African botanist, Mr. H. Bolus, F.L.S., for his great assistance in revising the very intricate topography. *W. T. T. D., Kew, August*, 1896.

* *Flora Capensis*: A systematic description of the plants of the Cape Colony, Caffraria, and Port Natal (and neighbouring territories), by various botanists. (London: Reeve & Co., 6, Henrietta Street, Covent Garden, London, W.C.)

SOILS AND MOULDS USED IN HORTICULTURE.

A useful little treatise has been compounded by Mr. George Truffaut,* on the soils, moulds and composts used in horticulture. The work is prefaced by Professor M. Dehérain.

The book consists of eleven chapters, dealing with the relations between plants and soils; the end and aim of horticulture; the origin and properties of the soil, and their classification; plant nutrition, and the

* Paris: Octave Doin, Editeur, 8, Place de l'Odéon.

importance of suitable waterings; influence of temperature on plants and their roots, especially as affecting the subsoil; garden moulds and the manure best adapted for successful plant growth; concluding with examples of proper culture as exemplified by experiment.

The development of horticulture is said to be immense and increasing in importance day by day. The production of vegetables, fruits, and flowers out of season is continually assuming greater proportions. Flowers are associated with all our joys and all our sorrows: with them we cover our tables and decorate



FIG. 55.—"LEAVES HAVE TO BE SWEPT UP!" (SEE P. 295.)

our dwelling-houses, we beautify our marriage feasts; and when one we love or respect is borne to his last home, the grim coffin is concealed with wreaths of flowers. Not only in France, but in England, Russia, and other Continental countries, this beautiful practice is extending, and imparts a stimulus to the export trade.

Agricultural science, which dates from not more than sixty years ago, and which even now may be said to be only beginning its career, is, however, commencing to derive advantage from the immense amount of research brought to bear upon the subject. The investigations in regard to plant-life generally may equally be applied by the horticulturist in the preparation of his soils and applications of his manures for the production of vegetables, fruits, and flowers, as by the farmer in the growth of his grain and root crops. The numerous facts revealed by experiment and chemical analysis may be put to the best interests of the horticulturist, and to the increase of his profits.

The author, Mr. G. Truffaut, who has been brought up in the notable establishment in the Rue de Chantier at Versailles, has lived all his life in the midst of horticultural work, and well knows the difficulties and requirements of the cultivator. His little work has been issued with the main idea of assisting his co-adjutors in the various departments under their care.

The first part of this work is devoted to the study of soils and their formation. The author treats successively of the soil as a sustainer for plants; then as a source of reserve for food requirements. In the second part he passes in review the various moulds employed in horticulture, and enumerates the plants to which these different soils are most suitable, and points out what manures ought to be used in conjunction with each kind of soil in order to secure the maximum returns.

The horticulturist frequently composts the moulds which he uses. These methods are described and commented upon. After having given in Chapter X. a brilliant example of what may be done by rational modes of cultivation, as illustrated by results, which should prove a fair guide to the proper selection of manures, the author instances the case of Azalea indica, a plant deservedly popular, and which, cultivated according to fixed rules as to soil and manure, makes such rapid progress, that the plants can be placed upon the market at a much more rapid rate than formerly.

The author has certainly done good service to the cause of horticulture, and in his conclusions he says he shall consider himself especially fortunate if, in the course of his labours, he has been able to remove some of the absurd prejudices which stand in the way of advancement, and more than all, draw the attention of his contemporaries to these questions, which ought certainly to be held as most important to the horticulturist of the present day.

The author laments, and with too much cause we think in the average gardener, the lack of knowledge in horticultural chemistry, and this, notwithstanding the immense amount of research in agricultural chemistry, the sister science, which has been carried on during the past fifty years.

Artificial manures, which a few years ago were but comparatively little used, and less understood, are now purchased by millions of tons.

In these days of agricultural depression it seems, according to the ideas of the author, only reasonable that more attention should be given to horticulture generally, and especially to that department of growing garden-produce for market. The conditions of culture possible of attainment, and the high price of products obtained out of season, all favour the horticulturist. The author concludes his capital little work with the statement that the day will arrive when national horticulture, guided by science, will overcome the competition of foreigners, and the immense productiveness of the garden will tend to increase the wealth and prosperity of the nation. *J. J. Willis, Harpenden.*

VEGETABLES.

EARLY MILAN TURNIP.

IN regard to quickness of growth, the Six-weeks Stone Turnip was exceeded by the Purple-top Munich, and the latter by Early Milan. Whether we shall ever get a quicker grower than Milan remains to be seen. On July 29 Mr. W. Andrews, gr. to Mrs. Danby, Elmfield, Exeter, sowed Early Milan, and on August 29, that is exactly one month afterwards, he pulled Turnips from the patch measuring from 7 to 8 inches in circumference. All of the conditions were favourable, viz., a rich soil, good situation, and fine warm weather; but even with all these aids, it shows the very rapid growth of Early Milan. *A. H.*

FRUIT REGISTER.

BLACKBERRY, THE WILSON JUNIOR.

A FEW years ago, the above-named Blackberry was constantly the subject of remark, but it disappeared almost as suddenly as it came to us, possibly because the plant did not succeed, on this side of the Atlantic, to the degree we had expected from the high reputation sent with it. Having tried it myself in various positions on more than one occasion while at Ketton, with very little success, I was surprised to find it growing vigorously, and fruiting well at Cowden-knowes Gardens, Berwickshire, the young growths being upwards of 12 feet long. Mr. Robertson had planted it in a shady corner, against a wall with a south-east aspect, where it had plenty of moisture at the roots. It would be interesting to hear of other gardens where this fruit has succeeded, and the conditions under which it has done so. *W. H. Divers.*

POTATOS AND MANURES AT READING.

ON Saturday, September 5, a large party of gentlemen, scientists, technical educationists, agriculturists, horticulturists, representatives of the Press, and others, assembled in the Abbey Hall, Reading, on the invitation of the distinguished firm of Messrs. Sutton & Sons, and also of that of the committee of the University Extension College, Reading. The first duty, and a very pleasant one, was partaking of the hospitality of the firm, in the form of a capital luncheon, over which Mr. Martin J. Sutton presided, being supported by Messrs. Herbert, Arthur W., and Leonard G. Sutton, the other members of the firm. At the conclusion of the repast, and after the one toast of "The Queen and the Royal Family" had been proposed from the chair, Mr. Gilchrist, Agricultural Director to the College, made a short statement with respect to the special purpose of the gathering, which was to examine the results of various experiments on Potatos with diverse manures, or none at all, the place of trial being Messrs. Sutton & Sons' seed-farm, which had, with the necessary tubers, been generously placed at the disposal of the College authorities for the purpose. Mr. Walter Palmer proposed, and the Principal of the College seconded, a hearty vote of thanks to the firm for the great assistance rendered in the experiments, and also for their kindly hospitality that day, to which Mr. Herbert Sutton and Mr. Arthur Sutton responded, the latter referring to the trials generally, and also as a matter of interest drawing attention to some Winter Cherry and Egg plants in pots on one of the tables, all of which were growing on Potato roots, thus producing tubers and fruit simultaneously. Very many experiments of this nature have been made at the nursery this year, and no doubt more will be heard of them later. The party were now invited to proceed to the farm, a large number of breaks being provided for the purpose. Having arrived there, Mr. Gilchrist became the conductor and expounder of the trials. The Potatos, which were chiefly of the Sutton Flourball, a red round, but not to be confounded with the old red-skinned Flourball, had all been lifted from the respective breadths, and carefully weighed, then placed in heaps by the sides of the paths intersecting the plots. The few very small tubers, in each case not amounting to ten per cent., being laid in a small heap close by. The tubers seemed to consist generally of two-thirds ware, or eating samples, and the rest forming good round seed, hence these were all described as marketable. The soil has been some years in cultivation, and is a free loam resting on gravel. Analysis shows that it was in very fair fertile condition, though in no sense rich in plant food. The chemical analysis would be understood of only by chemists. Some similar trials were conducted last year on the same ground, hence it was resolved that the first set or group should have no manures added this year, but a careful record of the previous year's manurings of the soil had been kept, hence it was possible to test the value of a second year's effect of manures unappropriated by the previous season's crop. Due, no doubt, to the great dryness of the summer of 1895, and the comparative dryness of the following winter, the manurial residue in the soil seems to have been considerable, as in nearly all cases the results were very satisfactory. The table of results in all the four diverse sets or plots here inserted shows that matter fully. In going through this table it must be understood that the cost of manures furnished in the first column applies in relation to the first set or group only to those given to the soil the previous year. In all the other three sets or groups following, the cost applies to the present year. Practically, the entire produce obtained from the whole of the first set cost nothing for manure this year. In each case the column under the head "Marketable" shows what portion of the crop is profitable. The next column gives the quantity of those too small for marketing, though having value as poultry or pig food; the third for disease, it is worthy of note, was a blank throughout, not a single diseased tuber having been found [and we therefore do not give it. ED.]; and the fourth column gives the total produce. (See Table I.)

Readers will, on carefully scrutinising this table, not fail to have noticed that there is much that is erratic in the results, and some of these are not only unexpected, but contradictory of what is found in other cases. It is in such case practically impossible to draw from the table any definite conclusions. Practically, looking at the results of the first set or group, and deducting cost of manure in this case, none having been applied, it really seems as if better results had come from non-manuring than from manuring, at least, in a pecuniary sense. Yet it would never do to assume that repeated non-manuring would end in good results. Again, we see such varied results in diverse plots from the application of the same manures, showing how difficult, indeed unfair, it would be to draw definite conclusions from one year's trial, especially in such a year as the present one so far, has been. In the set 2, the whole of the manure-dressing of 1895 was repeated, but with the exception of the nitrate, which was applied in January. It is distinctly noticeable that good dressing of nitrate in the manure gave extra strong top growths, but in few cases was the tuber productiveness so great as might, in consequence, have been anticipated. It is well to understand that very strong tops do not by any means always indicate a heavy tuber crop. In set or group 3, the ground, not having been previously manured, was dressed as per table in January last; and in set 4, the whole of the manures were applied, at the time of planting, in April last. It is noticeable that whilst the freshly-applied farmyard-manure gave the best results from the spring-dressing, probably because of its moisture imparting properties, the winter-dressings of the artificial manures, in set 3, gave better results than do spring-dressings, doubtless

TABLE I.

Plot	Manure per Acre.	Approximate Cost of Manure per Acre.	Weight of Tubers Per Acre. First Set. No Manure, 1896. Marketable.	Small.	Total Weight of Tubers per Acre.	Second Set. Last year's manure repeated. Marketable.	Small.	Total Weight of Tubers per Acre.	Weight of Tubers Per Acre. Third Set. Manures applied in January, 1896. Marketable.	Small.	Total Weight of Tubers per Acre.	Fourth Set. Manures applied in April, 1896. Marketable.	Small	Total Weight of Tubers per Acre.
		£ s. d.	tn. cwt. lb.	tn. cwt. lb.	tn. cwt. lb.	tn. cwt. lb.	tn. cwt. lb.	tn. cwt. lb.	tn. cwt. lb.	tn. cwt. lb.	tn. cwt. lb.	tn. cwt. lb.	tn. cwt. lb.	tn. cwt. lb.
1	No manure		6 2 56	0 7 76	6 10 20	7 16 8	0 10 80	8 6 88	4 16 8	0 5 40	5 1 48	7 10 0	0 4 72	7 14 72
2	(Farmyard only) 20 tons farmyard manure	5 0 0	7 5 40	0 5 20	7 10 60	7 19 32	0 10 40	8 9 72	5 17 56	0 9 32	6 6 88	8 16 48	0 8 24	9 4 72
3	Farmyard and complete artificials) 20 tons farmyard manure; 2 cwt. nitrate of soda (two dressings); 2 cwt superphosphate; 1½ cwt sulphate of potash ..	6 15 9	6 5 104	0 5 60	6 9 52	7 18 64	0 8 24	8 6 88	5 16 8	0 6 48	6 2 56	8 12 96	0 6 48	8 19 32
4	(Complete artificials, normal) 2 cwt. nitrate of soda; 2 cwt. superphosphate; 1½ cwt sulphate of potash	1 15 9	6 5 40	0 4 12	6 9 52	6 17 96	0 9 12	7 6 108	6 4 32	0 6 48	6 10 80	7 9 16	0 10 0	7 12 16
5	(Complete artificials, double dressing) ... 4 cwt. nitrate of soda (3 or 4 dressings); 4 cwt. superphosphate; 3 cwt. sulphate of potash	3 11 6	8 1 8	0 6 108	8 8 4	8 9 72	0 6 68	8 16 28	8 11 88	0 6 88	8 18 64	6 0 40	0 9 32	6 9 72
6	(Complete artificials, half-dressing of nitrate ... 1 cwt. nitrate of soda (one dressing); 2 cwt. superphosphate; 1½ cwt. sulphate of potash	1 6 9	8 11 48	0 5 80	8 17 16	7 12 56	0 6 108	7 19 52	7 12 16	0 6 8	7 18 24	4 15 80	0 8 24	5 3 104
7	(Complete artificials, double dressing of nitrate) ... 4 cwt. nitrate of soda (3 or 4 dressings); 2 cwt. superphosphate; 1½ cwt. sulphate of potash	2 13 9	7 13 21	0 5 100	7 19 12	8 9 72	0 5 40	8 15 0	9 9 80	0 4 32	9 5 0	5 19 76	0 10 40	6 10 4
8	(Potash omitted) 2 cwt. nitrate of soda (two dressings) ... 2 cwt. superphosphate.	1 3 6	8 0 0	0 9 72	8 9 72	7 16 48	0 5 20	8 1 68	8 12 16	0 5 80	8 17 96	7 6 88	0 8 24	7 15 0
9	(Phosphates omitted) .. 2 cwt. nitrate of soda (two dressings) .. 1½ cwt. sulphate of potash	1 10 3	8 3 24	0 8 4	8 11 28	7 19 72	0 4 72	8 4 32	7 13 24	0 7 96	8 1 8	7 1 8	0 12 96	7 13 104
10	(Nitrogen omitted) 2 cwt. superphosphate; 1½ cwt. sulphate of potash	0 17 9	7 17 16	0 9 52	8 6 68	5 12 96	0 3 104	5 16 88	5 7 16	0 6 88	5 13 104	7 18 64	0 8 104	8 7 56

TABLE II.

Plot.	Manure per Acre.	Approximate Cost of Manure per Acre.	Weight of Tubers per Acre. Fifth Set. Manured in April. Marketable.	Small.	Diseased.	Total.	Sixth Set. Manured in January. Marketable.	Small.	Diseased.	Total.
		£ s. d	tn. cwt. lb.	tn. cwt. lb.	tn. cwt. lb.	tn. cwt. lb.	tn. cwt. lb.	tn. cwt. lb.	tn. cwt. lb.	tn. cwt. lb.
1	No manure	..	7 7 96	0 8 64	...	7 16 48	6 14 32	0 6 80	...	7 0 0
2	1½ cwt. Ichaboe guano ... 2 cwt. superphosphate ... ½ cwt. muriate of potash	1 7 7½	8 5 80	0 7 56	...	8 13 24	5 14 32	0 17 56	...	6 6 88
3	2 cwt. fish guano 2 cwt. superphosphate. ½ cwt. muriate of potash	1 1 7½	8 17 16	0 12 56	...	9 9 72	3 12 96	0 17 56	...	4 5 40
4	1½ cwt. Ichaboe guano ... 2 cwt. superphosphate ... 1 cwt. sulphate of potash	1 11 8	8 1 48	0 11 8	...	8 12 56	4 15 0	0 17 16	...	5 7 16
5	1 cwt. nitrate of soda ... 2 cwt. superphosphate ... ½ cwt. muriate of potash	0 18 7½	8 11 88	0 10 0	...	9 1 88	6 6 8	0 11 72	...	6 0 80
6	1½ cwt. Ichaboe guano ... 3 cwt. basic slag ... ½ cwt. muriate of potash	1 9 7½	6 18 104	0 11 88	...	7 10 80	4 17 96	0 14 72	...	5 12 6
7	1½ cwt. Ichaboe guano ... 2 cwt. superphosphate... 12½ cwt. kainit	1 2 6	17 96	0 4 72	...	7 2 56	4 1 48	0 17 56	...	4 13 104
8	1½ cwt. Ichaboe guano... 2 cwt. superphosphate ... 100 lb. salt	1 4 6	6 11 88	0 7 96	...	6 19 72	4 17 56	0 14 8	...	5 11 88

TABLE III.

EXPERIMENTS IN COMBATING DISEASE.

Plot.	Variety of Potato	Sprayed or not Sprayed.	Weight of Tubers per Acre. Seventh Set (not manured). Marketable.	Small.	Diseased	Total weight of Tubers per Acre.
			tns. cwt. lb.	tns. cwt. lb.	tns. cwt. lb.	tns. cwt. lb.
1	The Sutton Flourball ...	Sprayed ..	8 10 0	0 10 80		9 0 80
2	,, ,, ...	Not sprayed .	8 3 24	0 10 80		8 15 104
3	White Elephant	Sprayed . . .	6 5 40	0 5 40		6 10 80
4	,, ,, ...	Not sprayed	6 16 88	0 6 48		7 3 24

because they became more completely dissolved in the soil. Altogether, it is made very obvious that only by conducting a series of experiments, here made so comparatively easy through the generous help of Messrs. Sutton for a series of years, can any practical conclusions be made to result. Thus, had last spring been wet, the beneficial effects of winter dressings with artificials, as found in the past season, might have been entirely absent. In the same way dressings, when the tubers were planted, would, in a wet season, be found almost immediately active; could we but foresee the probable nature of the weather, we should better be able to regulate manurings accordingly. In the case of farmyard manure, so-called, though probably really ordinary stable manure, nothing was mentioned as to its condition when applied, whether fresh and full of manurial elements, or whether in an exhausted or wasted condition, as farmyard manure ordinarily is. If anyone will turn to Table I., he will find that where farmyard manure, twenty tons per acre, is added to an ordinary dressing of artificials, the product is rather less than where farmyard manure alone is applied. Thus the inference would be that the one dressing only was active, or one was neutralised. More remarkable still is the fact that the entire product was the same exactly as the product where no manure whatever was this year applied, as seen in No. 1 plot of the set. Then, again, the entire dressing of farmyard manure and artificials is calculated to cost £6 15*s.* 9*d.* per acre, whereas the first plot having no manure was all profit. Obviously, the closer we examine the return or table, the more are we mystified, and the greater the need shown for a spreading of these experiments, which Mr. Gilchrist so admirably controls and tabulates, over a series of years.

In Table II., again, we see remarkable products from unmanured plots, as compared with those dressed with the various manures named in the margin. Thus plot No. 1 in the fifth set gives better results without manure than does plots 6, 7, and 8, to all of which, at an average cost of 26*s.* per acre, various manures were added. Even where there were increases, they were not relatively considerable. In set 6, the manures being applied in January, the results were relatively much smaller. The sort in this case-trial was Magnum Bonum.

Table III. shows the effect of spraying with a solution of sulphate of copper 20 lb., and of lime 10 lb., added to 100 gallons of water. The two varieties sprayed were Flourball and White Elephant, the dressings, from a knapsack sprayer, being applied June 18 and July 11. Here we think the applications were, for the season, made too early; indeed, it is remarkable that even now, September 6, late Potato-tops are green and vigorous, almost beyond precedent—at least, for many years. The result shows that the spraying led to a trifling increase on Flourball, but an appreciable decrease on White Elephant. This is doubtless due to the mixture being, though relatively not strong, yet too much so for the tender leafage of the Elephant. Here we must close, but would tender both to Mr. Gilchrist, for his kind and able exposition of the trial results, and to the Messrs. Sutton & Sons, our warmest thanks for their exceeding courtesy, as well as generous efforts to make these experiments a real success.

ORCHID NOTES AND GLEANINGS.

ORCHIDS AT MOUNT HARRY, BRIGHTON.

THE chalky road leading from Preston Park to the residence of R. G. Fletcher, Esq., plainly shows the kind of strata found in this district and in the gardens themselves. The surface-soil, although of good loam, is thin and mixed with chalk, and not altogether favourable to good gardening; but in consequence of the pure, humid air and the salubrity of the situation in this high locality, excellent results are obtained in every department by Mr. Jones, the gardener, whose management of the Orchids especially is more than ordinarily successful. The latest addition to the plant-houses was, we were informed, a commodious lean-to devoted chiefly to the cultivation of Dendrobiums, and in which a number of plants of Dendrobium Phalænopsis Schroderianum are at the present time making a splendid show, the flowers varying in tint from pale rose and white to rose and purple. The light-coloured varieties, which are the favourites here, predominate; but taken as a section they form another proof of the oft-repeated observation, that this fine species is one of the most satisfactory of Orchid importations ever received. On one side of this house there stands a gigantic Dendrobium Dalhousieianum—perhaps the largest in the country—which lately bore eighteen flower-spikes; and beside it are ranged a number of plants of D. formosum giganteum, profusely furnished with large, pure white-and-yellow blooms. Here, also, were noted in bloom good plants of Vanda cœrulea; Cattleya granulosa, C. g. Schofieldianum, and also a very peculiar form of the same species; C. velutina, and Zygopetalum Mackayii grandiflorum, a very large and beautifully coloured form of the fine old species. On the back wall the Dipladenias and Gloriosa superba were finely flowered. On the shady side of the warmest house a few plants of Phalænopsis were making satisfactory growth. These plants have steadily improved for some years past, a fact that is worthy of being recorded.

One very pretty form of P. amabilis had a fine flower-spike, although it was said to be inferior to one which had gone past. Here, too, were plants of warm-house Cypripedium, some of Angræcum Scottianum, and other species of Angræcum in bloom.

In most of the houses in which Orchids are cultivated, stove plants are also grown, and in those in which the stove plants predominate, use is made of suitable spots for special subjects, and to this skilful use of the best means at command many successes with Orchids are due. In a bright, sunny part of one house a fine batch of moderate-sized Lælia purpurata was noted, some of which have each borne recently from four to nine flower-spikes. In an airy and rather shadier position were remarked some grand specimens of Sobralia Veitchi and S. xantholeuca, which, when in bloom, must have been fine objects. In an adjoining house were grand specimens of Eucharis, for which these gardens are noted, and which each bear about one hundred spikes in their season.

At one end of another house more plants of Dendrobium Phalænopsis Schroderianum were grouped, and with them were a fine plant of Anguloa Ruckeri, some of Cattleya aurea and others, Oncidium prætextum, Odontoglossum Pescatorei, &c.

Grapes and Tomatos are well cultivated under glass; and the Apple-trees in the open garden were splendid examples, the crop good, and the fruit of unusual size, which are, as is usual on the chalk, beautifully coloured. In the shady walk leading to the gate, plants of Cypripedium spectabile, and other hardy Cypripediums, are said to be among the most satisfactory of hardy garden plants.

THE ROSARY.

ROSES FOR CLOTHING WALLS.

"WHAT Roses would you advise me to put on that part of my house that has been lately added?" was the question lately put to me by my neighbour. The answer to this has led me to think the whole subject over, and to ask how it is we find so many bare walls both on dwellings and out-buildings, which might be beautified by planting some of the varieties of strong-growing Roses of the Tea and Noisette sections, which are nowadays used for such purposes? There are many things to be taken into consideration in answering the question: aspect is one of these, for if we plant such Roses as William A. Richardson, or

L'Idéale on a south-wall, where they get the influence of strong sun, the colour gets almost bleached out of them. I have a plant of the former in just another such a position—although it is doomed, which never shows a flower of the beautiful bright orange tint so peculiar to it, but is almost white, and therefore valueless. Again, people imagine that an east aspect is bad for Noisettes. I have a couple of grand plants of Madame Bérard and Rêve d'Or on the east side of my house; the former of these has never suffered in the least from its eastern aspect, and although the latter did a good many years ago, and so severely that I thought its days were numbered, it was in a winter when thousands of plants heretofore accounted hardy succumbed. And it has now covered the space which it formerly occupied, though, for other reasons I have not allowed it to grow quite so high. I do not, therefore, think that, in these southern counties, there is any reason why the Noisette Roses should not occupy this position, and I may say, also, that in this south-eastern corner of Kent we get the full effect of the easterly winds. While there are many rampant growing Roses which are very desirable for many situations in gardens, such as hedges, banks, &c., they are not varieties which I should choose; such kinds as Dundee Rambler, Félicité-Perpétue, Thoresbyana, and the newer variety, Crimson Rambler, are to my mind not suited for walls, while kinds that are not thoroughly hardy, such as that fine old Noisette, Lamarque, are, from the delicacy of their constitution, out of the question, at least, except in some very sheltered position.

Rêve d'Or.—I am always inclined to place this in the very front position as a wall-Rose; it is fuller than, and equally as bright as, the old Solfaterre; indeed, I have more than once seen it exhibited in a winning stand of Tea Roses, and in freeness of flowering it is not excelled by any Rose that I know of. It is not an altogether summer-flowering variety, for I have every year gathered some excellent blooms from it in the autumn months; but I think one feature which it has in preference to many others is the quantity and closeness of its foliage—in fact, it is almost evergreen.

Longworth Rambler.—Of all the dark colours of so-called climbing Roses, I give the preference to this variety. I prefer its colour very much to that of either Reine Marie Henriette, which has been described as a crimson Gloire de Dijon, or to Cheshunt hybrid. It has, like the preceding Rose, an abundance of foliage, which in such a winter as the last it never lost; it gives one also a good number of autumnal blooms, and though the flowers are somewhat loose, their colour makes them very acceptable. As to its vigour there can be no doubt; I have to cut out barrow loads of wood every year, and it will soon reach the top of my house if I allow it to run on of its own sweet will.

Climbing Devoniensis.—This is one of those Roses which requires a warm corner on the house. Besides Tabbitt's original strain, there are apparently others more or less free-flowering; some of them make much longer shoots than others, while all in their flowers retain more or less the character of the type. Its very long shoots prevent it from being as much clothed with foliage as one could wish, but the exquisite purity and beauty of its flowers make it very desirable, and few persons who could find room for it would grudge it a place.

Climbing Niphetos.—This beautiful Rose, sent out by Keynes, Williams & Co., is well deserving of a similar position to the preceding; it makes very long shoots, sometimes as much as 18 to 20 feet in length, and all who know the type will, where it is possible, give it a place, but, as with the preceding, it requires a warm, sunny position.

Gloire de Dijon.—This old and favourite Rose, a chance seedling of the garden of Jacquetot, at Dijon, has had a success unparalleled by any other Rose in cultivation, and cannot be left out in any list of wall Roses, although I think some of its progeny which now go by the name of Dijon Teas are in some respects its superior.

Belle Lyonnaise is probably one of the best of these. I have a plant of it now on my house which on this 28th of August is covered with fine blooms. These are oftentimes of excellent shape, and bright in colour; very often, however, the blooms become cleft—a fact which does not destroy their effectiveness. There has hardly been a week since May when we could not have cut blooms from it, and it will continue to give us blooms for some weeks yet. Its growth is not quite so long as in the type, so that the plant becomes better filled in.

Madame Bérard more closely resembles the original than either of the preceding; it is very hardy, and stands the severe winters unprotected, without sustaining any injury. I have endeavoured to correct its lanky habit by occasionally cutting back one of the long shoots, though this is not generally a good thing for Noisettes; and by thus inducing it to throw out fresh shoots, one gets the plant in more compact form.

Bouquet d'Or.—One of the best of the race of Dijon Teas; it has abundant foliage of a rich glossy-green. The flowers are large, and bright in colour, not given to splitting, like La Belle Lyonnaise; it also gives a good many flowers in the autumn, and is very hardy.

Germaine Teschon.—A bright orange-yellow, shaded with fawn; a very vigorous grower, and, I think, likely to prove a valuable Rose.

Henriette de Beauvan.—This is a very pretty bright yellow Rose, and there is an interest about it peculiarly its own. It is the last Rose sent out by Lacharme, one of the very best, most honest, and experienced of French Rose-growers; it is very vigorous, with abundant foliage, and worthy of the reputation of one who has given us some of our best Roses.

Kaiserin Friederich.—This is a very fine Rose, closely resembling the old Gloire de Dijon, but dying off with a reddish tinge on the margin of the petals, which reminds one of the blooms of Marie Van Houtte.

Monsieur Desir.—I have not seen enough of this Rose to be able to thoroughly recommend it; it is a red variety, but I am afraid it has too much of what the raiser calls violet, which I fear implies that most objectionable colour magenta.



FIG. 56.—"NOT ALTOGETHER EXILED FROM THE GARDEN THAT I LOVE." (SEE P. 295.)

From "In Veronica's Garden."

Fortune's Yellow.—I would plead for a place for this very beautifully-coloured Rose, where the climate is favourable for it, for it is rather particular, and is not (especially in its young state) very free-flowering, the foliage is handsome, and the flowers remind one more of an Austrian Copper-briar than any other Rose that I know of. I do not think it is desirable for exposed situations, and were I restricted in the space I had to cover, should probably make it give way to something more dependable; the same reason which caused me to exclude W. A. Richardson from a wall applies to such flowers as Beauté Inconstante and Shirley Hibberd. There are also some of the Dijon family of which I know nothing, and therefore cannot conscientiously recommend them, though they may be very good. There are also some climbing sports of our hybrid perpetuals which do very well for low walls, but in these notes I have had more in my mind the walls of dwelling-houses, and places where very rampant growers will find plenty of room. It may be objected that I have left out Maréchal Niel; but I have done so advisedly, without in the least detracting from the beauty of this grand Rose. I have always maintained that it is not suitable for outdoor cultivation; the outside petals of its pendent flowers become discoloured, and a flourishing plant of it on a wall appears to be covered with dead Roses, and hence I have always regarded it as only fit for indoor cultivation. *Wild Rose.*

GARDEN NOTES.

Plants in Flower.—Just now the Dimorphanthus mandhuricus is at the height of beauty. "What a grand appearance it makes with its gigantic leaves of over 4 feet 6 inches, and about 3 feet wide!" Of its kind, nothing equals it, and now, with the large tufts of white bloom at the apex of each shoot, florescent "bunches" of which measure 20 inches by 18 inches combined as it is with beautiful foliage of a deep dark-green, now somewhat changing into red and purple, all tend to make this a most desirable bush. I grow it in my Rhododendron bed, among which are also Ferns, Lilies, Daffodils, &c.

The common Foxglove, Digitalis purpurea, is said to be biennial. I have grown the same plants three years, and one four years, and all of large size. One plant of Dalba, two years old, this year grew to the great height of 9 feet 4 inches, and the bloom-spike of pure white bells, was just over 5 feet 8 inches in length. But this has been a "growing" year. I have now just about to bloom a plant of Harpalium rigidum giganteum that is over 10 feet high, and it has not yet shown the colour of its flowers. The Sweet Peas have run up to an unusual height, some being nearly 6 feet. The Ferns are wonderful.

What a valuable shrub-like plant Poligonatum compactum [officinale?] is! Just now it is very pretty, each shoot being tipped with a thin spike of white flowers. It is very useful for covering banks, which it does quickly, having a natural tendency to a spreading habit of growth—in some situations too much so. My Lilies have made a grand show this year, particularly the davuricum varieties, and also L. croceum; these I grow in patches of twenty to twenty-five, then, when in bloom, they have a gorgeous effect. L. chalcedonicum, though doing fairly well, has not been so great a success; though the double light purple Turk's-cap (Martagon) was particularly strong, as was L. album, showing very large spikes of flowers, and also L. dalmaticum. I do not think the Lily is half so much cultivated in our gardens as it should be, many kinds of great beauty being so very easily grown.

And for "a bit of blue" what can excel the new Kelway varieties of Delphinium? How chaste, and yet how rich they are in colour. I have some that are of a most delicate azure, tinted with pink, a white centre, and double-flowered; and some of a glowing deep blue, tinged with carmine, and others that are now blooming for the second time. This they will do if prevented from seeding. And at this time of year what a foil their colour is to the yellow. How fine is the glow of colour in the Phloxes, ranging, as it does, from white to almost intense crimson scarlet. And yet but few gardeners have the newer and more beautiful Delphiniums. They are beautiful; and now is the time to plant them. And do not forget to put in some Lilies. Oh! yes! and Dimorphanthus mandhuricus. *Harrison Weir.*



Fig. 57.—Aplopappus ericoides: colour of flowers light yellow.
(For particulars, see first part of Belgrove article, in our issue for Sept. 5, p. 278.)

BELGROVE.

(*Continued from p. 279.*)

Among "Morning Glories" a note was made of a Japanese species, which is said to reach a height of 17 feet, but that great height is not going to be reached by the Belgrove plants, although every encouragement has been afforded them, including a tempting and ingenious arrangement of twine. An allied species is Convolvulus macrostegius, the flower white, with pink ribs. The remarkable Senecio Tropæolifolius was observed, but it was destitute of blossoms; and in similar condition was Pentstemon Watsoni, a Colorado species, obtained from Herbe & Wulle, of Naples. Another rare species noted was Ostrowskia magnifica, not a handsome thing, but striking in its form of flower and quaint habit of growth.

Anemone japonica, Couronne virginale, with white flowers having forty petals each; A. j. Coupe d'Argent, A. j. rubra superba, and A. j. Beauté Parfait, are one and all very desirable forms, very free in flowering, and doing almost anywhere if let alone. The bushes of Rosa rugosa, in variety, were, of course, out of bloom, but one was enabled to see how floriferous they had been by the abundance of the fruits. These, as they ripen, are gathered and made into a delicious preserve. Rubus ellipticus is peculiar from its spiny stems, which are bright red in colour.

We now leave the small garden, and survey the contents of a narrow border with a tall hedge to the south of it. Here were Senecio compactus (see fig. 53, p. 277, in our last issue), Rhododendron Keysii, has tubular, red-coloured flowers, that bear resemblance to those of Mitraria coccinea; Passiflora alata × with P. cœrulea by the late Mr. Masters, of Canterbury, and figured as P. alata cœrulea, although brought out as P. Fordii some years later. Here were also Buddleia variabilis, a plant of recumbent habit, and grey-green foliage. We are in doubt as to the correctness of this name, and should be glad if any of our readers could throw any light on the origin of the plant. Several Deutzias were here remarked, chiefly M. Lemoines'

crosses; also Berberis diaphana, with almost transparent berries; Aralia panax sessilifolia, Hypericum triflorum, the largest flowered of the genus; Philadelphus Coulteri, a form of P. mexicanus, and the only Philadelphus which possesses two colours in the blooms, white, with an eye of pink. Nothospartium Carmichæliæ, Abutilon vitæfolia, a perfecty hardy species; Senecio laxiflorus; Bambusa Castilonis, a plant with yellow variegated foliage, and the stem on alternate sides green and yellow—a pretty species; Viburnum dilatatum (Lemoine), Meliosma myriantha, and Eupatorium serrulatum, from Uruguay, were some of the more remarkable species on this border, which is a kind of probationary quarter for unknown and untried plants.

The terrace in the front of the mansion is bounded by a row of plants remarkable chiefly for nobility of habit and form of foliage. These stand at the top of the slope, each in its own small circle. We will enumerate some of the species and varieties of Kniphofias standing here, of which Mr. Gumbleton has one of the best collections in Britain. There were K. Pfitzeri, K. corallina, K. modesta, K. recurvata, and K. præcox, which sometimes does duty for the last-named; K. nobilis pallida, K. spectabilis, K. Henry Cannell, K. grandis, very rare, if true; K. Triumph, K. T. S. Ware, K. President Cleveland, the finest, it is said, of Pfitzer's raising—the flowers a kind of varnished scarlet, and the flower-spike of great length; K. Hofgärtner Fiesser, with red flowers; K. Nelsoni, a small dwarf-habited form, with bright scarlet flowers, and four or five flower-spikes that come in succession; K. John Waterer, and K. longicolis, which has the advantage (?) of flowering at the end of December; K. Obelisque, a beautiful yellow-flowered variety; K. Sandersii, also yellow-flowered; K. Lacasis, flowers apricot-coloured; K. No. 125 of Pfitzer, the brightest of all his raising; Direktor Stohl, K. Rooperi, K. Regeliana, one of the strong-growing varieties; K. comosa, which has the peculiarity of beginning to open its flowers in the middle of the spike, and going upwards and downwards; K. Canarine, and K. Kaiser Wilhelm. Others were noted, but the above will show the size and importance of the collection.

The almost new Dracæna Doucetti was making a fine robust plant, being 5 feet high and 4 wide. Near by stood the yellow variegated Pampas-grass, very handsome; Miscanthus sinensis, often grown for Eulalia; Phœnix senegalensis, a splendid, healthy plant, which stood out the '95 winter, and lost its leaves; Sparaxis pulcherrima, with deep purple and pink flowers; there are two varieties, growing 6 feet high, and have purple berries succeeding the flowers. Gynerium Argenteum Lambleyi has silvery variegation, and is a desirable variety; Yucca recurva variegata and Y. gloriosa variegata do well out-of-doors; Beschorneria glauca, with bright green flowers, having brilliant rose-coloured spathes, is another rare plant; Erytholæna conspicua is a biennial scarlet-flowered Thistle.

On another part of this terrace we remarked plants of Caryopteris mastacanthus, Grindelia hirsuta, a yellow Composite, with much waxy secretion on the top of the flower-buds. Lavandula atro-purpurea, with flowers individually double the size of those of the common Lavender. An Arundinaria falcata was 20 feet high, and Malus floribunda and M. Sieboldi *syn.* Toringa formed good-sized trees. Both species flower profusely. Weigela japonica was a large plant, with white and lilac-coloured flowers, very free. A Wineberry—Aristotelia (Tarpoea)—was remarked about this part of the garden.

In what was intended to be a garden of Hollies, but owing to the partial failure of these shrubs is being filled up with plants better suited to the locality, the following species of trees and shrubs were noticed: Hammamelis Zuccariniana, Juglans ailanthifolia, the tree loaded with immense clusters of nuts, the leaves measuring 2½ feet in length; Cerasus Padus, var. grandiflorus, the "aureus" variety of the common Yew, a nice plant of Picea Alcockiana, Cupressus macrocarpa, with effective yellow variegation; a big shrub of Choisya ternata; the rare Cotoneaster Fontanesii, the golden-leaved Castanea chrysophylla; Ilex Hodginsii aurea, with very fine leaf effects; I. buxifolia, not a bit like a Holly; Olearia illicifolia, Spartium ætnensis, Spiræa Fontunesia alba, and S. F. rosea, all four being autumn bloomers. Magnolia Campbellii was a good plant, which has not bloomed although it has done so at Fota. The owner has the hope of seeing it flower before it dies. It is a tree of 12 feet in height. Berberis bullata has fine red fruits, and Hymenanthera crassifolia, a plant whose berries are at the first of a slaty-colour and change to white. Colutea melanocalyx is a species of Bladder Senna with yellow-variegated foliage; Parrottia persica formed a fine large wide-spreading tree, the leaves of which are changing to rich colours; and Laburnum (Cytisus) Alschingeri is a free flowerer judging by the quantity of seed vessels hanging on its branches. Pinus pungens var. Kosteri is remarkable for its gray-green needles; Hydrangea quercifolia was growing thriftily; Daphniphyllum glaucescens was a bush 12 feet by 12 feet; Spiræa bracteata, a plant figured in *Botanical Magazine*, t. 7429, had been covered with its wreaths of flowers; Virgillea lutea, whose buds are curiously enclosed in the basal portion of the leaf-stalks; the rare Lonicera Meersii, a plant that has not been figured in any book as yet, succeeds admirably in this part of the garden. Of climbing plants seen on the walls of the kitchen garden, we may enumerate Malva Munroi, Cladianthus Lyalli, Xanthocera sorbifolia, the last-named with ripe fruits, which contain within a fleshy husk a number of black seeds of the size of horse-beans.

Our list of rare and beautiful plants, collected by Mr. Gumbleton at Belgrove, is by no means an exhaustive one, and many more could be named had we space at our command; but prudence bids us halt At other seasons of the year numerous bulbous plants, and of which little or no trace remained and no note was taken,, doubtless add their quota to the floral beauties of this charming garden.

FORESTRY.

THE DOUGLAS FIR.

As a good deal has been said in the columns of the *Gardeners' Chronicle* about the Douglas Fir, it may be of interest to some of your readers to know that a cargo of Douglas timber was landed in Devonport Dockyard in 1864 for experiment. Its strength and density were greater than that of the best Baltic red Pine used for topmasts and jib-booms, so it was tried for those spars. It was heavier than red Pine, and was very straight in the grain and free from knots. However, a peculiarity, viz., the rings being harder than the wood between them, caused topsail yards, when lowered, to shave off long splinters from the spar. This, and the weight of the spars, prevented it from being recommended for topmasts.

In 1884, Mr. McCorquodale kindly showed me some of Lord Mansfield's plantations, near Perth, in Scotland. The oldest plantation of Douglas was then twenty-eight years old. The trees stood 12 feet apart, and Larches that had been planted between were gone, and light was being let into the plantation by sawing off the lower branches of the Douglas Firs. There were two fine trees on the Lyndock estate. One of them coned freely, and was surrounded by a paling, with zinc plate at the top of the pales, curving outwards to prevent the squirrels from robbing the tree. About 7,000 seedlings were being raised yearly, and the young plantation I saw had Douglas Firs in rows 14 feet apart, with Larch between.

Douglas was used as a shade-bearing tree (I prefer shade-enduring, to express the German words *schatten tragend*) in old Oak and other woods with great success, as the Douglas Fir grew fast among the old forest trees with straight stems, in places where few other Firs would thrive.

I have seen it scattered among Larch and other Firs in Sir Thomas Acland's plantations near Porlock, in North Devon, but that mode of planting it is not a success. It grows more rapidly than its neighbours, and gets deflected by the wind and injured. *H. R.*

THE WEEK'S WORK.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Burford, Dorking.*

LÆLIA PURPURATA.—This fine species and its varieties having fairly started into growth, each should now be examined to see if more rooting space is required. The young breaks at this season, but a few inches in height, will begin to put out roots, and these should have sufficient space to grow inside the rim of the pot; it is, therefore, necessary when repotting the plants to have pots large enough to afford space that will suffice for two seasons. Plants in good health in pots filled with roots should have the pot broken, and as many pieces removed as possible without disturbing the old drainage materials, afterwards picking out the old soil without injuring the roots. Large specimens whose back bulbs have been lost will need to be re-made up, all decayed pseudo-bulbs and dead roots cut off, and all worn-out compost removed. Afford plenty of drainage, and over it place a thin layer of sphagnum-moss, and above that, good fibrous peat and moss mixed together in equal quantities, mingling with these some thick crocks. In repotting Lælias, keep them raised above the rim of the pot, and to keep the plant in place, secure a pseudo-bulb here and there to neat sticks.

LÆLIA ELEGANS.—Plants of this species, as they go out of flower, push forth almost directly from the base of what was the flowering pseudo-bulb, a quantity of roots, which, if afforded some fresh potting mixture, readily seize upon it. Growth at this time being completed, the plants should be placed in a house having a temperature of 60° at night, and gradually exposed to more light and air. Too much moisture at the root should be avoided at this stage, the tender growths being very liable to decay.

CATTLEYAS.—Cattleyas gigas, Dowiana, Warnerii, and other autumn-flowering C. labiatas, having completed their growth, should be given a similar kind of treatment. The different varieties of C. Eldorado may also be repotted as they pass out of flower, and while the night temperature of the Cattleya-house remains at about 65°, they may remain therein, but when cold weather sets in, and it falls to 60°, they should be removed to the East Indian-house.

COOL HOUSE ORCHIDS.—The present season is the most suitable for re-potting the inmates of the cool houses, especially Odontoglossum crispum, O. Pescatorei, O. triumphans, O. tripudians, O. Halli, O. gloriosum, O. cirrhosum, O. Harryanum, O. nævium, O. luteo-purpureum, O. hystrix, O. cuspidatum, O. polyxanthum, O. nevadense, O. mulus, &c., and the various hybrids of O. Andersonianum and O. Ruckerianum. The plants for a few days prior to the re-potting should be allowed to become moderately dry. The best fibrous peat, well pulled to pieces, and all of the dust sifted out of it, freshly gathered sphagnum-moss, from which all rubbish has been removed, as well as all slugs and snails, and quantity of small crocks, form the best sort of materials for the potting compost. If the sphagnum-moss is very wet, squeeze the water out of it, and after picking it over spread it out to dry. The peat and the sphagnum-moss should be used in equal proportions, and all should be thoroughly well mixed together. The pots should be filled to three-fourths of their depth with clean crocks, over which a thin layer of moss should be spread. Turn the plants out of their pots, and with a pointed stick remove the decayed compost, not disturbing living roots which may be found clinging to any that is in a sound condition, unless it be quite necessary to do so; trim off dead roots, and repot in pots of a suitable size, carefully avoiding overpotting. Keep the base of each plant a little higher than the rim of the pot, and press the material firmly about the roots; afford the plants a good watering, and for a few weeks afterwards apply enough water to maintain life in the sphagnum. Moisten the pots and the stages morning and evening, and admit plenty of air, especially when the temperature is above 50°, and the hygrometer is within a few degrees of the saturation point; and shade from sunshine at all times.

THE HARDY FRUIT GARDEN.

By G. WOODGATE, *Gardener, Rolleston Hall, Burton-on-Trent.*

PEACHES AND NECTARINES.—Continue to cut out the old fruiting-wood from Peach and Nectarine trees when the fruits have been cleared from them, and stop all lateral growths to one leaf. Young trees which have made stronger growth than is desirable, may be marked for being re-lifted or root-pruned next month. If any are not making proper headway, it will be well to mark these also, so that they may be lifted, and their roots examined. It may be found necessary to remove some of the old soil in such cases, and replace with a more suitable compost.

RASPBERRIES.—Autumn-fruiting varieties will require to have the fruits protected from birds, which may be effected by placing fish-netting over some light laths, fixed at a sufficient height to allow of the fruit being gathered without removing the nets.

STRAWBERRIY PLANTS that were put out after being forced, especially such a variety as La Grosse Sucrée, will now be setting a considerable crop o

fruit, and if the next few weeks should prove fine and warm, several dishes may be gathered from them for dessert. A little dry litter should be placed round each plant which is bearing fruit, and before the fruits begin to change colour they must be protected from birds.

GENERAL WORK.—Remove the nets from fruit trees from which the fruits have been gathered. The nets should be thoroughly dried, and hung up in a dry place where mice will not harm them. Take notes of the varieties of all kinds of fruits, but especially of the newer ones, that a selection may be made, and all unsatisfactory varieties gradually weeded out. Only those which are the most suitable to the locality, and bear freely fruits of good quality, are desirable. Filberts and Cob-nuts need not be gathered until they show signs of falling. Choose a dry day for the purpose, and spread the nuts out-of-doors for a few hours each day for about a week, when the weather is fine, to thoroughly dry them before they are packed away in jars or clean, large flower-pots. The jars or pots should afterwards be placed in a cool dry cellar, easy of access. Nuts stored carefully in this way, with a sprinkling of salt on each layer of 3 or 4 inches deep, will remain in condition for a considerable time.

THE FLOWER GARDEN.

By HEDLEY WARREN, *Gardener, Aston Clinton, Tring.*

TRANSPLANTING EVERGREENS. — From the present time to the middle or end of October is the best time to move evergreen shrubs. The ground generally is then in a moist condition, and the temperature is favourable. Beyond a good watering at the roots to settle the recently-moved soil, little labour will be needed after the shrubs have been re-planted, and the soil being warm they will soon make fibrous roots, and the trees will become partly established before severe weather occurs. In lifting the trees, preserve as many roots as possible, and cut cleanly off with a knife the ends of any that may have been injured. A ball of earth in proportion to the size of the tree should also be preserved, but this may be difficult in the case of light sandy soils. However, in such soils root-action will commence sooner than in soils of a stiff nature. The ground in which the trees are to be planted should be well worked or trenched, as trees seldom thrive if placed in hard, unbroken soil. Should the ground be of such a nature that the soil cannot be moved to a sufficient depth, it is best to plant high, and make a mound of good soil about the base of the tree, and support with stakes until the tree is established. This is particularly necessary where there is little or no natural drainage, or the subsoil is clayey.

DOUBLE-FLOWERING BRAMBLES. — These are capital flowering plants for the wild garden and appropriate places in the shrubberies and pleasure-grounds. The blossoms are extremely pretty, and are borne in great profusion all through the late summer and early autumn months. They are valuable even when growing among other shrubs, but their gracefulness and beauty are best seen when growing naturally in the wild garden as isolated clumps or rambling over tree-stumps or rockwork. Rubus fruticosus, R. f. flore plena alba, and R. f. rosea are the best varieties, and are easily obtainable from nurserymen for a few pence.

GENERAL WORK.—Bulbs of Tulips, Daffodils, &c., that were saved from last season's forcing, &c., should now be examined, and all decaying or undersized bulbs rejected. The rest may be planted in the wild garden or in patches in the shrubberies; they should on no account, however, be used for planting in beds and borders in conspicuous positions, as they cannot be depended upon to bloom satisfactorily. Secure growing shoots of Dahlias to stakes, and at the same time carefully examine the plants, to correct any that are incorrectly named, and discard others. Continue to transplant spring-flowering plants that will be needed to fill the flower-beds presently.

FRUITS UNDER GLASS.

By W. POPE, *Gardener, Highclere Castle, Newbury.*

VINES.—Frequently look over all Grapes which are ripe or ripening, and remove any shanked or decaying berries promptly. One such berry, if left for a day or two, will quickly become the centre of a mass of decay, and more especially if the bunches have been insufficiently thinned. Keep the Vine free from lateral growths, and endeavour to preserve the principal leaves green and healthy to the last. Strong young Vines from which the fruit has been cut will possibly be furnished with wood that is a little soft and pithy, and they should now be afforded sufficient fire-heat and free ventilation, to thoroughly mature this. Do not, however, allow the roots to become dry at this or any other stage. If the border be mulched with some light dry material, it is a great help in conserving moisture. Early vineries from which ripe fruit will be required in April or May next should be prepared for pruning about the end of the present month by keeping them as cool as possible, to induce a complete rest in the Vines. Thoroughly cleanse the woodwork, glass, &c., and effect any repairs and painting which are needful. Ripening Grapes should be encouraged by means of a little extra fire-heat and free circulation of air to finish during this month, especially if they are required to be kept during the winter either upon the Vines or in bottles. If Vines have to be hurried late in the autumn, they neither keep well nor will the flavour be good. Remove all lateral growths, but the principal foliage must be kept healthy as long as possible. Atmospheric moisture must be considerably reduced, especially where ripe Grapes are hanging. A rather dry mulching material should be afforded to the inside borders.

POT VINES intended for very early forcing, will now be shedding their leaves. After shortening the canes to the required length, they should be stood in a cool, shady position, so as to ensure them a complete rest, but do not allow them to become dry at the root.

FIGS.—Late crops of these are now ripening, and must be afforded sufficient artificial heat to obtain a free circulation of warm, dry air. See that enough water is supplied to the roots to keep the foliage in a fresh, healthy state, for if allowed to suffer in this respect, the fruit will be deficient in quality. Trees from which the fruit has all been gathered may be syringed two or three times weekly, so as to keep the foliage clean and fresh till it begins to fall naturally. Reduce the supply of water to the roots, but not to the extent of causing the leaves to flag. Keep a drier atmosphere, and afford free ventilation. Trees in pots required for early forcing should now be re-potted if larger pots are desirable; if not, remove a few inches of the surface-soil. Cut away all small roots near the top, and top-dress with fresh fibrous-loam, a little mortar-rubbish and bone-meal being incorporated with the soil. When this has been done, place the plants in a cool, airy situation.

PLANTS UNDER GLASS.

By JNO. MCINTYRE, *Gardener, Woodside, Darlington.*

CHRYSANTHEMUMS.—Owing, unfortunately, to the early nature of the season, it has been necessary to run many of the varieties on to the terminal buds, as the crown buds would have been too early for exhibitions. The plants have now almost exhausted the potting material, and those whose buds have been "taken" may be fed liberally. It is my practice to use liquid from the farm-yard and soot-water alternately. Take care that all the plants are made secure against high winds. The stakes should be fastened to a rail or a strong wire running the entire length of the rows; and for the purpose of ripening the points of shoots, each shoot should be tied clear of its neighbour, so that sun and air may have access to it.

CINERARIAS, CANNAS, AND ROSES.—Encourage Cinerarias to grow as rapidly as possible. The plants should be in cool pits, and the pots stood upon coal-ashes. No feeding should be done until the plants have well filled the pots with roots. The late batch of Cannas is now proving very useful. Supply the plants liberally with some artificial preparation that has no disagreeable odour. Roses in pots intended for forcing early should be kept rather dry at the roots in order to get the wood well ripened. They should be pruned about the end of September, and afterwards re-potted or top-dressed as each may require. For potting use strong loam, river-sand, and a sprinkling of any kind of artificial fertiliser,, and make the soil firm. Hybrid perpetuals are preferable to Teas for pot-work, giving a larger return in blooms. Bouvardias planted out in pits or frames should be given a check, by cutting through the roots at about 3 or 4 inches from the stems. Ten days after this operation, the plants may be potted up and no check will be felt. When they have been potted, keep the plants well shaded until they take hold of the new soil.

CROTONS AND DRACÆNAS.—Take off the tops of Crotons that have become leggy. "Ringing" is the best system of propagating the tops of large Crotons, that is, the bark is cut round, when the tops quickly emit roots, in a moist and hot house. As soon as the first sign of rooting is observed a ball of sphagnum-moss should be tied round the stem, and when the roots have pushed through this, the top may with safety be cut away and potted. Seldom are any basal leaves lost when propagated in this way. As soon as a top is potted, plunge it in bottom-heat in the propagating-frame until well established. Continue to obtain cuttings or eyes of Dracænas. It is best, whenever an old plant becomes "leggy," to take the stem and cut it into pieces 2 inches long, and place them in Cocoa-nut fibre refuse.

BULBOUS PLANTS, ETC.—Established bulbs of Amaryllis (Hippeastrums) will have become sufficiently ripened to allow of their being dried-off. Pots of these may then be stored away until the end of January in a dry airy place, where they will be secure from a lower temperature than 45°. Seedlings raised this year may be kept growing for some time yet. Achimenes, Tydæas, and Gesneras now becoming unsightly also require less water, and may also be gradually dried off. When thoroughly ripened, put them away on a dry shelf, but not near to hot-water pipes, or the bulbs are apt to shrivel. Gradually dry-off all Caladiums, doing this slowly, for until the bulbs are thoroughly matured, they require a certain quantity of water.

THE KITCHEN GARDEN.

By C. HERRIN, *Gardener, Dropmore, Maidenhead*

ONIONS.—If the tops of these still remain green and erect, they should be bent down with a wooden rake to induce them to quickly mature. In many places, however, the tops have already ripened off, and where this is the case, no time should be lost in pulling them, otherwise in rainy weather they will root afresh. If the surface-soil be sufficiently dry, the bulbs may be pulled up and left on the bed in broad lines, and after turning them over a few times so as to dry them thoroughly, they should be taken without further delay to the store, where they can be further cleaned, and roped or bunched as opportunities occur. Should the weather be unsettled, lay the bulbs, when pulled, on boards, hurdles, or a hard gravel-path, and store them thinly upon the first dry day. Seeds to furnish plants for standing through the winter may yet be sown. Varieties of Onions, such as are usually sown in the spring, may also be sown now in drills 9 inches apart, and be transplanted to prepared quarters next spring. Unless the winter be unusually severe, these will pass through it safely, and furnish strong plants, without the inconvenience of sowing seeds in boxes in heat, and hardening off in frames before planting out in spring. Cottagers who grow Onions for exhibition sometimes adopt this plan with excellent results, and I am aware of one instance where large exhibition Onions have been thus grown this season in a gentleman's garden, the bulbs equalling those sown early in heat and grown on for planting out early in April. This method is also advisable where the Onion-maggot is generally troublesome. The tops become so hardened that the fly cannot readily deposit its eggs.

ASPARAGUS.—The heavy rains now being experienced should not be allowed to break down the tops, but the latter should be afforded timely support from stakes and soft twine. If the planting of seedling Asparagus was not completed in April, it should be done now without delay. Since the recent change in the weather, the young plants have commenced new growth, and if the plants be now transplanted and the growths tied to stakes, they will soon re-establish themselves. When planting permanent beds, preparations should be made as advised in a previous calendar; but where many crowns are lifted annually to be forced, and a corresponding number of one-year seedlings planted, any well-manured plot will suffice. Planting may be done with a spade, putting them in in lines 18 inches apart, being careful to spread the roots out at a depth of 2 or 3 inches.

TOMATOS.—Young shoots should now be kept closely pinched out, and very large leaves, especially where they overlap any of the fruits, may be partly cut away, but this should not be done to excess. In the case of those growing against walls, any frame lights not in use should be secured to the wall perpendicularly to keep off rain and hasten the ripening of the fruits.

FRENCH BEANS that were sown in cold pits should now be covered at night, and the lights may be kept on during excessively wet days. Where a succession through the winter is required, seeds should now be sown in 7-inch pots, filled rather more than three-parts full with some moderately-rich soil.

APPOINTMENTS FOR THE ENSUING WEEK.

SUNDAY, SEPT. 13—Brussels Orchidéenne Meeting.

TUESDAY, SEPT. 15—Bunyard's Centenary Show at Maidstone (two days).

SALES.

MONDAY, SEPT. 14—Dutch Bulbs at Protheroe & Morris' Rooms. Eleventh Great Annual Trade Sale of Pot Plants at Dyson's Lane Nurseries, Upper Edmonton, by order of Mr. H. B. May, by Protheroe & Morris. Dutch Bulbs at J. C. Stevens' Rooms.

TUESDAY, SEPT. 15—Dutch Bulbs at Protheroe & Morris' Rooms. Great Annual Trade Sale of Winter-blooming Heaths at the Burnt Ash Road Nurseries, Lee, by order of Messrs. B. Maller & Sons, by Protheroe & Morris. Dutch Bulbs at J. C. Stevens' Rooms.

WEDNESDAY, SEPT. 16—Dutch Bulbs at Protheroe & Morris' Rooms. Annual Sale of Winter flowering and other Plants at the Nurseries, South Woodford, Essex, by order of Mr. John Fraser, by Protheroe & Morris. Trade Sale of Dutch and French Bulbs at J. C. Stevens' Rooms.

THURSDAY, SEPT. 17—Dutch Bulbs at Protheroe & Morris' Rooms. Twenty-eighth Annual Trade Sale of Stove and Greenhouse Plants at the Brimsdown Nurseries, Green Street, Enfield Highway, N., by Protheroe & Morris. Trade Sale of Imported Orchids, by order of Mr. J. W. Moore; also Dutch Bulbs at J. C. Stevens' Rooms.

FRIDAY, SEPT. 18—Dutch Bulbs at Protheroe & Morris' Rooms. Established Orchids at Protheroe & Morris' Rooms. Second portion of the Great Annual Trade Sale of Winter-blooming Heaths at the Longlands Nursery, Sidcup, S.E., by order of Messrs. Gregory & Evans, by Protheroe & Morris. Miscellaneous Property at J. C. Stevens' Rooms.

SATURDAY, SEPT. 19—Dutch Bulbs at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—57 8°.

The Orange and its Culture.*

THE author in this little work devoted to the culture of the Orange and allied fruits, states that in Algeria, Spain, Italy, and other places round the Mediterranean there are annually produced about 53,000,000 of kilograms of Oranges alone. In Algeria, the difficulty is about irrigation. The early Oranges, although still sour, fetch a good price in the markets. Many of the Old World good varieties have been introduced into California.

Corsica is the great field of production of the Citron-tree, the fruit of which is so largely used in confectionery. The author states that the demand for candied Citron exceeds the supply, so that there is room for extending its cultivation.

The supply of Oranges increases, but populations increase also, so that prices are maintained. In Paris they have held the same level for fifty years.

The cultivation of these trees yields profit, not only from their fruit, but also from their leaves and flowers, for the table, perfumery, confectionery, and acid drinks. In France, "orangeade" is as common as "limonade;" but in England no one asks for an Orange-squash. The author gives a recipe for making Orange wine, by fermentation of the juice, which seems interesting.

He gives some good hints about Orange-houses, with double-glazing for winter. He has never found that the seeds of sweet Oranges produced the bitter Oranges, so that the solitary case quoted by MCFADGEN might well have resulted from some mistake.

The author gives, from his own experience, rules for the cultivation of these most useful fruit-trees. In the last part of this manual he names the insects which are injurious to these trees, and also the fungi that attack them; but this has been exhaustively treated by M. PENZIG in his *Studj sugli Agrumi*.

The classification of Oranges, Lemons, and Citrons seems a hopeless task; it is a chaos which cannot now be unravelled, any more than the chaos which Roses, Begonias, &c., have fallen into, and into which the Orchids will soon fall. Insects had blended up the species and varieties of the Citrus, and created new ones, and now the whole is an inextricable mixture! The author gives a large number of well-executed illustrations, principally taken from RISSO and POITEAU'S work; but only a small proportion of these has come into commercial use.

The history of the Citrus and of its introduction into Europe is not satisfactorily given. The author does not seem to have been acquainted with the *Flora of Amboyna* of RUMPHIUS, in which, 200 years ago, were described all the varieties of the Citrus he found in the Malay Archipelago. The very words "Lemon" and "Lime" come from the Malay generic name for the species of Citrus. M. DE NOTER does not seem aware of a pamphlet, in French, by Mr. M. V. LORÉT, Paris, 1891, entitled "Le Cédratier dans l'Antiquité," which clearly shows that the ancient Egyptians were acquainted with the Lemon-tree, and with Lemons. Nor does the author appear to have seen the exhaustive monograph of all the varieties of Citrus, and the learned and suggestive dissertations concerning them published in Dr. BONAVIA'S work on the cultivated Oranges and Lemons of India and Ceylon, which would have furnished him with a perfect mine of information on the history, botanical characteristics, commercial importance, and culture of these trees.

No one seems to have yet discovered the origin of the word "Pampelmousse," transformed by the English into either "Pommelous" or "Pommelnose." Many of the species of Citrus in general cultivation appear to have come from Southern China by way of the Malay Archipelago, India, the Persian Gulf, Syria, and the Mediterranean. The Portuguese may have then introduced others by way of the Cape of Good Hope.

Then the early Genoese horticulturists on the Riviera raised a large number of varieties from seed. They were much thought of in those days as ornamental trees, but few of them have come into commercial cultivation.

The best Orange that now reaches the London market is the Navel Orange of California, without seeds; it has a dense skin, which enables it to travel long distances without damage.

Upon the whole M. RAPHAEL DE NOTER has produced an interesting manual which fills a want; for since the publication of the works of RISSO and POITEAU in French, and of GALLESIO in Latin, no practical manual on the Citrus cultivation has appeared. We might note that the author, on p. 19, falls into the same error as PLINY, who seems to have confounded the "Cedar" wood of Mount Atlas with that of the Citronnier, Cedrus and Citrus being similar.

We would recommend to the notice of the author the thin-skinned Pummelow of Bombay, called "Chakòtra," with a beef-red pulp and a fine flavour; also the loose-skinned Sùntără-Orange of Magpur, which on occasions has found its way into the London markets, but the fine Bombay Pommelow does not appear to be known to European horticulturists.

Thus, if the French horticulturists, who are possessed of inexhaustible patience, would only take up the Citrus trifoliata, which is the hardiest of all, and try to improve its fruit by hybridisation with the fine kinds in cultivation, they might succeed in evolving a hardy, useful Orange-tree which would resist more northerly climates in the open air. There is no doubt whatever that the Citrus fruits are not only of value as edible fruits, but also of great value in various diseases, such as ague, enlarged spleen, cachexia, &c.

Packers and exporters of Oranges should note that it has been discovered that Onions kept in Orange warehouses, and with Oranges in the holds of ships, impart a distinct Oniony flavour to Blood Oranges.

* *The Orange and its Culture.*—Les Orangers, Citronniers, Cédratiers, et autres Aurantiacées à fruits comestibles, leur culture dans la région Méditerranéenne et dans le nord. Par RAPHAEL DE NOTER, Paris. OCTAVE DOIN.

DRACÆNA HOOKERIANA LATIFOLIA (Regel).—The illustration (see fig. 58, p. 305), portrays a plant which is somewhat rare in gardens, but which is destined to become popular when better known. As isolated examples in large conservatories, or for filling large vases in the dwelling, it is an admirable subject. The plant is capable of resisting a degree of cold that would be fatal to other Dracænas, and suffers less from gas-lighting, and in this respect forms a good companion plant to the well-known Aspidistra lurida. As evidence of the capabilities of the plant in this respect, it may be mentioned that a pair of these Dracænas occupied for many weeks a position in the mansion without suffering in the slightest degree. Its growth is slow, and culture easy, requiring only the temperature of a warm greenhouse to grow it to perfection, and it succeeds best in comparatively small-sized flower-pots. Several handsome examples of this plant are to be found in Mr. H. O'HAGAN'S garden, River Home, Hampton Court; and one of these plants was exhibited at a meeting of the Royal Horticultural Society last November, when it received a First-class Certificate. The following are the dimensions of the largest plant: height, 3¾ feet; width, 4½ feet; length of leaf, 2½ feet; and width of leaf, 4½ inches. The specimen figured possessed forty-three leaves, and was growing in an 8-inch pot. The leaves are of a dark glossy green, in form slightly undulate, acuminate, and faintly, yet distinctly, margined with creamy white. Dracæna Hookeriana latifolia is a native of South Africa.

THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.—A correspondent writes: "With reference to your report in a recent issue of the stall arranged at the Exeter Flower Show, for the sale of flowers and fruit on behalf of that most deserving of charities, the Gardeners' Royal Benevolent Institution, I am glad to learn that the proceeds, amounting to £16, have been handed over to the Devon Auxiliary, and will prove a substantial addition to its funds. The highest praise is due to Mrs. BRYCE, of Bystock, and to the ladies who acted with her, for their devoted services in connection with this commendable effort to augment the funds of a widely known and old-established institution, and I feel sure its executive will not be slow to appreciate such labours of love, nor will it forget its indebtedness to the local secretaries, Messrs. W. MACKAY and A. HOPE, whose energetic and invaluable assistance went far to ensure the success attained. My object in drawing attention to this matter is a desire to excite interest and a spirit of emulation in so worthy a cause amongst gardeners and others in different localities where shows are held. Why should not the result achieved at Exeter be repeated elsewhere, and the sum raised by such means be equalled or doubled at other places? Here is a field of work for those who have the well-being of the institution at heart, but who oftentimes feel a diffidence in soliciting help for it in

other ways. That its need of additional aid is very real is apparent from the list of applicants, which will probably grow larger, who are appealing for assistance, which perforce cannot be vouchsafed to them, as it would were more funds available."

—— We learn that through the kindness of Sir Greville Smyth, Bart., and Mr. Francis Taggart, who threw open to the public their respective gardens and grounds at Ashton Court and Old Sneed Park a few days ago, a sum of £20 has been added to the funds of the Bristol and Bath Auxiliary of this institution. The local auxiliary was formed in 1893 in order to promote a knowledge of the work in the neighbourhood, and depends largely upon collections and subscriptions for funds. The collections at the various flower-shows this year have been fairly successful, but the number of the pensions granted by the institution need to be greatly increased, and for this purpose Mr. J. H. Vallance, the hon. local secretary, is anxious for increased support from Bristol and Bath.

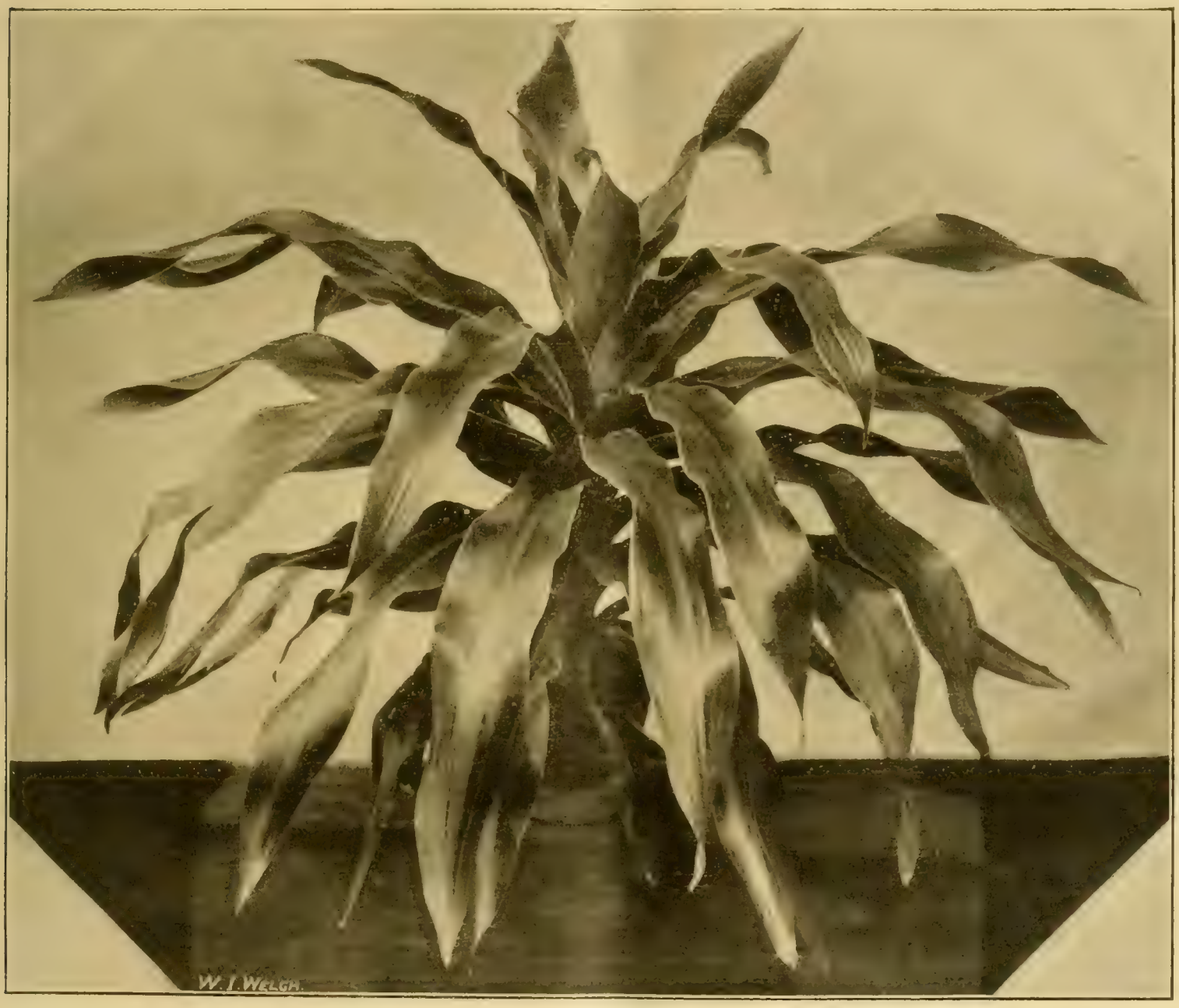


Fig. 58.—Dracena Hookeriana var. latifolia: as grown in the garden of H. O'Hagan, Esq. (See p. 504.)

Yorkshire Naturalists' Union. — The Fungus Foray of the Yorkshire Naturalists' Union, which now seems to take the place of the Woolhope Foray, as the annual event of the kind for England, is fixed this year for the 19th, 20th, 21st, and 22nd of September, the principal day being on the 21st. The headquarters will be at Selby, from which excursions will be made each day to the woods in the neigbourhood, both in the West and East Ridings, followed by a gathering each evening to compare notes. On Monday evening a conference will be held, at which the following papers will be read:—By Rev. Canon Du Port, M.A., on "A Case of Poisoning from eating Amanita pantherina at Charleville (Ardennes)." By Geo. Massee, F.L.S, F.R.M.S., on "Some Doubtful Species of Agaricus." By Carleton Rea, M.A., on "The Duration of the Sporophore of Collybia tuberosa and Cyathus striatus." By Harold Wager, F.L.S., on "The Sexuality of the Agaricineæ." An oxy-hydrogen lantern will be provided for the illustration of the papers, and for showing any slides relating to fungi that may be sent. Mr. A. Clarke will exhibit a number of stereoscopic photographs of fungi. The fungi collected will be on view, and several microscopes will be available. The presence of mycologists from other parts of the country will be very heartily welcomed; and copies of the circular will be posted to any who apply to Mr. W. Denison Roebuck, F.L.S., honorary secretary of the Yorkshire Naturalists' Union, to Mr. Charles Crossland, 4, Coleridge Street, Halifax, honorary secretary to the Yorkshire Mycological Committee, or to Mr. W. Norwood Cheesman, The Crescent, Selby, who is acting as special honorary secretary for this meeting.

French Horticultural Society of London.—On Saturday evening, Sept. 5, at the society's meeting-place, Old Compton Street, Soho, a special meeting of the members was held, for the purpose of presenting to their president, Mr. Geo. Schneider, with a testimonial on the occasion of his

appointment by the French Government as Chevalier of the Mérite Agricole. The committee of the society invited Mr. HARMAN PAYNE to take the chair and make the presentation. There was a large attendance, and the proceedings excited the keenest interest among those present, inasmuch as Mr. SCHNEIDER was kept in ignorance of the object of the gathering. In the course of his remarks Mr. PAYNE alluded to the reception that Mr. SCHNEIDER had met with on the occasion of his recent visit to Paris, where a banquet had been organised in his honour, and a testimonial presented to him through the means of the Paris committee of the society. The chairman then explained that the London committee of the society were equally desirous of showing their high appreciation of their President's valuable services, not only as regards their own personal welfare, but also in the very successful manner in which he had directed the affairs of the Society. It was not his intention to discourse upon all the merits of their President, which were well known; and after a few other remarks, Mr. PAYNE handed to Mr. SCHNEIDER a very fine china dessert-service, beautifully painted, and bearing upon each piece an inscription suitable to the occasion. Mr. SCHNEIDER, in rising to return thanks, said it was so unexpected a surprise, that he could not find words sufficient to thank the members for their kindness. He could, however, assure them that he valued their present very much, the more so because it was a useful one, and one of which he had long been in want. The meeting terminated after doing justice to "*un petit punch*," and some songs and recitations by the members.

"BOTANICAL MAGAZINE."—The issue for the month of September contains figures of the following plants:—

Chonemorpha macrophylla, G. Don, t. 7492.—A common and withal handsome climbing shrub of Indian tropical forests, and extending from Kumaon along the entire range of the Himalaya eastward, and southward to Ceylon, Sumatra, and Java. Leaves large, up to 10 inches long and broad, obovate, beneath pubescent, petiole terete. Flowers in subterminal, short-peduncled cymes; calyx ¾-inch long, tubular, terete, unequally shortly five-lobed; corolla white, tube hairy within, stamens inserted at mouth of the tube.

Dendrobium Leonis, Sw.—Stem tufted with fibrous roots branching from the base; leaves about 1 inch long, ovate-oblong, obtuse, distichously imbricating; flowers solitary, ¾-inch long, and nearly as broad, of a dirty-yellow colour streaked with dull purple. Lateral sepals larger than the rest of the flower, broadly ovate, obtuse, connate, with the foot of the column in a rounded mentum. Petals as large as the dorsal sepal. Anther hemispheric, crown two-lobed. Native of Malaya, Java, &c.

Bauhinia Galpini, Linn. A half-climbing shrub, growing from 5 to 10 feet high. Leaves petiolate, 1 to 3 inches long, orbicular, or transversely broadly oblong, two-lobed and seven-nerved, base round or truncate. Racemes, leaf opposed on short lateral shoots, six to ten-flowered; peduncle short, and rachis, pedicels and calyx rusty puberulous; bracts ⅛ to ¼-inch, fugacious. Calyx-tube ¼ to ¾-inch long, cylindric, limb about as long as the tube. Petals 1 to 1¼ inch long, crimson or scarlet, claw as long as the orbicular cuspidate limb. Stamens three, fertile; anthers yellow, linear-oblong. From Dorn Spruit Spelunken under tropic of Capricorn, and various places in the Transvaal, also in the Makua country, Mozambique.

Rhododendron Smirnovi, Linn.—A small robust tree, 15 to 20 feet high, with stout branches, which, when young, are clothed with a grey felted wool. Leaves 3 to 5 inches long by 1 to 1½ inch broad, narrowed into a stout petiole, elliptic-oblong, subacute, thickly coriaceous; dark green on upper side, with a yellowish midrib; nerves six to eight pairs. Flowers in a compact, sessile head, 6 inches in diameter; calyx five-lobed. Corolla funnel-shaped and rose-red; lobes rounded and dark rose-coloured margin. Country south of the Caucasus.

Celmisia Munroi, Cass.—This is one of the handsomest of the genus which represents in New Zealand the Asters of other parts of the world. The entire plant, with the exception of the upper surface of the leaves and florets, is covered with a snow-white cottony adpressed wool. Stem short, and thick as the thumb. Leaves sessile, 3 to 8 inches long, by ⅓ to 1½ inch broad. Ray flowers numerous, in two to three series, white; disc flowers golden-yellow, very many, tube five-cleft.

STIRLING HORTICULTURAL SOCIETY.—This society held its annual exhibition on the 3rd and 4th inst. in the Albert Hall, and was opened by W. H. DOBIE, Esq., of Dollarbeg. The display of fruit, cut flowers, plants, and vegetables, was fully equal to that of 1895 in numbers and quality. Some competent critics observed that for quality Stirling carried the palm against the western city. The competition over all was keen. The following were among the principal prize-takers:—Messrs. Thomas Lunt, Keir; J. Carmichael, Touch; W. Rutherford, Airthrey Castle; and J. Waldie, Dollarbeg.

BELGIAN HORTICULTURAL SOCIETY. — The monthly meeting of the Society took place on Sunday, the 6th inst., in the Casino, Ghent. The following awards were made. First-class Certificates: to Pteris beaurita argentea, shown by M. PYNAERT-VAN GEERT; Alocasia Lowisiana and A. Gandavense (unanimously), shown by M. DE SMET-DUVIVIER; Epidendrum prismatocarpum and Lælio-Cattleya Proserpine, shown by M. JULES HYE; Adiantum Schneideri, shown by M. A. VAN DER HEEDE; and a double-flowered seedling Cactus Dahlia, shown by MM. DURIEZ BROTHERS. Awards of Merit were made to Begonia Madame Camille Claeys, shown by M. CAMILLE CLAEYS; to Fuchsia fulgens, shown by M. UYTLENDAELE; and to Dracæna Eckhautei, shown by M. L. ECKHAUTE.

FIFTY YEARS AT THE ROYAL NURSERY, SLOUGH.—Mr. JOHN BALL, who for so many years past has had charge of the Auriculas, Pinks, Carnations, &c., at the Royal Nursery, Slough, recently completed a half-century of employment, and advantage was taken of the occasion to present him, by Messrs. H. & E. TURNER, with a handsome clock, and two vases to match. The clock bore this inscription: "To Mr. JOHN BALL, on the jubilee of his connection with CHARLES TURNER & SONS, at the Royal Nurseries, Slough, August, 1896." A card accompanied the gift, which came as a great surprise to the recipient, and on this were the words:. "With the remembrance of CHARLES TURNER, and the good wishes of HARRY and ARTHUR TURNER." Mr. BALL is still a very active and confidential *employé* in the service of the well-known Slough firm.

MR. CHARLES WAKELY has been appointed Staff Instructor in Horticulture under the Technical Instruction Committee of the Essex County Council. He was for five years in the employ of the Royal Gardens, Kew.

MR. ROBERT DERRY, formerly in the employ of the Royal Gardens, Kew, and late Assistant Superintendent of the Gardens and Forest Department, Malacca, a post recently abolished, has been appointed Superintendent of Gardens, Perak.

MADAGASCAN PLANTS.—Rather more than two years ago, Dr. FORSYTH-MAJOR, a Palæontologist of distinction, went to Madagascar, mainly with the view to making a thorough examination of the flora and fauna, fossil, and also of, at least, a portion of the island. In difficult circumstances, owing to the unsettled condition of the country, Dr. FORSYTH-MAJOR was enabled to carry out some solid scientific work. In July last, he returned home, bringing, besides large collections of fauna, a very fine collection of specimens of the flora of the island, including four new species of Orchids. The collections have been deposited in the Natural History Museum, where they will undergo investigation at the hands of the staff.

THE ROSE IN AMERICA.—The variety Belle Siebrecht is obtaining favour with the Americans, although at first they were disappointed with it. It is likely to be much cultivated as a standard plant. Mrs. Pierpont Morgan is not so much thought of, although it is a variety which did very well with its raiser. There is much talk about President Carnot, which will be offered in very large quantities next year, It appears to be an admirable Rose, and one that every one must possess. Mosella is another variety which every grower will endeavour to obtain, and which will be grown extensively as a pot Rose and for planting out. It is one of LAMBERT & REITER'S introductions. The new American Roses, Princess Bonnie and Pink Soupert, appear to please the public; they are good bloomers, but in colour not new. They may make good bedders.

EDINBURGH ROYAL BOTANICAL SOCIETY.—Under the heading "Grants for Agricultural Education," we note that out of the funds entrusted to the Board of Agriculture during the financial year ending March 31 last, sums amounting to £7,850 have been distributed in grants to eighteen institutions. The Edinburgh Royal Botanical Society benefited to the munificent sum of £150 in aid of instruction to working gardeners and foresters.

"THE JAPANESE BOTANICAL MAGAZINE."—This organ of the Tôkiô Botanical Society for July contains articles on the Smuts of Japanese Cereals (continued); on Englena viridis; Mr. H. Kuroiwa's Collection of Liukiu Plants (continued); Plants employed in Medicine in the Japanese Pharmacopœia (continued); and Descriptions of some new Japanese species of Exobasidium.

ACREAGE OF HOPS.—In the "Agricultural Returns of Great Britain, 1896," appears a preliminary statement, compiled by the Board of Agriculture, from the returns collected on June 4, 1896, which shows the acreage under Hops in each county of England in which Hops were grown, with a comparative statement for the years 1895, 1894, and 1893:—

COUNTIES.	1896.	1895.	1894.	1893.
	Acres.	Acres.	Acres.	Acres.
Berks	4	...	11	11
Gloucester	49	38	39	33
Hants	2,494	2,875	2,911	2,795
Hereford ...	6,895	7,553	7,525	7,079
Kent . ..	33,310	35,018	35,520	34,815
Salop . ..	140	150	140	123
Suffolk ..	7	10	17	21
Surrey	1,623	1,783	1,935	1,845
Sussex .	5,927	7,489	7,589	7,326
Worcester . .	3,800	4,024	3,848	3,516
Total .	54,249	58,940	59,535	57,564

HISTORY OF THE FRENCH BEAN.—In a paper on the "History of the French Bean," contributed by M. GEORGES GIBAULT to the *Journal de la Société Nationale d'Horticulture de France* for July, the following *résumé* is given:—1st. The French Bean (Phaseolus), one of the oldest of vegetables, was cultivated in Asia Minor in prehistoric times. It is certain that it existed in Europe in the Middle Ages, consequently before the discovery of America. The hypothesis of the American origin of this vegetable must therefore be abandoned. 2nd. The French Bean was not known in kitchen gardening until the middle of the seventeenth century. Owing to prejudices, or other unknown causes, until this period it was considered to be a very mediocre vegetable. 3rd. It was in 1651, as is stated in a popular book on gardening, that the first use occurs of the modern name Haricot, given to Phaseolus vulgaris, which before bore different names. 4. It is probable, if not certain, that the origin of this latter name should be attributed, by transposition of the name, to the old kitchen expression, "haricot."

ROSE, YELLOW RAMBLER, OR AGLAIA.—Few yellow Roses, with the exception of the Austrian Briar, says *Mechans' Monthly*, are hardy, but this variety of LAMBERT & REITER'S raising is said to

withstand a continued temperature of 2° below Zero Fahrenheit without protection. It is a seedling of the Japanese R. polyantha crossed with the pollen of Rêve d'Or. The flowers are nearly full, of a cupped shape, and of a decided golden-yellow colour. It should not be confounded with ALLISTER'S Stella Gray.

STOCK-TAKING: AUGUST.—The Board of Trade Returns for the past month show as to imports, a fall in values—articles of food duty free and dutiable showing a falling off. In 1895 the imports were valued at £34,587,396—the value for last month being £32,472,622, or a value decrease of £2,114,774—the "made elsewhere" item showing a reduction. Our anti-English friends are welcome to the figures, and to look for them in the Returns for August, just published, from which we make our usual excerpt from the "summary" table as follows:—

	1895.	1896.	Difference.
	£	£	£
Total value	34,587,396	32,472,622	—2,114,774
(A.) Articles of food and drink duty free	12,514,364	11,087,577	—1,426,787
(B.) Articles of food and drink dutiable	2,306,484	1,920,668	—385,816
Raw materials for textile manufactures	2,834,508	2,465,714	—368,794
Raw materials for sundry industries and manufactures	5,056,281	5,036,984	—19,297
(A.) Miscellaneous articles	1,215,758	1,013,188	—202,570
(B.) Parcel Post	73,130	54,774	—18,356

We may observe a falling off in Wheat from the East and elsewhere, and in materials for textile fabrics; these fallings off will correct themselves shortly. In the matter of sugar imports, it is worthy of note that our West Indian fellow-subjects are waking up to the value of modern appliances in competing with producers who are subsidised by the State—folk intent upon supplyiug us with cheap sugar. Some extraordinary figures are to be found in our usual extracts from the Returns connected with the importations of fruits, roots, and vegetables, as follows:—

IMPORTS.		1895.	1896.	Difference.
Fruits, raw:—				
Apples	bush	192,520	208,335	+15,815
Cherries	,,	2,128	5,675	+3,547
Plums	,,	187,389	340,841	+153,452
Pears	,,	195,552	215,392	+19,840
Grapes	,,	151,186	254,361	+103,175
Unenumerated	,,	224,368	332,452	+108,084
Onions	,,	534,712	497,846	—36,866
Potatos	cwt	97,314	51,093	—46,221
Vegetables, raw, unenumerated	value	£170,860	£127,931	—£42,929

The masses are certainly reaping the fruits of these imports, "from Maidenkirk to John o'Groat." The plus (+) figures in the table above given, receive point in nearly every London street; and the "informal markets" of the metropolis are in many cases littered over with foreign fruits of all sorts, in many instances of very good quality. It may be noted that the imports for the past eight months exceeded those of the same period last year by £9,936,055. Turning now to the

EXPORTS FOR AUGUST,

we find a slight decrease, as compared with August, 1895, amounting to £179,929, the reasons for which are readily apparent as to need no explanation here. The increase in the eight months is represented by £13,480,576—not bad, as things go. Our Russian friends interested in horticulture and agriculture are getting to be tired of the tariff which prohibits the introduction of all kinds of machinery useful in the profitable carrying on of these industries. The dues are supposed to be for the benefit of Russian industry, but the home manufacture is carried on by foreigners with capital, not Russians, and it is contended that the abolition of protection would be a benefit to the entire community. A petition to the CZAR set this forth at length, and we may hope to find our own machine-makers shortly restored to the position they once enjoyed in the Russian markets. Whilst noticing foreign markets, it may not be out of place to draw the attention of manufacturers at home to the necessity of sending out linguists to foreign markets—men understanding the language of the people whose wants they wish to supply, men who will study the requirements of their customers, even to supplying them with a price-current printed in the language, and with the weights and measures of the folk whose trade they desire to secure; they do not do so at present.

MARRIAGE OF MR. JAMES KELWAY.—The marriage of Mr. J. KELWAY, son of Mr. W. KELWAY, nurseryman, Langport, Somerset, with Miss ELLA CHRISTINE STUBBS, only daughter of the Rev. J. STUBBS, vicar of Huish Episcopi, Somersetshire, was solemnised at St. Mary's Church, Huish, on the 3rd inst.

RUSSIAN NATURALISTS, ETC.—Kief has been selected as the place of meeting of the tenth Conference of Russian naturalists and physicians. The Conference will last from August 21 to August 30, 1897. A grant of over £100 has been contributed by the University of St. Vladimar in Kief towards the expenses.

PUBLICATIONS RECEIVED.—*Bulletin of Miscellaneous Information* for March and April, from the Royal Gardens, Kew.—*Botanical Magazine*, No. 621, *Vol. LII.*—*Journal of Botany.*—*Entomological Notes for the Young Collector.* By WILLIAM A. MORLEY (ELLIOT STOCK, 62, Paternoster Row, E.C.).—*The Book of the Dairy.* By W. FLEISCHMANN, Ph.D., translated from the German by C. M. AIKMAN, M.A., and R. PATRICK WRIGHT, F.H.A.S., &c. (BLACKIE & SON, London, Glasgow, and Dublin).—*Seventh Annual Report of the Missouri Botanical Garden.*—*Die Tierparasitären Krantheiten der Pflanzen.* By Dr. A. B. FRANK (published by VON EDUARD TREMENDT, Breslau).—*Proceedings of the Forty-first Annual Meeting of the Western New York Horticultural Society.*—*Some New South Wales Plants worth cultivating for Shade, Ornamental, and other Purposes.* By J. H. MAIDEN (published by the Department of Agriculture, Sydney).—*Proceedings and Journal of the Agricultural and Horticultural Society of India, April to June.*—*Bulletin of the Botanical Department, Jamaica.*—*Report on Wheat Growing, and Agriculture generally in Australia, New Zealand and Tasmania.* By WALTER HALSE and J. D. J. VISSER (published by the Department of Agriculture, Cape of Good Hope).

PLANT PORTRAITS.

CACTUS DAHLIA "PRINZESSIN VIKTORIA LUISE," a plant of low stature, very floriferous, long, strong flower-stalk, rosy-carmine, Taff 1430, *Garten Flora*, September 1, 1896.

COTYLEDON BARBEYI, a plant of regular growth, excellent for carpet bedding and room culture. Introduced by Prof. Schweinfurth, from Abyssinia. The entire plant hoary, with broad, spatulate, fleshy leaves; flowers coloured olive-green and red. Hort. Dammann, *Garten Flora*, September 1, 1896.

HYPERICUM KALMIANUM, *Meehans' Monthly*, August.

ODONTOGLOSSUM CRISPUM VAR. ANGUSTUM, *L. Linden, Lindenia*, t. DXXIV.

O. CRISPUM VAR. ASHWORTHIANUM, *Lindenia*, t. DXXII.

HOME CORRESPONDENCE.

MELON ANTHONY'S FAVOURITE.—This pretty-looking variety was raised by Mr. M. Empson, gardener to the Hon. Mrs. Wingfield, Ampthill House, Beds, and is a cross between the Hero of Lockinge and Sutton's Masterpiece. It is scarlet-fleshed, rich in flavour, and ripens to the rind. Fruits were presented so late as October 29 of last year to the Royal Horticultural Society's Fruit Committee, when an Award of Merit was granted. The variety was again shown to the committee on July 9 last, when it was awarded a First-class Certificate. That was an unusual honour for a Melon, and shows its constant character. Anthony's Favourite is a free setter, and does equally well in hotbed-frames or houses. *D.*

HECKFIELD PLACE.—Through the exceeding kindness of Mr. McHattie, of Strathfieldsaye, I was very recently enabled, after several years' absence, once more to revisit that beautiful place, Heckfield, and see, even now, how the soul of the late W. Wildsmith still lingers, as it were, and even directs the progress that is here found. Mr. A. Maxim, who succeeded him, and who was one of his pupils, is, now that the estate has passed into the hands of Colonel Walpole, maintaining not merely the old style, but the old form in a marked degree. Of real change there seems to have been very little, but there does seem to be as much of excellence and of beauty throughout each department as ever. The terrace-gardens are still very lovely, so also is the well-known broad walk in the kitchen-gardens, lined on either side by a fine Cupressus Lawsoniana hedge, which is now, as heretofore, faced by Dahlias in variety. The Pinuses in the pleasure-grounds have grown into noble specimens, though none is unduly crowded; but the same old and fine expanses of undulating lawn still exists. In the houses, fruit seems to be as well done as ever. The Early Hamburgh house, where formerly Mr. Wildsmith always found so much difficulty in retaining colour, now is on its good behaviour. The roots of the Vines have been lifted, and the Grapes, now really a fine crop, are as black as can be desired. Gros Colmar, Appley Towers, and Alnwick Seedling now occupy one side of the old Lady Downes' span vinery, and there are some fine bunches of these varieties hanging. Peaches, Nectarines, and Apricots, all have been fine crops, or are so yet; and Pears, even on the arched cordons over walks—a very charming way of growing them, not often seen—are excellent also. Vegetable-growing is of the best, and the place is very neat. It was to me specially pleasant to find that these beautiful gardens, so long famous for their excellence, were so admirably kept. *A. D.*

OUTDOOR PEACH CULTURE.—Although there are myriads of examples of good Peach culture outdoors on walls to be found in the kingdom, yet have I nowhere seen a more perfect one since the best days of the Peach-wall at Ditton Park, Slough, than was shown me in a garden of moderate dimensions, that of Park Corner, the residence of Mrs. Martineau, Heckfield, just recently. The wall, which, of course, faces south, is 100 feet long, and 9 feet in height. Throughout it is entirely covered with wood and loafage, and strong growth, too, so that every year large crops are taken from the trees. The gardener, Mr. Wells, is entitled to all praise for the excellence of his training and culture, for it is evident that only lack of wall-space prevents him from having a Peach-wall double or treble the length, and as good throughout. The soil is a light black loam on gravel, very porous, and needing plenty of water and mulching. The remarkable way in which, with only moderate supplies of rather hard water the intensely dry season with all its troubles of soil and atmospheric drought, has been surmounted, reflects high credit. Lord Napier, the first tree, is the only Nectarine. Then comes Sea Eagle, Royal George, an older and noble tree, 25 feet long; Alexander, Crimson Galande, and Violet Hâtive. The Royal George was planted many years since, the rest just fourteen years ago. The border is about 8 feet wide, and is not heavily cropped, whilst manurial mulchings are given to the trees 2 or 3 feet in width. There is not a spider-affected leaf to be seen, and the fruits left were not only very fine, colouring up well, but they were luscious and of the finest flavour. Thus it is evident that grand crops of Peaches may still be obtained outdoors in Old England.

RUNNER BEANS.—It is surprising to learn, as I did from an estimable Scotch gardener the other day, that Scarlet Runner Beans are yet held in low repute in Scotland, and in many parts are hardly regarded as a desirable vegetable. That may be to some extent due to prejudice, but largely also, no doubt, to the fact that green Peas may be had over a very long season in the North. Here, southwards, we regard the Runner Bean so highly that good samples constitute a strong point in collections of vegetables, and gardeners who have to supply private establishments find them to be of great value. However, that is all old history. But the remarkable improvements effected during the past fifteen years have been great, and now Scarlet Runners are singularly perfect. The long, green, narrow Ne Plus Ultra type has quite superseded not only the old short-podded forms, but also the giant broad-podded section, and now the earlier forms of Ne Plus Ultra are being superseded by finer selections. Rarely have finer or handsomer pods

been seen than were presented at the Co-operative show at the Crystal Palace this year. Still, too many of the samples were too large, too long, and even old, for cooking. The very best selection I have seen, so wonderfully true in relation to every pod, large or small, not as seen in competitive dishes, but growing on the plants, is Sutton's Best of All. Probably it is a name that is merited, as it seems difficult to improve the stock. The young pods, when from 6 to 7 inches long, hanging, as I saw them the other day, on a long line at Maiden Erlegh, and every one alike, form, in my estimation, the most desirable Beans for consumption. We allow our Runner Beans to hang too long, to become too large, then slice them up so that when cooked they are unrecognisable; whereas they should be gathered much younger, and after being strung if needed, should be cooked whole. Certainly the newer types have denser flesh than the older and more generally discarded varieties. *Vegetarian.*

FLOWER-POT DRAINERS. — This is a patent article, and consists of an earthenware colander for placing at the bottoms of flower-pots, and it is claimed for it that it is clean, convenient, simple, economical, and durable. The idea is not a new one. There is an improvement upon this, in which the drainer, being made of non-corrosive aluminium, is practically indestructible. The drainer is of sufficient depth to supply the necessary outlet for the water, being perforated with small holes of a size which will prevent the ingress of worms. Those amateurs who have at times but little leisure for potting plants, and know the labour of breaking up crocks for drainage, would find in the new drainer a saving of labour, as all that is required is to cover the hole with the drainer, over which a little moss or Cocoa-nut fibre may be placed. The presence of worms in the soil in which potted plants are grown is a source of annoyance at times, and the drainer prevents them getting into the soil from the outside. *R. D.*

IPOMŒA VERSICOLOR.—This is employed by Mr. E. Beckett at Aldenham House, Elstree, with excellent effect. He has it trained to poles in his mixed beds, but secures the best effects by having it on the cool northerly side of his cottage planted against the wall, where it twines itself about strings suspended for the purpose. It is blooming freely, forming numerous racemes of crimson flowers edged with gold, and deepening to orange. A native of Mexico, it was at one time much grown, but has now fallen greatly into neglect, and yet, as employed by Mr. Beckett, it is very showy, continuing for a long time in bloom. It can be readily raised from seeds in spring, helped by a gentle warmth, and when sufficiently hardened off, and the weather is favourable, it can be planted out where it is to flower. *R.*

A VARIEGATED-LEAVED HONESTY.—This form is by no means new, but Mr. Beckett has some examples in the gardens of Aldenham House very handsomely variegated with creamy-yellow; and associated with darker purple-coloured flowers than is usually seen. Large and well-grown specimens dotted about the hardy flower borders are very effective, and challenges notice by the force of the contrast of foliage and flowers. It appears to come true from seed, but in order to fix a good type, it should be grown quite apart from the green-leaved form. The Honesty is a very showy free blooming plant. *R.*

THE ABUNDANCE OF FIELD MUSHROOMS.—The recent rains, after the severe drought, have, in this district, been productive of what I consider a phenomenal crop of Mushrooms—the pastures are almost covered with the fungus. As a point in fact, I know of over 3 bushels being gathered from a field of less than 5 acres area in one morning, and only the large ones taken, the small ones and "buttons" being left. This last week they have been almost unsaleable in the local markets, the excessive quantity causing them to be quoted as low as 3 lb. for one penny. One feature noticeable in the fungus itself this year is the colour of the skin, which is white as snow. *F. Tugwood, Leighton Gardens, Iron Bridge.*

THE STREPTOCARPUS AS A SPECIMEN PLANT.—We are accustomed to see at exhibitions collections of improved forms of the Streptocarpus as freely-bloomed small plants, and in this way they are very effective; but it can also be grown into fine and imposing specimens, as could have been seen at Aldenham House, Elstree, where Mr. E. Beckett had a number of very fine examples growing in large flower-pots, which bloomed most abundantly. I do not know whether the remarkable size, stoutness, and symmetry of the blossoms were due to the particular strain, or to culture alone, the latter probably having most influence. Such plants are real specimens, and some of the blossoms almost rival, in size, those of the pendent Gloxinias. The plants were two and three years old. I was much pleased with a white variety with bold black pencilling on the lower segments; and also one having blossoms of a crimson-puce colour, which seemed both new and distinct. *R.*

MAIZE, OR INDIAN CORN.—I had often seen Maize growing in England as an ornament, but some years ago, when I went to live in Canada, I saw it growing in almost every garden, and heaps of the culms in the market, besides what the farmers grew for their cattle, pigs, and fowls, and everybody delighted when the corn was ready for use. I tasted it, and found it delicious, and when afterwards I had a big garden of my own, and could have as much as ever I liked, I wished that I could send some for my friends in England to taste. And when I came over to England on a visit, I inquired why they did not grow it as a vegetable, and was told that it would not grow properly in England. About a year ago I was coming to England again, and thought I would bring some "corn," and try to grow it, but could not get the kind of seed I wanted; however, a friend promised to send me some in the spring. One day at the railway-station, I was reading Carter's big seed advertisements, when the thought occurred to me that I would go and ask why corn was not used in England as a vegetable; and in less than an hour found myself in their grand establishment in Holborn discussing its merits, and it was agreed that if I sent for the seed, it should be tried in their trial-grounds at Mortlake. And now the summer has come and gone, and the Maize is ready to use, proving that it can be grown in England. Of course, the summer has been hot and favourable. It might not do well in the North, but I think the people of the South of England should give it a fair trial, and if it proves a success it will be a wholesome and valuable addition to the list of table vegetables. *A. M. O.* [The entire head of Indian Corn our lady correspondent brought for our inspection was of large size, with the grains just beyond the milky stage, and fit for consumption on being cooked. The actual culm furnished with grains measured 5 inches. ED.]

PANSIES IN POTS.—During the time I lived with the late Mr. G. Gaines, of Battersea, we always grew our show Pansies in pots. This practice had some advantages. The pots were placed in open frames, and could be covered with lights during bad weather. The plants could be watered with judgment, and the flowers easily thinned and shaded if requisite. They were also kept free from slugs, wire-worm, earwigs, &c., more easily, and they produced far better blooms than those grown in the open ground. No doubt culture in open beds produces more vigorous plants, and a more profuse bloom, with less care, but I am convinced that more perfect specimens can be grown in pots. Pansies grown for exhibition as cut flowers should first be placed in small pots, and shifted into 6 and 7-inch pots when ready. There is so much difference in the constitution of varieties of Pansies, that pots of the same size are not suitable for all. Whilst some make a robust growth, others do not, and these require a smaller pot. In pot culture charcoal is very essential to the foliage, and to brightness of colour in the flowers. It should be broken up into pieces about the size of horse beans, and may be used as dust also. The pots should be well crocked, and over these some of the rougher portions of the soil and manure should be placed. The soil used may consist of well decomposed fibrous loam, rotted cow and horse-manure, and small quantities of leaf-mould, coarse sand, and charcoal. Plants for early flowering should be potted up from the open ground in October, selecting good sturdy plants. To produce a general display, Pansies may be grown in any sized pot, from 5 to 8 inches, and should receive their final shift early in February. Some who have not grown the Pansy in pots may have little idea of the profusion of really gay flowers they will produce under such conditions; and with proper attention, the same plants will continue to flower for at least three months. At the time of which I am writing, Pansies in pots were exhibited at Chiswick for prizes, and a fine display they made. The plants may have from three to six shoots each, which will depend on the purpose they are required for, whether for cut flowers or decorative purposes. If for cutting, three will be sufficient if extra fine flowers are required, and to keep them to these shoots, a number of small ones must from time to time be removed; this will strengthen the main shoots, and give cuttings for stock. Keep the plants as near the glass as possible, and the frames open whenever the weather is favourable, either by pulling off the lights or tilting them. Attend carefully to watering, and as the plants become strong, an occasional use of weak manure-water and soot may be made. Train the plants into shape as growth progresses, and unless required for seed, remove all decaying flowers. The propagation of the Pansy is a simple operation, and almost any bed or border will answer for planting out the young stock. From such stock the most healthy plants should be selected for potting. *Edward Bennett, Queen's Road, Egham.*

LAW NOTES.

GARDENERS' TRADE CUSTOMS IMPUGNED.

A PROSECUTION of importance to gardeners and fruit and vegetable growers, and which was followed with interest by a large number of the principal market gardeners in West Middlesex, was commenced last Saturday before the Brentford Justices. Mr. Alfred Reffell, of Staines, Kew Bridge Market, and elsewhere, was summoned under the Weights and Measures Acts, by Inspector W. Tyler, for having used in trade a measure not duly stamped. John Mason, the evidence showed, on July 22 asked Mr. Reffell's salesman at the market the price of Peas a bushel, and being told, bought a bushel. They were measured in a bushel basket and tipped direct into Mason's cart. The inspector, who was standing by, then seized the basket as an unstamped measure, and therefore illegal, at the same time he offered Mr. Reffell's salesman a chance to test the basket by a qualified measure, or to come to his office to get it stamped, neither of which chances were taken. The point he emphasized was, that the baskets being used as measures must all be stamped by the proper stamp, and certified as correct. It had been held, if a glass were used to measure liquid, it must be stamped, and he held this would apply to every measure. He would, however, go so far as to say if a gardener had a fully-qualified and stamped measure on his place of business, so that it could be called into use if necessary, he would be satisfied; but here there was none, nor could one be found in the market. The defendant, Mr. Reffell, stated the measure was a sieve, and was used as such in the trade, but the inspector at once told him such a denomination was illegal. A sieve was not recognised by the Act. Mr. Reffell further added it was the custom of the trade not to sell by measure, but for buyers to take the baskets of fruit as they saw them. Mostly the baskets held more than a bushel. The chairman of the Bench told him this again was illegal. Custom of trade could not over-ride the law, which required that all things should be sold by measure. Mr. Reffell added no one would deal with him if he sold by measure. The chairman rejoined that could not be helped. The law was very clear. Mr. Wm. Poupart was called as to the trade custom. He had never heard of such a prosecution. No one in the trade sold by measure, and he believed the only things he was bound to measure were Potatos. If fruit was to be tipped in and out of the measures, it would become damaged and useless; and, moreover, if baskets had to be stamped, there would be more confusion than ever, and they would have to be tested and re-stamped every week, as they were constantly getting out of shape by being pushed in. Replying to one of the Bench, he said that if a person expected him to weigh any stuff, he should tell him to "trot off." He would not serve him. The Clerk of the Court told him he would be bound to do so. The law demanded it, and every person had a right to know he was being justly served with what he ordered. Mr. Poupart observed that that would ruin the whole business. The Bench ultimately adjourned the hearing for a week, in order that both sides might go into the legal bearings of the point, and a large number of growers are anxiously awaiting the outcome of the prosecution and the point involved.

THE TERMINAL BUD IN CHRYSANTHEMUMS.

A terminal bud is thus named because it terminates the growth of a shoot. Terminal buds are the best ones to secure when growing bush-plants for the production of a quantity of blooms, or upon plants that are required for late blooming. When the object is to produce large blooms, this bud is not satisfactory, because the flowers from such are much too small except in a few instances. In the north of England terminal buds are formed too late to be of any use except for late decorative purposes. In the south, however, there are a few varieties in the incurved section that will give from terminal buds perfectly-formed flowers, if somewhat smaller in size. Take, for instance, the several varieties belonging to the Queen of England type, but excepting Golden Empress and Mrs. Robinson King. Plants of any such varieties but the two last-mentioned that form crown buds too early in August, or before the 15th, may be allowed to run on to the terminal, and they will give compact and highly-coloured blooms by the middle of November. If huge examples are required, however, terminal buds must not be depended upon. Many cultivators prefer medium-sized, high-coloured blooms, and from terminal buds these are most easily obtained. Prince Alfred, and its sport, Lord Wolseley, succeed upon terminal buds in the south. This bud forms in the south usually about the middle or end of September, and some even as late as the middle of October, but in northern counties they are not produced until the latter date.

If the cultivator does not wish to allow a plant to bloom from the crown bud, this should be cut off, and the growths which start just below that point, as illustrated in fig. 59, may be allowed to extend. These shoots will later produce terminal buds. If large blooms are required, those buds indicated by the dotted lines must be removed, or as many of these as is thought needful. Directly the central bud can be distinguished from those at the sides, which in their early stage cluster around the centre one, the superfluous buds should be removed. If the attempt is made too soon, however, the principal bud may be damaged. A small penknife is the best instrument to use for this purpose. The centre bud always develops into the largest flower. *E. Molyneux.*



Fig. 59.—showing the "terminal" bud in chrysanthemums, and how to remove the others at the points marked A, B, C, D.

SOCIETIES.

ROYAL HORTICULTURAL.

September 8.—The last of the fortnightly meetings of this society, previous to the great fruit show to be held at the Crystal Palace on October 1, took place on Tuesday last in the Drill Hall, James Street, Westminster.

The exhibits were again of a very extensive character, and the hall was well filled. The show was undoubtedly more remarkable for Dahlias than any other feature, for exhibits of the flower were present in all parts of the hall, consequently the effect was a very bright one indeed. Awards were given to new varieties in many instances. There was a fine collection of Gladiolus, a strain exhibiting very great merit, from the establishment of Messrs. J. Burrell & Co., Cambridge, which was quite appropriate upon an occasion when Mr. Burrell was to deliver a lecture upon this flower.

There were numerous exhibits of plants and fruits, and Certificates were awarded to several novelties.

Floral Committee.

Present:—Jno. Fraser, Esq., in the chair; and Messrs. Jno. Laing, H. B. May, H. Herbst, R. Dean, Geo. Stevens, Jas. Hudson, H. Selfe Leonard, W. Bain, J. Fraser, J. D. Pawle, Geo. Gordon, Chas. E. Pearson, Geo. H. Engleheart, J. T. Bennett-Poë, E. Beckett, Ed. Mawley, H. H. D'Ombrain, R. M. Hogg, Chas. Jeffries, and H. Turner.

A large exhibit of Liliums and Gladioli was made by Messrs. Wallace & Co., Colchester. This included many varieties of L. speciosum; and L. Henryii and L. tigrinum were shown. Montbretias and Gladioli, too, were included in considerable quantities (Silver Banksian Medal).

A group of early-flowering Chrysanthemums was staged by Mr. J. H. Witty, Nunhead Cemetery, S.E.; it was faced with a deep band of Adiantum Ferns (Silver Banksian Medal). A few Ivy-leaved Pelargoniums trained flat upon wires were shown by Mr. C. Holden, Butt Lane Nursery, Hinckley.

A group of Crotons upon the floor from Mr Darnell, Devonshire House, Stamford Hill (gr., Mr. Davies), was composed of excellently-coloured plants of varying size, which were backed by a line of fine Palms. The exhibit was a very good one (Silver-gilt Banksian Medal).

Mr. T. S. Ware, Hale Farm Nurseries, near Tottenham, arranged a group of plants in flower which possessed a very pleasing effect. It contained several varieties of Lilium and early-flowering Chrysanthemums. The background consisted of graceful Bamboos, and it was faced with Fatsia japonica and large clumps of Isolepis gracilis (Silver Banksian Medal).

A tastefully arranged group of miscellaneous plants was exhibited by Messrs. Jno. Laing & Sons, Forest Hill Nurseries, London, S.E. This included many choice and well-coloured Crotons, Dracænas, and other ornamental foliage plants. Some Streptocarpus in flower, Odontoglossum grande, and a few Gloxinias, served to further brighten the collection (Silver Flora Medal).

Mr. Geo. Wythes, gr. to Earl Percy, Syon House, Brentford, staged a very large group of stove foliage plants and Nepenthes. The plants were placed on the floor of the hall, and extended about half its length. A great number of Crotons were employed, but were interspersed with many other species of plants. The front had a wavy outline. Among the Nepenthes there were excellent specimens, with fine pitchers, of N. mixta, N. Mastersiana, N. Rafflesiana, N. Curtisii, N. Curtisii superba, N. Hookeriana, and N. H. elongata (Silver Flora Medal).

Mr. Walter Salmon, Ivy Cottage, Elder Road, West Norwood, was awarded a Bronze Flora Medal for a very commendable group of cut flowers of hardy species.

Sir Trevor Lawrence, Bart., Burford, Dorking (gr., Mr. Bain), exhibited three good plants of Lobelia Carmine Gem, a variety that was given an Award of Merit at the last meeting. On the present occasion a First-class Certificate was awarded; the plants were from 3 to 4 feet high, very bushy, and possessed numerous fairly sized spikes of carmine-coloured flowers. He also showed three sweet-scented varieties of Begonia rosea, named B. r. delicatissima, with semi-double flowers of a fawn pink colour; B. r. odoratissima, with semi-double flowers of a bright pink; and B. r. plena, a very beautiful flesh-coloured flower, measuring 3 inches across; average height of these plants was 20 inches. The last named variety received an Award of Merit.

Messrs. J. Burrell & Co., Howe House Nurseries, Cambridge, made a magnificent exhibit of cut spikes of Gladioli. Very many seedlings and new varieties were included in the exhibit, and Awards of Merit were granted to the following trio: Apollo, an immense flower, in which the prevailing colour is flesh, but sulphur and rose are present in slight degree; Painted Lady, also a large flower, and of a somewhat bizarre appearance, through the confluent veining of rosy-red; and Alicia, a very handsome variety with almost white flowers, having purple markings in the base of interior and upon lower petal. On the spike shown there were ten open blooms of large size, beside buds. In addition to these, however, there were many other seedlings of the highest strain possible, the largest flowered of which was one named Victor (Silver-gilt Flora Medal).

Messrs. Young & Dobinson, Stevenage Nurseries, Herts, exhibited cut flowers and Tomatos.

Three very pretty epergnes of yellow Marguerites, arranged with suitable foliage, also bouquets and button-holes made with various flowers, were shown by Miss Ellen Salmon, West Norwood (Silver Banksian Medal).

Messrs. Jas. Veitch & Sons, Royal Exotic Nursery, Chelsea, exhibited a quantity of sprays of Cratægus pyracantha Lelandi, literally covered with its orange-coloured berries. They also showed a fine Fern, Polypodium neriifolium cristatum, a handsome variety, with arching fronds, 3 feet long, with widely-set long broad pinnæ, stipes brownish-green (First-class Certificate). They showed likewise Begonia eudoxa, an ornamental leaf variety—a hybrid between B. decora × and B. Burkei ×. The leaf is covered with small silvery spots of about one size; and a golden form of Cedrus deodara they also showed.

Acidanthera bicolor. It has white flowers, consisting of five segments, ½ inch broad in middle, 1½ long, with a patch of purple at the base of each; perianth tube, white and slender, 3 inches long. The flowers appear on one-sided caulescent sprays, which have a height of 15 inches. It is quite hardy at Coombe Wood (First-class Certificate).

Mr. W. Bull, New Plant Establishment, Chelsea, showed Maranta picta, Dracæna Rex, a large growing, broad-leaved species from Brazil, with leaves having broad bands of creamy white on each side of the central green stripe—good and distinct; Aralia triloba, a plant from New Caledonia, a tall, slender species, with trifoliate leaves, 1½ foot long, the petiole 4 inches long, set alternately on the stem, which was unbranched (First-class Certificate)

Flowers of Nerine sarniensis came from Mr. J. Crook, gr., Foorde Abbey; and Centaurea americana from Mr. G. Bunyard, Royal Nurseries, Maidstone.

Aster J. Harris was shown by Mr. G. H. Sage, gr. at Ham House, Richmond, a bright-looking, almost white flower, having a light yellow-coloured pappus or disc.

Campanula Balchiniana was shown by W. Balchin & Son, nurserymen, Hassocks, Sussex. It is of the C. fragilis type; leaves green, bordered with white, and the flowers of a light blue colour, numerously produced (Award of Merit).

Mr. Fyfe, gr., Lockinge, showed Helianthus annuus

Lockinge Favourite, a cross between H. a. and H. argophyllus. The flowers are intermediate in size, excepting the disc, which is comparatively quite small, 1¼ inch (Award of Merit).

Mr. R. OFFER, gr. Handcross Park, Crawley, showed a seedling Dracæna named Warreni out of D. Gladstone and D. vivicans. The plant had narrow, bronzy leaves, the younger ones striped with crimson colour; the leaf-stalk also crimson, and the length of the leaf 2 feet—a fine showy variety (Award of Merit).

Lady EMILY FOLEY, Stoke Edith Park, Hereford (gr., Mr. G. Ward), showed Adiantum capillus cunæformis, a fine piece growing in a pot, and having a height above the soil of 1½ foot, and width of 3 feet (Award of Merit).

Mr. LADHAMS, Shirley Nursery, Southampton, showed Heliopsis scabra, B. Ladhams, and a variety of Pink, &c.

Mr. F. W. BURT, gr. to F. RECKETT, Esq., Caen Wood Towers, showed a group of stove plants, and was awarded a Silver Banksian Medal.

Messrs. DOBBIE & Co., Rothesay, again made an exhibit of Asters of such varieties as were remarked at the last meeting (Silver Banksian Medal).

DAHLIAS.

Mr. S. MORTIMER, nurseryman, Rowledge, Farnham, exhibited Dahlia blooms, including about 160 flowers; only Cactus, show, and decorative varieties were represented, and these were very good (Silver-gilt Banksian Medal).

Messrs. JONES & SONS, Shrewsbury, exhibited Dahlias in many diverse forms, bouquets, stands, and other devices, most of which were good; but the largest and most prominent was unfortunately of an opposite character (Silver Banksian Medal).

Messrs. KEYNES, WILLIAMS & Co., Salisbury, showed a small collection of Dahlia blooms, receiving several awards, which may be seen in another paragraph.

An effective display of Dahlias was staged by Mr. THOS. S. WARE, Hale Farm Nurseries, Tottenham, single-flowered Cactus, and decorative as well as show varieties were well shown in sprays (Silver Flora Medal).

Mr. J. T. WEST, Tower Hill, Brentwood, exhibited another display of Dahlias, consisting for the greater part of show varieties, but there were some good Cactus flowers in sprays, and Pompons also (Silver Flora Medal).

An exhibit of the best varieties of single-flowered Dahlias and seedlings was shown by Mr. T. W. GIRDLESTONE, Secretary of the National Dahlia Society. Several of these seedling varieties were the subjects of awards (Silver Banksian Medal).

Pompons and Cactus-flowering Dahlias were exhibited by Mr CHAS. TURNER, Royal Nurseries, Slough, several of these being new varieties of exceptional merit.

Messrs. J. CHEAL & SONS, Crawley, were awarded a Silver-gilt Banksian Medal for an extensive group of Dahlia blooms, including almost all the types. Several of the best varieties of the single Cactus form were noticed.

CERTIFICATED DAHLIAS.

Awards of Merit were made to show Dahlia Daniel Cornish (J. T. WEST), a large, full, and distinct backrow flower, the colour dull red, paler on the edges, novel in character, and likely to be very useful as a show variety. Robert Fyfe, from the same raiser, in the way of Sunbeam, but with clearer yellow on the surface, and a deeper tint of colour on the reverse of the petals, will also make a useful show variety. Fancy varieties of Mabel (G. ST. PIERRE HARRIS) was scarcely in such good character as at the Crystal Palace last week, still, worthy of the award made to it. Queen of Autumn, by the same raiser, was likewise less attractive than at Sydenham, and failed to obtain an award.

New varieties of the Cactus type were numerous. Awards were made to Mrs. Leopold Seymour, in better character than at the Crystal Palace; and Mrs. Gordon Sloane; also to Harry Stredwick, shaded crimson with maroon centre, a true Cactus variety, distinct, and of great merit—all from Messrs. J. CHEAL & SONS. To Starfish, Cinderella, bright pale purple, the centre shaded with maroon, distinct, and of fine quality; Flossie, the ground colour a mixture of yellow and salmon, the florets deeply tinted with fiery cerise, very distinct in colour, and of the true Cactus shape; and Cycle; all from Messrs. KEYNES, WILLIAMS & Co. Keynes' White was not in such good condition as at the Crystal Palace; and Bridesmaid, much in the way of Mrs. Leopold Seymour, lacked the refinement of the latter. To Fantasy (BURRELL & Co.), as some doubt was expressed at the Crystal Palace as to the length of stem, the exhibitors on this occasion brought up two dozen blooms to show that its length of stem is all that can be desired; the distinct, incurved, crab-claw-like character of this showy variety is most remarkable. To Iona (C. TURNER), very distinct in colour.

Some charming new Pompon varieties were staged, and Awards of Merit were made to Phryne, golden ground, edged with reddish-brown, the marginal colour well defined, exquisite shape; Dagmar, maroon, with a shading of crimson, distinct, and of fine shape; Guinevere, and Adrienne, deep orange, with shaded centre, each petal having a slight tip of gold, from Mr. C. TURNER.

Five Awards of Merit were made to single varieties shown by Mr. T. W. GIRDLESTONE, viz., Trilby, Naomi Tighe, Folly, Jeannette, white, with side-margins of orange-red, very pretty; and Polly Eccles, all excellent additions to the choicest exhibition varieties.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. Jas. O'Brien (Hon. Sec.), H. Ballantine, A. H. Smee, J. Gabriel, T. Statter, T. W. Bond, W. B. Latham, E. Ashworth, H. J. Chapman, W. Cobb, J. Jaques, J. Douglas, and S. Courtauld.

Messrs. J. VEITCH & SON, Royal Exotic Nursery, King's Road, Chelsea, staged a most effective and interesting group, in which all the exhibits were marked by excellence and good culture. Their novelty of the day was Cattleya × Euphrasia (C. superba ♂, C. Warscewiczii ♀), a very handsome hybrid, with well formed flowers. Sepals and petals rich bright rose; lip as showy as that of C. Warscewiczii, and of much the same purple-crimson hue, the throat being pale yellow, with dark red lines at the base (Award of Merit). Still more showy, and with some resemblance to the before-named, was Lælio-Cattleya × calistoglossa var. ignescens (C. Warscewiczii ♀, L. purpurata var. ♂), and fine examples of L.-C. × Nysa, L.-C. × Pallas, Sobralia × Veitchii, Cypripedium × Phædra, C. × Brysa, C. × œnanthum superbum, and other Cypripediums well represented the better known hybrids. Among other noteworthy things were a specimen of the small scarlet Lælia monophylla, with twenty flowers; a fine form of Lælio-Cattleya × Schilleriana, the pretty and rare carmine and white Saccolabium Hendersonianum, with two spikes; Odontoglossum Bictonense sulphureum, which seems to be the same as that which has been known as the best form of O. B. album, lip pure white, the other segments being greenish-yellow; Cattleya bicolor, C. Loddigesii, and other Cattleyas; good plants of the Swan Orchid (Cycnoches chlorochilon), Odontoglossum Harryanum, Miltonia Roezlii, &c. (Silver Flora Medal).

On the other side of the stage, Messrs. F. SANDER & Co., St. Albans, arranged a group, in which the centre consisted of a very fine Zygopetalum maxillare Gautieri, and around it Cattleya granulosa, C. Harrisoniæ, a good panful of Habenaria militaris, Burlingtonia fragrans, Cœlogyne Micholitzii, Dendrobium bracteosum, Cypripedium × Regina'dianum, C. × Calmsac, &c.

Of new plants, Messrs. SANDER showed Maxillaria striata grandiflora, flowers whitish with purple lines, and larger than that previously shown from Glasnevin (Award of Merit); and Cypripedium × Rothwellianum (Argus × Stonei), with showy flowers, the petals greenish with large chocolate blotches, dorsal sepal greenish-white with faint purple lines, and the face of the labellum of a dull rose colour.

Messrs. B. S. WILLIAMS & SON, Victoria and Paradise Nurseries, Upper Holloway, N., showed a good specimen of the old Arachnanthe (Vanda) Lowei, with a long raceme of flowers, with three yellow basal ones, which it is interesting to note that those who have tried fertilising the species say are the only ones which can be set for seeds. The plant not being previously recognised, secured a First-class Certificate. Messrs. WILLIAMS also received a Silver Banksian Medal for a group containing excellent examples of Pescatorea Klabochorum, P. Lehmanni, Pachystoma Thomsoniana, Oncidium dasytyle, Angræcum citratum, Cypripedium Charlesworthi, C. × Adonis, C. tonsum, C. × œnanthum superbum, &c.

Baron Sir H. SCHRODER, The Dell, Egham (gr., Mr. H. Ballantine), showed a charming plant of the beautiful Sophro-Cattleya × Veitchii (S. grandiflora ♀, L.-C. × elegans) with showy ruby-red flowers with a yellowish tinge, and with the veining very prominently displayed (Cultural Commendation).

NORMAN C. COOKSON, Esq., Oakwood, Wylam-on-Tyne (gr., Mr. WM. MURRAY), again sent his fine hybrid Lælio-Cattleya × Clive (L. præstans × C. Dowiana), which he first exhibited at the Royal Horticultural Society in August, 1893; it most nearly resembles L.-C. × Ingrami (L. pumila Dayana ♀, C. Dowiana ♂), and the more recently shown L.-C. × Broomfieldiense would appear to be a variety of L.-C. × Clive. The sepals and petals were rosy-lilac, the large expanded lip dark purple in front, which deepens to maroon in the centre, the tube showing some orange blotches (First class Certificate); also Lælio Cattleya × Bryan (C. Gaskelliana × L. crispa), a handsome hybrid, resembling a broad-petalled L.-C. × Exoniensis, and having a fine purple-crimson lip (Award of Merit); and two plants of Cattleya × Hardyana—Cookson's hybrid (C. Warscewiczii × C. Dowiana), which were lighter in colour than the imported form.

C. L. N. INGRAM, Esq., Elstead House, Godalming (gr., Mr. T. W. Bond), again showed his fine Lælio-Cattleya × Charles Darwin, for which he received an Award of Merit August 27, 1895, but which now received a First-class Certificate. In form it resembled L.-C. × Atalanta, and its variety Fowleri, the fine wax-like flowers being of a warm crimson hue deepening in intensity on the blade of the lip, the median portion of which was coloured bright yellow.

ELIJAH ASHWORTH, Esq., Harefield Hall, Wilmslow, Cheshire (gr., Mr. Holbrook), staged Cattleya bicolor Lewisii, a very singular form, with sepals and petals of an emerald-green colour, and a white lip and column, the portion of the lip beneath the column being stained purple (Award of Merit); Cypripedium × Lord Derby var., Henry Ashworth, Rothschildianum × superbiens), a pretty, light-coloured form; Cattleya × Hardyana variety, one of the richest in colour, and good in form; also, flowers of two varieties of Cattleyaa tricolor.

T. STATTER, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson), showed a splendid inflorescence of Lælio-Cattleya × Owenie (Award of Merit).

G. SHORLAND BALL, Esq., Ashford, Wilmslow, Cheshire (gr., Mr. Hey), showed Cypripedium insigne Balliæ, a fine yellow-coloured form, with a large portion of the upper sepal pure white, showing very faint indications of purple spots.

WALTER COBB, Esq., Dulcote, Tunbridge Wells (gr., Mr. Howes), sent Miltonia spectabilis Moreliana, Dulcote variety, a grand flower, large, perfect in shape, and of the richest dark purple colour (First-class Certificate); also Odontoglossum Œrstedii major.

WELBORE S. ELLIS, Esq., Hazelbourne, Dorking, showed Oncidium panduratum Rolfe, a species with some resemblance to O. anthrocrene; and Stanhopea oculata; and G. O. SLOPER, Esq., Westrop House, Highworth, sent flowers of Cypripedium × polystigmaticum.

Fruit Committee.

Present: Philip Crowley, Esq., chairman; and Messrs. T. Francis Rivers, Geo. Bunyard, H. G. Pearson, Jas. H. Veitch, G. T. Miles, Jos. Cheal, Wm. Pope, A. F. Barron, Alex. Dean, C. Herrin, Jno. A. Laing, J. W. Bates, G. H. Sage, H. Balderson, J. Smith, G. Reynolds, and Geo. Wythes.

A collection of fruit, consisting of forty-eight dishes, was shown by Mr. J. W. Miller, gr. to Lord FOLEY, Ruxley Lodge, Esher. It contained fine Teton de Venus, Princess of Wales (very fine), Bellegarde, and Royal George Peaches; Rivers' Early Orange, Pitmaston Orange, Pine-apple, Elruge, and Violet Hâtive Nectarines, all large and good. There were many dishes of Apples and Pears, and a dish of Jefferson Plums. The collection was deservedly awarded a Silver Knightian Medal.

From Messrs. E. J. SARGEANT & Co., Stratton Vineries, Worthing, was exhibited a collection of varieties of Aubergines (Solanum Melongena). This fruit is used largely as a vegetable in some warmer climates, but it is little known in England, although the fruits can generally be obtained in Covent Garden Market. White and purple-coloured varieties were shown.

The 1st prize for Apples was awarded to a dish of Benoni shown by Col. BRYMER, M.P., Ilsington House, Dorchester (gr., Mr. Jno. Powell); and Worcester Pearmain shown by Mr. C. HERRIN, Dropmore Gardens, Maidenhead, was 2nd.

For Pears the 1st prize was given to excellent fruits of Souvenir du Congrès, shown by Mr. C. HERRIN; and the 2nd to Beurré d'Amanlis, from Col. BRYMER, obtained from a wall tree on western aspect.

Several seedling Melons were shown, but none of them was awarded a Certificate.

A bunch of a new black Grape, named Lady Hastings, was shown by Lord HASTINGS, Melton Constable, Norfolk (gr., Mr. Shingles).

Messrs. H. CANNELL & Co., Swanley, made an exhibit of a good variety of Parsley, known as Eynsford Beauty.

Messrs. JNO. LAING & SONS, Forest Hill Nurseries, S.E., staged a collection of fruits, including 100 dishes of Apples and Pears, there being many of these of capital quality (Silver Knightian Medal).

Messrs. JAS. CARTER & Co., Holborn, exhibited a capital collection of Cabbages, including good specimens of such varieties as Heartwell, Large Nonpareil, East Ham, Little Pixie, Farly York, Large York, Sugar Loaf, Jersey, Enfield Market, &c.

Lecture upon Gladioli.

In the afternoon a paper upon Gladioli, by Mr. BURRELL (of the firm of Messrs. J. Burrell & Co., Cambridge) was read before a moderate attendance. Mr. GEO. BUNYARD was in the chair. As there have been three papers upon the subject delivered before the Society during the last few years, Mr. Burrell preferred on this occasion to confine his remarks in great measure to certain errors that are frequently made in the cultivation of the plants.

In the first place, exception was taken to the frequently-proferred advice that light sandy soil was the most suitable in which to grow the corms. This was one of the commonest and most wide-spread errors. Mr. Burrell had proved by experience that the opposite of such soil was far better; heavy yellow loam of an adhesive nature, and no sand, was recommended. The lecturer's land at Cambridge was rather too close in texture to grow Roses successfully, yet Gladioli grew, and flourished, and the stock remained healthy. These remarks were based upon results chiefly from the Gandavensis section, but Mr. Burrell doubted not that most of the species required similar culture, and Mr. Lemoine had declared how splendidly the hybrids which bear his name succeed in the stiff clayey soil at Nancy. Good flowers might be got from corms planted in almost any soil or situation, but it was in respect to keeping and increasing the stock that the nature of the soil became important.

Excessive manuring was an error committed by many growers. It generated disease; and the thick layers of manure (6 to 8 inches), he had seen recommended for Gladioli, Mr. Burrell regarded as pernicious. An excess of humus in the soil was harmful; the plants preferred a "clean" soil. The lecturer had tried most forms of artificial manure with very doubtful success. He preferred to use no mulchings or liquid-manure, and emphasized the importance of "clean" culture. At Cambridge the collection is seldom or never watered. The plant enjoyed in this country plenty of heat, and a rather dry soil. The best blooms Mr. Burrell ever grew were obtained in August, 1893. This year the plants grew well, and looked capital until August, but they then appeared to suffer. Doubtless they required a certain amount of moisture shortly before the flowers are developed.

The fungus that attacks Gladioli was briefly alluded to, and Mr. Burrell declared he had no faith in the suggested attempt to improve the constitution by crossing again with

new species, such as G. oppositiflorus, a species that the lecturer believed had been already used in the early hybridisation of the flower. To increase the stock it was exceedingly important that the "spawn" or bulbils should be cultivated. Old corms could not be indefinitely preserved.

Mr. Burrell concluded by remarking upon the long season during which Gladioli flowers could now be obtained from the following sections: G. Colvillei, ramosus, Lemoinei, Nancianus, and Gandavensis.

ALNWICK HORTICULTURAL.

SEPTEMBER 3.—Another successful show has been added to the long list of similar gatherings which have been held under the auspices of the Alnwick Floral and Horticultural Society. In some respects, indeed, the show has never been excelled at Alnwick, the number of entries, 2000, exceeding those of any previous year. The season has been one favourable to gardeners, hence the extraordinarily large increase in the exhibits, and the high state of perfection which characterised every department. The show was held as usual in Hulne Park.

The exhibits were staged in the usual manner in the large marquees belonging to the society, a fine collection of Palms, &c., from the Alnwick Castle Gardens forming a centre-piece from which the various wings radiated.

The stove and greenhouse plants were a very fine equal lot, especially the exhibits of Mr. T. SUFFIELD, of Darlington. They were perfect in flower and foliage, and were undoubtedly the most admired of the plants in the tent in which they were staged. The general stock of decorative and foliage plants was far above the average of former years. As to the cut flowers, we have never seen a finer lot, and special mention must be made of the Hollyhocks shown by Mr. A. OLIVER, Cresswell. It is now over twenty years since the like has been seen at any show in the north. The hardy herbaceous plants were quite a feature of the show. The double Dahlias were far beyond previous years; and epergnes, bouquets, and sprays were excellent, the principal prizes being secured by Mr. EDMUNDSON, Newcastle.

Fruit in each class was extra fine. The Grapes exhibited by Mr. D. INGLIS, Howick, were really magnificent, both in regard to size and finish; while the hardy fruits, Apples, &c., were perfect specimens in their respective kinds. Mr. RIDDELL, Lesbury, also showed a good lot of Grapes and other plants, for which he was deservedly awarded the premier awards. In the general collection of fruit arranged for effect, Mr. Jos. HENDERSON, of Chillingham, was the successful winner.

The quality of the vegetables was far beyond previous shows, both as regards the size and quality. The plants in the amateurs' department were highly creditable, and some really meritorious. For the extra prizes there was a keen competition, and a very fine lot was exhibited. Messrs. W. FELL & Co., Hexham, had a very nice exhibit (not for competition) of Roses, Dahlias, Carnations, and hardy herbaceous plants, together with specimen Conifers.

In the open class for six stove and greenhouse plants, distinct, the winners of the first and second places were Mr. T. SUFFIELD, Darlington, and Mr. D. WYLAM, Shankhouse. The same exhibitors were respectively 1st and 2nd in the class for four miscellaneous plants.

Mr. SUFFIELD and Mr. JOHN MORRIS took the 1st and 2nd prizes for six fine foliaged plants. Mr. SUFFIELD was 1st for three, and Mr. A. MITCHELL, Alnwick, for a like number of Fuchsias.

Fruit, in a collection of not less than six dishes and kinds, Pineapple excluded, 1st, Mr. JOSEPH ATKINSON, Matfen; and 2nd, J. RIDDELL, Lesbury. In the classes for Grapes, Mr. D. INGLIS, gr., Howick Hall, was 1st for two bunches of Black Hamburgh, and Mr. G. CRAIG was 2nd. Mr D. INGLIS was 1st with two bunches of any other variety of black Grapes. For white Grapes, two bunches, Mr. J. RIDDELL was 1st with Muscats; and Mr. ATKINSON, 2nd. Mr. G. CRAIG was 1st with any other white, and Mr. J. ATKINSON 2nd. The best dish of Peaches was shown by Mr. FORDYCE, Lowick; and the best peaches from a wall were shown by Mr. MAXEY, gr., Craster Tower. Mr. J. OVENS had the best Nectarines.

The best collection of vegetables (twelve kinds) came from Mr. R. DAVIDSON, Alnwick.

Cottagers, allotees, and amateurs contributed excellently in all the various classes set apart for them.

A variety of extra prizes, given by His Grace the DUKE OF NORTHUMBERLAND, local individuals and the society, were keenly competed for.

THE NATIONAL DAHLIA.

SEPTEMBER 4, 5.—The whole of the "special" societies which exist for the improvement or popularisation of particular flowers, have held their exhibitions for the present year, if we except the Chrysanthemum. That of the National Dahlia Society was held on the above dates in the Crystal Palace, Sydenham, where Mr. W. S. HEAD arranged the tables in the lower half of the centre transept. It is singular that the flowers from plants which had languished the greater part of the season for moisture, and which have seldom lacked rain to a greater extent than they have during the present year, should have been prepared for exhibition, and displayed upon the show tables, at the close of a very wet week, and in the midst of a considerable downpour of rain. On Friday the attendance of visitors was very poor, but a large number of persons were present at the Palace on the following day. "Considering the season" has lately become an essential part of a report of a horticultural show, but we may say (rather than again use that qualifying expression) that the show of Dahlias appeared to us a greater success than the Rose exhibition in July. Of course, the atmospheric conditions have become much modified during the past month, and the Dahlia is a plant that can soon turn better conditions to advantage.

It was not a remarkable exhibition, either for unusual excellence or for qualities of an adverse kind. The "show," "decorative," "Cactus," "Pompon," and single types were all well represented, the type giving most occasion for remark being, perhaps, that of the Cactus-flowering, by reason of the extremely numerous colours that have been obtained since the first days of the variety Juarezi. Single-flowering varieties are still less popular than they were some years ago, but the secretary of the society (Mr. T. W. GIRDLESTONE) keeps them before the public at this exhibition in such praiseworthy perfection, that they are not likely to lose popular favour entirely. Competition was greater in the amateur classes than in those devoted to the trade; indeed, in the nurserymen's classes there were prizes in many cases for each of the firms that elected to exhibit a collection. The lack of system in labelling the flowers is still a subject for regret at this show. In some cases on the occasion under notice, the flowers appeared without any names attached whatever; and unless care be taken to put the names down in a neat and legible manner it is just as well to omit them.

NURSERYMEN.

Show and Fancy Dahlias.—The large class for sixty blooms, distinct, was won by Messrs. KEYNES, WILLIAMS & Co., Salisbury, and we append the whole of the varieties in the exhibit. *Back row:* Mrs. Rendle, Buffalo Bill, Mr. Chamberlayne, James O'Brien, Peacock, Dandy, S. Mortimer (self), Emin Pacha, W. Rawlings, Duchess of Albany, Henry Walton, Nellie Cramond, Goldsmith, Rebecca (self), Chieftain, S. Mortimer, Royal Queen, Mr. Glasscock, Florence Tranter (new), and Nanny Keith. *Centre row:* J. T. West, Dorothy, John Hickling, Richard Dean, Mr. Spofforth, Dr. Keynes, Alice Emily, Geo. Barnes, Rev. J. B. Camm, John Walker, Mrs. W. Slack, W. Powell, Duchess of York, Buttercup, W. Jackson, Virginal, Colonist, Mrs. P. Wyndham, Imperial, Mrs. Langtry. *Front row:* Golden Fleece, Miss Barber, Portia, Jas. Cocker, Rebecca, Miss Cannell, H. Bond, Matthew Campbell, Mrs. Every, Frank Pearce (self), Gaiety, R. T. Rawlings, T. S. Ware, J. Rawlings, Eclipse, Harrison Weir, Crimson Globe, Kathleen, A. Rawlings, and F. Pearce. There was little to take exception to in the exhibit from Mr. J. WALKER, Thame Nurseries, Oxon, who was 2nd. The blooms were of nice form and very bright. They might have been larger, however, and had there been a better admixture of the colour, the collection would have been more attractive. The 3rd prize was taken by Mr. M. V. SEALE, Vine Nurseries, Sevenoaks; and Mr. S. MORTIMER, Rowledge Nurseries, Farnham, was 4th.

Forty-eight blooms, distinct, were only staged by three exhibitors, and there were prizes for each of them. The difference in the quality of the blooms represented the difference in the size of them, for all of them were bright. In the first exhibit, however, there was a better selection and disposition of colours also, which was seriously lacking in the 3rd prize exhibit. Mr. S. MORTIMER was 1st, and the following varieties were the more noticeable in his exhibit:—Shottesham Hero, Geo. Barnes (self), Hero, Jas. Cocker, Jno. Hickling (but scarcely full enough), A. Rawlings, Mrs. J. Downie, Duke of Fife, Glow-worm, Mrs. Saunders, W. H. Williams, Hugh Austin, and Ethel Britton. Mr. M. V. SEALE and Mr J. WALKER, Thame, were 2nd and 3rd respectively.

Of thirty-six blooms, distinct, there were four exhibitors, viz., Mr. J. T. WEST, Tower Hill, Brentwood; Messrs. C. KIMBERLEY & SON, Stoke Nurseries, Coventry; Mr. G. HUMPHRIES, The Nurseries, Kington Langley, Chippenham; and Mr. W. TRESEDER, nurseryman, Cardiff. The exhibitors won in the order in which their names are given, and the collections did not display any very great disparity in regard to quality. The collection from Cardiff had necessarily travelled a long distance.

Twenty-four blooms, distinct.—Mr. J. T. WEST won this class, and staged a very fine lot, the varieties were William Rawlings, W. Powell, Duke of Fife, Duchess of York, Mr. Glasscock, J. T. West, Arthur Rawlings, R. T. Rawlings, Rosy Morn, Mr. Fyfe, Professor Fawcett, Maud Fellowes, Victor, Mrs. Gladstone, Jno. Britton, E. Shoerman, Jno. Hickling, Jno. Walker, Hercules, Miss Hope, Harrison Weir, Geo. Rawlings, Goldfinder, and Willie Garrett. The 2nd prize was awarded to a collection, also of considerable excellence, from Mr. G. HUMPHRIES; and Messrs. C. KIMBERLEY & SON obtained the 3rd prize.

Twelve blooms, distinct, were well shown. The 1st prize stand in this class contained very pretty blooms and colour without exception. The varieties were, *back row*, Jno. Britton, W. Powell, Mrs. Langtry, and Alice Emily; *centre*, Mrs. Gladstone, J. T. West, Mrs. J. Downie, and Miss Cannell; *front row*, Duchess of York, J. Cocker, J. Walker, and Dazzler. Mr. T. R. TRANTER, 3, Hart Street, Henley-on-Thames, was a good 2nd; and Messrs. J. CHEAL & SON, Lowfield Nurseries, Crawley, and Mr. HENRY MERCER, Elton Bury, Lancashire, were 3rd and 4th respectively.

Cactus-flowering varieties.—These classes always make a very fine display, but the quality of the blooms generally was a little below what is usual. The class for eighteen varieties, in bunches of six blooms each, was won by Messrs. J. CHEAL & SONS, who staged Fusilier, Harry Stredwick, a dark velvety-crimson variety; Beatrice, Mayor Haskins, Mrs. Barnes, Earl of Pembroke, Gloriosa, Matchless, Mrs. Wilson Noble, Mrs. Peart, Delicata, Mrs. Gordon Sloane, Mrs. Kingsley Foster, Bertha Mawley, Harmony, J. E. Frewer, Lady Penzance, and Mrs. Beck. Mr. J. T. WEST had a very pretty collection, and took premier place for twelve bunches. His best bunches were Matchless, Gloriosa, Miss Anne Jones, Lady Penzance, Fusilier, and Delicata. The firm of Messrs. BURRELL & Co., Howe House Nurseries, Cambridge, were 2nd; and Mr. M. V. SEALE, 3rd, who had a bright lot of flowers a little deficient in size.

Decorative varieties.—In the class for twelve varieties, in bunches of six blooms, the 1st prize was won by Mr. M. V. SEALE, who staged Mrs. Turner, Sidney Hollins, St. Catherine, Baron Schroder, Harry Freeman, Ernest Glass, Mrs. Hawkins, Joséphine, Daisy Seale, Duke of Clarence, Roy Seale, and Countess of Pembroke, a very delicate and pretty variety; Messrs. J. CHEAL & SONS were 2nd, and their stand would have been more effective had the blooms been less crowded.

Pompon Varieties.—The class for twenty-four varieties, in bunches of ten blooms each, was won by Mr. M. V. SEALE, and the following varieties appeared to considerable advantage in an exhibit of commendable quality: Spitfire, a new bright scarlet flower; Bacchus, of almost the same shade; Phœbe Cecil, a yellow seedling; Tommy Keith, Whisper, Captain Boyton, and Douglas. Mr. CHAS. TURNER was a very good 2nd, and included fine sprays of Adrienne, Edna, Dagmar, Claribel, Norah, Phœbe, &c. 3rd, Messrs. J. CHEAL & SONS.

The class for twelve bunches was won by a most pretty stand from Mr. J. T. WEST; the varieties were Sunshine, Mary Kirk, Arthur West, Emily Hopper, Little Dorrit, Doctor Jim, Madge, Little Jack, Tommy Keith, Abundance, Little Joe, and Donovan, a very neat flower of pale and deeper lilac. Messrs. J. BURRELL & Co. were 2nd, and had also a fine stand of blooms; 3rd, Messrs. C. KIMBERLEY & SONS.

Single-flowered Varieties.—Though this section apparently is less popular than previously, the stands presented an exceedingly bright display, and to us were more attractive than some others. The 1st prize for twenty-four varieties, in bunches of ten blooms each, was won by Messrs. J. CHEAL & SONS, the following varieties being very fine: Aurora, Beauty's Eye, Rosebank, Cardinal, Mrs. Conninck, Duchess of Fife, Miss Morland, Eclipse, Amos Perry, Paragon, Demon, Formosa, Duke of York, The Bride, and W. C. Harvey. Mr. M. V. SEALE was the only other exhibitor of a similar collection, and he had blooms of considerable excellence.

AMATEURS.

Show and Fancy Dahlias.—Mr. R. BURGIN showed a very fine lot in the class for twenty-four blooms, and was 1st. Crimson Globe, Gaiety, Jas. Cocker, H. Walter, Rev. J. B. M. Camm, Vice-President, Duke of Fife, R. T. Rawlings, Mrs. Saunders, Gloire de Lyon, and Perfection were especially good. The 2nd prize was taken by Mr. F. W. Fellowes, The Home Farm, Putteridge Park, Luton, who had a collection of bright fresh blooms of moderate size. Mr. THOS. HOBBS, Easton House, Easton, Bristol, was 3rd; and there were five other exhibitors.

Show Varieties.—The best twelve blooms, distinct, were from Mr. A. Starling, gr. to H. H. RAPHAEL, Esq., Rosecourt, Havering, Essex; his blooms were Mr. Glasscock, Champion Rollo, T. W. Girdlestone, J. T. West, Mrs. P. McKenzie, Mrs. W. Slack, Miss Cannell, Mrs. Gladstone, R. T. Rawlings, Wm. Rawlings, Willie Garrett, and Prince of Denmark. The 2nd prize was taken by Mr. S. COOPER, Hamlet, Chippenham, Wilts; and Mr. W. MIST, Ightham, Kent, was 3rd.

The 1st prize for six blooms was taken by Mr. E. JEFFRIES, Langley Burrell, Chippenham, Wilts, who had capital blooms of Vice President, Majestic, Reliance, R. T. Rawlings, W. Rawlings, and Jno. Walker. The 2nd prize was taken by Mr. C. F. KEEP, 59, Sunny Hill Road, Streatham, S.W., who included a pretty bloom of the variety Mrs. Langtry; 3rd, Mr. A. MUNT, Slough.

Fancies.—There were only three competitors in the class for twelve blooms distinct, and the 1st prize was won by Mr. S. COOPER, Hamlet, Chippenham, Wilts. All of the blooms were good, but diversity of colour was not sufficient. The varieties were Dazzler, T. W. Girdlestone, Matthew Campbell, Mrs. Saunders, Duchess of Albany, Lottie Eckford, Frank Pearce, Rev. J. B. M. Camm, Comedian, Edmund Boston, Buffalo Bill, and a sport from Rev. J. B. M. Camm, of smaller size and less bright appearance; Mr. S. ANSTISS, Brill, Bucks, was 2nd; and Mr. J. STREDWICK, Silverhill, St. Leonard's-on-Sea, 3rd.

Six exhibitors had collections of six blooms, and the winning half-dozen was from Mr. W. WHEELER, 53, Bell Street, Henley-on-Thames. He had blooms of Rev. J. B. M. Camm, Mrs. Mortimer, S. Mortimer, Grand Sultan, T. W. Girdlestone, and Dandy. The last-named being a capitally-coloured specimen. 2nd, Mr. A. STARLING, who had a good bloom of Peacock and of Mrs. J. Downie. 3rd, Mr. R. BURGIN, St. Neot's, Notts.

Cactus and Decorative, mixed.—Mr. JAS. STREDWICK won with a capital exhibit in the class for twelve bunches of Cactus and decorative Dahlias, the varieties most worthy of mention being Gloriosa, Pembroke, Nil Desperandum, Penzance, B. Keith, and Mrs. Foster; Mr. W. MIST was a good 2nd, but the flowers were a little smaller, and also less

bright; 3rd, Mr. JAS. HUDSON, Gunnersbury House, Acton, W., with exceedingly bright but small blooms.

The best exhibit of six varieties was made by Mr. S. COOPER, Hamlet, Chippenham, who had excellent Lady Penzance; 2nd, H. G. SLOANE, Esq., Hydecroft, Charlwood, Surrey; Mr. ED MAWLEY, Rosebank, Berkhamsted, was 3rd.

Cactus only.—Mr. JAS. STREDWICK had a capital exhibit of nine varieties, well staged; H. G. SLOANE, Esq., was 2nd; and the 3rd place was taken by H. J. WIGRAM, Esq., Northlands, Salisbury (gr., Mr. R. C. West).

The best collection of twelve blooms of the Cactus variety, Mrs. Francis Fell, were from Mr. JAMES HUDSON. It is a new white variety, with yellowish centre, of medium size.

Pompons.—Mr. JAMES STREDWICK won for a collection of six varieties, in bunches of ten blooms each, staging good blooms of Bacchus, Tommy Keith, Red Indian, Eurydice, Favourite, and La Duchesse; Mr. JAS. HUDSON was 2nd; and Mr. L. FEWKES, Castle Bromwich, 3rd. For six bunches of six blooms each the best competitor was G. HILDITCH, Esq., Waldegrave Park, Twickenham (gr., G. Wyatt); 2nd, Mr. W. PARROTT, Sevenoaks.

Singles.—Mr. T. W. GIRDLESTONE, Sunningdale, Berks, had a magnificent collection of twelve varieties, in bunches of ten blooms each, Orange Girl, Svengali, Naomi Tighe, Mary Netley, Polly Eccles, and Donna Casilda, were splendid. All of the blooms were first-class. 2nd, Mr. W. MIST, who had also a good lot; and 3rd, Mr. C. OSMAN, South Metropolitan District Schools, Sutton, Surrey.

For the smaller bunches, the best competitor was ED. MAWLEY, Esq., who had Cardinal, Beauty's Eyes (a very pretty variety), Miss Roberts, W. C. Harvey, Northern Star, Victoria; 2nd, Mr. JAS. HUDSON.

Vases of Dahlias, &c.—Miss L. HUDSON, Gunnersbury House Gardens, Acton, obtained 1st prize in this class, showing a neatly-arranged epergne of grasses and other foliage, together with single Dahlia flowers of the Cactus type.

OPEN CLASSES.

Some special prizes offered by Messrs. DOBBIE & Co., of Rothesay, for single Cactus Dahlias, brought two collections, and by far the best was from Mr. J. HUDSON, The Gardens, Gunnersbury House, Acton, who had such standard varieties as Novar, Sir Walter, Meg Merrilies, Brenda, Queen Mary, and Ivanhoe, some of the best varieties in commerce.

The class for fancy single Dahlias, i.e., tipped, striped, or edged flowers, brought a charming collection from Mr. T. W. GIRDLESTONE, Sunningdale, mostly of his own raising, which revealed the beauty of some of the later-raised seedlings. He was the only exhibitor, and had Jack Daw, yellow, freely striped with red; Phyllis, pale ground, flaked and suffused with purple, crimson, and lilac; Hazel Kirke, orange-red, tipped with white; M.C.C., yellow ground, flaked with pale orange-red; Nan, bright red, tipped with white; Jeannetta, white, with side-margins of orange crimson; Splash, yellow, striped and flaked with crimson; Cinderella, white, with side-edgings of reddish-orange; Emmie, Folly, Trilby, and Dearest, yellow, edged with white.

Show and fancy Dahlias, shown in blooms of one variety in several classes, are always a leading and interesting feature. The best dark Dahlia was James Cocker, finely shown by Mr. WALKER; Mr. J. T. WEST was 2nd with William Rawlings; and Mr. A. STARLING 3rd with Prince of Denmark. The best light variety, other than yellow, was John Walker, shown by its name-sake; Mr. G. HUMPHRIES was 2nd with the same; and Mr. A. STARLING 3rd with Mrs. Gladstone. The best yellow self was John HICKLING, also from Mr. J. WALKER; Mr. SEALE was 2nd with William Powell; and Mr. S. MORTIMER 3rd with the same. The best tipped Dahlia was Fancy Mrs. Saunders, which took all three prizes, being shown by Messrs. SEALE, J. CHEAL & SONS, and J. WALKER. The best striped Dahlia was Fancy Frank Pearce from Mr. G. HUMPHRIES; Mr. J. WALKER was 2nd with Hercules; and Mr. MORTIMER 3rd with Frank Pearce. The best edged Dahlia was Miss Cannell, from Mr. J. WALKER; Mr. SEALE coming 2nd with J. T. West; and Mr. MORTIMER 3rd with Henry Walton.

CERTIFICATES AWARDED.

Seedlings were present in goodly numbers, though but few show varieties were forthcoming. Mr. G. ST. PIERRE HARRIS, Orpington, received two Certificates of Merit, one for fancy Mabel, delicate pinkish-lilac, flaked and striped with crimson; and show Queen of Autumn, orange-buff, with deep apricot shading—both well formed, and highly promising flowers.

Of new Cactus varieties, there was a considerable number, and Certificates of Merit were awarded to the following:—Aurora, a small salmon-orange Cactus of good shape, likely to be very useful for cutting, from Mr. GREEN, florist, Dereham; Fantasy, pale orange red, a fine new Cactus type, from Messrs. J. BURRELL & Co.; Miss Webster, a very pleasing pure white decorative variety, from Messrs. DOBBIE & Co., Orpington; Mrs. Gordon Sloane, pinkish terra-cotta, of the true Cactus type; and Mr. Leopold Seymour, yellow, the petals tipped with bright lilac, both from Messrs. J. CHEAL & SONS; Iona, reddish salmon, of the finest Cactus shape, from Mr. C. TURNER; Cycle, crimson, tipped with pale purple, true Cactus type; Keynes' White, white, with slight primrose centre—a very promising variety; and Starfish, pale orange-red, capital form, from Messrs. KEYNES & Co.; and Charles Woodbridge, bright crimson, slightly shaded, from Mr. T. S. WARE, Tottenham.

New Pompons were quite plentiful, Certificates of Merit being awarded to the following:—Dr. Jim (West), pale ground, heavily tipped with maroon-purple; Spitfire (Seale) bright red, fine shape; Guinivere (C. Turner), yellow, edged with deep red; and Ganymede (C. Turner), pale ground, tipped with silvery-mauve, fine in form. And to the following single varieties, shown by Mr. T. W. GIRDLESTONE:—Folly and Emmie, described above; also Polly Eccles, Naomi Tighe, and Trilby, all very distinct, and of the finest quality.

HONORARY EXHIBITS.

A large exhibit from Messrs. W. PAUL & SON, Waltham Cross Nurseries, Herts, included an excellent lot of fruit trees in pots bearing fruit, and a collection of fruit in dishes. Also a group of cut Roses, which included fine specimens of the pretty new China Rose Queen Mab.

Messrs. JOHN LAING & SONS, Forest Hill Nurseries, London, S.E., exhibited Rose blooms, fruit trees, and dishes of fruit. Also a magnificent group of tuberous-rooted Begonias, interspersed with choice specimens of ornamental foliage plants.

Messrs. H. CANNELL & Co., Swanley, Kent, showed a capital collection of Dahlia blooms, representing the different types, and staged in very tasteful manner.

Mr. JNO. CHARLTON, Tunbridge Wells, had a collection of hardy flowers and Lilies, the species in which had been very well cultivated.

From Mr. THOS. S. WARE, Hale Farm Nurseries, Tottenham, came a very representative collection of Dahlia blooms; and Messrs. J. PEED & SONS, Roupell Park Nurseries, Upper Norwood, showed Dahlias blooms, and herbaceous flowers.

DUNDEE HORTICULTURAL.

SEPTEMBER 3, 4, 5.—The annual exhibition of this Society was opened on the 3rd inst. by Mr. ASQUITH, M.P., who spoke upon the historical interests of Dundee, and at some length expatiated upon the refining influence horticulture had exerted over all classes of the community; and later, at the luncheon, expressed the greatest admiration of the splendid display in the three long tents, which were quite filled by the productions from many gardens. The honorary exhibits, arranged upon tables placed round the sides of the tents, were exceedingly attractive.

The first exhibit on entering the larger tent was one from Mr. FORBES, Hawick Nurseries; it included choice Carnations in great quantity, magnificent Hollyhocks, pretty Violas, and other cut flowers.

The next long table was filled by Messrs. DOBBIE & Co., from Rothesay, with a grand display, and to which a Medal was awarded for the finest exhibit from nurserymen. Potatos, Leeks, and Celery; autumn-flowering Chrysanthemums in great variety, Dahlias, Gaillardias, and other flowers, were included in this exhibit.

Messrs. STORRIE & STORRIE'S table, 36 feet long, was a showy one, especially the Asters, Roses, Chrysanthemums, Carnations, and herbaceous plants.

Messrs. LAIRD & SINCLAIR had a splendid exhibit of plants, cut flowers, and floral arrangements.

Messrs. COCKER & SONS, Aberdeen, had a large collection of Gladioli, Chrysanthemums, Roses, &c. Mr. ECKFORD, Wem, Shropshire, had a beautiful exhibit of his Sweet Peas. Messrs. THYNE & PAXTON, Aberdeen, had a capital exhibit of cut flowers. Messrs. D. & W. CROLL had an excellent display of flowering and foliage plants. Mr. GROSSART, of Dundee, had a large display of stove and greenhouse plants, and also took leading prizes in those classes.

A large collection of Celosias in capital condition were very attractive, and a special award was given to Mr. CAMERON, Binrock Gardens, for his floral display.

Large exhibits of zonal and other Pelargoniums, Begonias, and Petunias were noticed, also numbers of excellent specimens of Ferns. Mr. SANDERS, Broughty Ferry; Mr. BAIRD, Kincraig; and Mr. CAMERON had the best in these classes.

A capital exhibit of Conifers came from Messrs. LAIRD & SINCLAIR. These plants were in pots, and stood on the grass. Thuya occidentalis lutea was exceptionally fine; Thujopsis borealis argentea, and Golden Retinosporas were very good.

In another tent there were long tables of Gladioli, stove and greenhouse plants, &c., also exotic and hardy cut-flowers, including Roses and Dahlias. The collections of Roses from private gardens were numerous. The nurserymen's Roses were of considerable merit. For H. P. varieties Messrs. CROLL took 1st; and Mr. COCKER, Aberdeen, 2nd; and for Teas and Noisettes, Messrs. CROLL were also 1st; and Messrs. ADAM & CRAIGMILE, Aberdeen, 2nd.

FRUIT.

The fruit filled a double line of tables in the centre of one of the tents. The competition in every class was exceptionally strong. Apples (from the Carse of Gowrie, and other districts) made a great display. Pears chiefly consisted of Jargonelles and Williams' Bon Chrétien, and were not of special merit. Collections of fruit were numerous, and some of them remarkably good. Mr. BESSANT, gr. at Castle Huntly, was 1st for eight dishes. He had good Muscat of Alexandria and Gros Maroc Grapes; Prince of Wales Peaches, Spencer Nectarines, good Pears, Melons, Apples, and Figs. There was much competition in this class, and also in that for six dishes of hardy fruit; Mr. BESSANT being again 1st. For four bunches of Grapes, Mr. LESLIE, gr., Pitcullen, Perth, was 1st, with good Muscat of Alexandria—large in berry and well coloured, Gros Maroc, Madresfield Court, and Duke of Buccleuch, a little past their best. Two bunches of Black Hamburgh were best from Mr. KINNEAR, gr. at Fernbrae, who had finely-coloured, well-formed bunches; Lady Downes were mostly large in berry and well coloured—among them were the finest Grapes in the show. Mr. D. SANDERS had a beautiful pair of bunches, and received a 1st prize. Alicante and Gros Maroc were in great numbers, and generally well coloured; but the bunches of Muscat of Alexandria were not of special merit, being generally unripe.

A handsome bunch of Alicante, fairly coloured, and weighing 13 lb. 6 oz., was exhibited by Mr. LESLIE, gr., Pitcullen, and received a Special Award. Peaches were of moderate quality only. Nectarines were finer. Great quantities of small fruits were exhibited. Melons were poor throughout; and Apricots were very fair.

VEGETABLES.

These filled a large tent, and seldom have such excellent quality and close competition been witnessed between gardeners and amateurs. The 1st prize for twelve sorts went to Mr. RAE, Roxburgh, who was also awarded the Veitch Memorial Prize for his collection. This was a very meritorious exhibit, and consisted of Cauliflowers, Celery, Cucumbers, Cabbages, Onions, Peas, Potatos, Kidney Beans, Tomatos, Marrows, Leeks and Carrots. In all there were 201 classes at this great exhibition, so creditable to Dundee.

WELLINGBOROUGH DAHLIA.

SEPTEMBER 5.—The first exhibition of the newly-formed Dahlia society was held in the Corn Exchange on the above date, with every prospect of its becoming an annual fixture. It is hoped by the promoters that it may become a Midland Dahlia exhibition, as there are many growers of the flower in the district. This year the Wellingborough fixture clashed with that of the National Dahlia Society at the Crystal Palace, but another season this error will be avoided.

Six classes for Dahlias were open to all England; the 1st prize for twenty-four show and fancy went to Messrs. T. PERKINS & SONS, nurserymen, Northampton, whose leading blooms were Maud Fellowes, Ruby Gem, W. Rawlings, Rebecca, Peacock, Mrs. Gladstone, Colonist, George Rawlings, Duchess of York, and A. Rawlings; 2nd, Mr. THOMAS PENDERED, Wellingborough, the president of the society.

With twelve blooms, Messrs. T. PERKINS & SONS were again 1st; and Mr. H. J. SHEPHERD, Althorp, 2nd.

Mr. PENDERED took the 1st prize for twenty-four blooms of distinct varieties of Cactus and decorative Dahlias, shown singly on boards. The leading varieties were Purple Prince, Lady Penzance, Countess of Radnor, Bertha Mawley, Earl of Pembroke, R. Cannell, and Delicata; Mr. J. YORK, Desborough, was 2nd. With twelve blooms of Cactus, Mr. SHEPHERD was 1st; and Mr. H. BRINDLEY, Desborough, 2nd. Messrs. T. PERKINS & SONS were 1st with twelve varieties of Pompon Dahlias in bunches; and also with the same number of singles. Six classes were also set apart for amateurs and cottagers, and in all there was a good competition.

Roses were also shown in a few classes. The best twelve blooms, open to all, which included some pretty Teas, came from Messrs. T. PERKINS & SONS; Mr. HAYES, The Gardens, Castle Ashby, Northampton, was 2nd.

There were a few classes for plants. In that for six specimen stove and greenhouse subjects, Mr. J. IKE, Wellingborough, was 1st, with a good plant of Livistona australis, Yucca aloifolia variegata, with a good flower-spike, and capital examples of Adiantums Oweni, grandis, Pacotti, and grandiceps; Mr. HAYES was 2nd, having a good specimen of Kentia australis, Stephanotis floribunda, Nephrolepis exaltata, &c.

Plants in pots were also shown by amateurs, and they included some finely-flowered examples of Vallota purpurea.

The best collection of six distinct species of fruit came from Mr. HAYES, who had Lady Downes Grapes, a fine Queen Pine, Nectarines, Figs, Melon, and Pears; Mr. J. GLANNISTER, Hardingstone, was 2nd.

Mr. HAYES had the best two bunches of Grapes, showing good Raisin du Calabre; Messrs. CLAYSON & SON, Wellingborough, were 2nd, with Black Hamburgh.

Mr. HAYES had the best dish of Pears, showing very fine Souvenir du Congrès; the fruits of Louise Bonne of Jersey, Pitmaston Duchess, and Marie Louise were also very good.

Peasgood's Nonsuch led the way among culinary Apples; Annie Elizabeth was also very good. The best dish of dessert Apples was Lady Sudeley; and Worcester Pearmain was also in fine character. Plums were good also.

Vegetables were a good feature. Mr. HAYES was 1st, with a collection of eight varieties; and Mr. GLANNISTER 2nd. There were several classes for vegetables shown by amateurs.

THE APIARY.

PREPARING FOR WINTER.

BY the end of the present month all stocks should have been well fed, so that the combs will be sealed over, as if left till later, the bees are not likely to seal them, and, in consequence, the honey gives them dysentery, which very much weakens the stock for the following spring. Most hives will require but a small amount of feeding, as the season has been a very good one, but, of course, the rain which we have had lately will have caused a lessening of the store, so that all hives should be examined forthwith, and the

state of the food supply ascertained, and in the case of driven bees they must be fed at once. If one or two frames of honey from full hives, where it can be spared, be given them, so much the better; and if there are any sections from last year remaining unsold, let them have these too, as it saves making syrup, and natural food is always beneficial to the bees. Use a Canadian rapid-feeder where a dozen or so of hives are kept, because it saves much time in filling cans and bottles, and also enables the bees to finish their feeding quickly, besides preventing robbing to a very great extent. Feed always in the evening; the feeder, which will hold about half-a-gallon, will be found empty in the morning. If necessary, fill again in the evening, then take it off and place it on next hive, and so on till the whole apiary has been fed.

Another advantage gained by using this sort of feeder is, that you can refill the feeder without moving it, and no bees can possibly interfere with the operator. In feeding, take care that there are no crevices in the roof of the hives through which bees can get, as if they can they are certain to overpower and destroy a weak stock; and if a strong lot, they will cause a great deal of mischief, and a great loss of bees through fighting.

Wasps are very troublesome at this time of the year, and the best way to keep them out of the hives is to contract the entrance to each hive, leaving an opening of about 1 inch, which gives the bees a better chance of protecting themselves. Do not leave more frames in the hives than the bees can well cover, or the temperature cannot be maintained in cold weather, which is sure to result in the loss of the bees. If this be done, and a small amount of feeding as well, and the hives well wrapped up with a bag, or a tray is fitted over the frames filled with chaff or sawdust, which helps to keep the hive warm in cold weather; the feeding and warmth will encourage breeding to go on, which at this time of year is very important, as bees hatched out now come out strong and vigorous for the following season's work. If robbing cannot be prevented, sprinkle a little carbolic powder over the entrance of the hive with a small pepper-box, which will be found a very efficient preventative.

Granulated Sections.

Where the honey in sections is found to be getting candied, dispose of it as soon as possible; and if there is no sale, run them, as run honey will keep better than honey in sections, and then if it become granulated it does not matter so much, and can be brought back to its fluid state by placing the bottles in hot water.

VARIORUM.

Old Age in Trees.—The rather startling suggestion is made by Mr. Henry J. Colbouron, of Woolhampton, that our oldest inhabitants—the trees—may be brought forward as living witnesses of extraordinary terrestrial disturbances of many generations ago. The British Museum contains a polished section of a large Douglas Fir, which was grown in British Columbia, and is stated to have been more than 500 years old at the time it was felled in 1885. A curious feature of this section is the appearance of the annual rings near the close of the tree's first century, about twenty of them being so closely crowded together as to look like a differently coloured zone of wood, three-fourths of an inch wide, running around the trunk. The suddenness of the change on both sides of the zone disposes of the idea that it was due to overcrowding in the forest, which would have come on and passed off gradually. The supposition that twenty bad seasons or twenty years of insect depredations occurred together is contrary to all our experience, and it is not easy to account for this long period of weakness in the forest giant. It appears, however, that, making allowance for some uncertainty as to the time when the tree stopped growing, the rings may be found to correspond in date with a period of remarkable convulsions recorded near the middle of the fourteenth century. Heckel's *Epidemics of the Middle Ages* states that the outbreak of the Black Death was immediately preceded by a period of twenty-six years—commencing in 1333—of earthquakes, atmospheric disturbances, floods, and droughts, of an extent beyond all precedent in history. Noxious vapours arose from thousands of chasms, and the seasons seemed to be reversed. As it seems quite possible that the agencies which inflicted such dire calamities upon the human race should have influenced forest vegetation, it would be interesting to determine whether the record is confirmed in other old trees. *Inventions.*

PENTSTEMONS.

Much as Pentstemons are admired by most people, they are not the subjects of care they should be. During a severe winter, most of those left outside are killed, because no protection has been given. By treating them as tender annuals, very excellent results may be achieved. I was not aware they could be flowered so successfully the first season until a few days since, when I called at Cowdenknowes Gardens, Berwickshire. Mr. Robertson had a bed of plants which had been raised from seed sown last February, some of the spikes of flowers were 25 inches long, and 3 feet high from the ground level. The individual flowers measured 2 inches by 1¾ inches in diameter, and the colours ranged from pure white to various shades of red and purple. They were the finest Pentstemons I have ever seen, and much of Mr. Robertson's success was doubtless owing to the exceptionally good strain from which the seed had been obtained. *W. H. Divers, Belvoir Castle Gardens, Grantham.*



Arthur George Martin.—It is with peculiar regret, and with a sense of pain, that we record the death of Mr. A. G. Martin, until recently publisher of this journal. Our deceased colleague was never exceptionally strong, and he had assumed the responsibilities connected with the management of his department but a short time, when his health commenced to fail greatly. At the commencement of last year he was induced to spend the remaining part of the winter upon a voyage to Australia, with a view to overcoming a suspected tendency to chest weakness. Mr. Martin returned from that trip in much better health, and hopes were entertained that he had successfully resisted one of the most insidious diseases that afflicts this country. It was not so, however, and in the autumn Mr. Martin had become so much worse, that it was thought necessary, in order to prolong his life, that he should terminate his connection with us, and proceed to South Africa with a view to settling there. This last hope has proved to be also a vain one, and he died on August 30 at Bloemfontein, Orange Free State. Deceased was only in his twenty-eighth year. He leaves a widow and one child, both of whom accompanied him to South Africa.

Mr. Martin became publisher of the *Gardeners' Chronicle* upon the decease of the late Mr. Richards, but previously to this he had been employed in the office for some years. During the time Mr. Martin was associated with us he spared no energy in the discharge of his duties, and many of our readers who have had business relations with him, will understand why his memory will be cherished by ourselves, as of a colleague of most genial and conscientious disposition. Our earnest sympathy with Mrs. Martin, who has passed through much trouble and is now bereaved of her husband at such an early age, will, we feel sure, be shared by others who possessed any personal knowledge of our deceased friend.

MARKETS.

COVENT GARDEN, SEPTEMBER 10.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. Ed.]

Cut Flowers.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Arums, p. 12 blooms	3 0-	6 0	Marguerites, per 12 bunches	1 0-	2 0
Asters, English, doz. bunches ...	3 0-	6 0	Orchids:—		
Bouvardias, per bn.	0 4-	0 6	Cattleya, 12 blms.	6 0-	12 0
Carnations, 12 bun.	4 0-	6 0	Odontoglossum crispum, 12 bm.	2 0-	6 0
— 12 blooms ..	0 6-	2 0	Pelargoniums, scarlet, per 12 bun.	2 0-	4 0
Chrysanthemums, doz. bun.	4 0-	6 0	— per 12 sprays...	0 4-	0 6
— doz. blooms	0 6-	1 6	Pyrethrums, 12 bn.	2 0-	4 0
Eucharis, per dozen	1 6-	2 6	Roses, Tea, per doz.	0 9-	1 6
Forget-me-nots, p. doz. bunches ...	1 6-	3 0	— coloured, doz.	0 9-	1 6
Gardenias, per doz.	1 0-	3 0	— yellow (Marechal), per doz.	2 0-	4 0
Gladiolus, coloured, per doz. sprays ...	1 0-	1 6	— red, per dozen	0 6-	1 0
Lilium Harrisi, per doz. blooms ...	3 0-	6 0	— red, doz. bun.	4 0-	6 0
— lancifolium, doz. blooms ..	0 9-	2 0	— Gloire, doz. bn.	4 0-	6 0
Maidenhair Fern, per 12 bunches	4 0-	8 0	— Safrano, p. doz.	1 0-	2 0
Mignonette, p. doz.	2 0-	4 0	Stephanotis, 12 sps.	1 6-	2 0
			Stocks, p. doz. bun	2 0-	4 0
			Tuberoses, 12 blms.	0 2-	0 4

Orchid-bloom in variety.

Plants in Pots.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Adiantum, per doz.	4 0-	12 0	Ferns, various, doz.	5 0-	12 0
Aspidistra, per doz.	12 0-	30 0	Ficus elastica, each	1 0-	7 6
- specimen, each	5 0-	15 0	Foliage plants, doz.	12 0-	36 0
Asters, doz. pots ..	3 0-	5 0	Heliotrope, per doz.	4 0-	6 0
Chrysanthemum, p. doz	4 0-	9 0	Lilium Lancefolium, p. doz. pots	9 0-	12 0
Cock's combs, doz.	3 0-	4 0	Marguerites, p. doz.	6 0-	10 0
Coleus, per doz. ...	2 0-	4 0	Mignonette, p. doz.	4 0-	6 0
Dracæna, each ...	1 0-	7 6	Palms, various, ea.	2 0-	10 0
— various, p. doz.	12 0-	24 0	— specimens, ea.	10 6-	84 0
Evergreen Shrubs, in variety, doz ...	6 0-	24 0	Pelargoniums, Scarlets, p. doz. ...	2 0-	4 0
Ferns, small, doz. ...	1 0-	2 0			

Fruit.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Apples, cooking, in variety, per sieve...	2 6-	4 0	Grapes, Muscat, Channel Islands, per lb. ..	1 0	
— dessert, in variety, per ½ sieve ..	2 6-	4 0	— Gros Maroc, per lb	1 0-	1 6
Damsons, per half sieve	2 0		Figs, per doz. ...	0 9-	1 0
Grapes, Alicante, 1st quality, per lb.	1 0-	1 6	Melons, each ...	0 6-	1 0
— Alicante, 2nd quality, per lb.	0 9-	1 0	Nectarines, 1st size per doz. ...	4 0-	6 0
— Hamburgh, 1st quality, per lb.	1 0-	1 6	— 2nd do., p. doz.	1 6-	2 0
— Hamburgh, 2nd quality, per lb.	0 6-	0 9	Nuts, Cob, per lb.	0 3½-	0 4
— Gros Colmar, per lb.	1 0-	1 6	Peaches, 1st size, per doz. ..	3 0-	6 0
— Muscats, English, 1st quality per lb. ...	1 0	2 0	— 2nd do.. per doz. ...	1 6-	2 0
2nd qual., per lb. .	1 0-	1 6	— 3rd do., per doz. ...	0 9-	1 0
			Pears, Williams, p. half-sieve ...	2 6-	3 0
			Pine-apples, St. Michael, each ...	5 0-	6 0
			Plums, in variety, per ½ sieve ...	2 0-	3 0

Vegetables.—Average Wholesale Prices.

	s. d.	s. d.		s. d.	s. d.
Beans, Scarlet Runner, p. sieve ...	1 0		Mushrooms, (Indoor) per lb.	0 6	
Cucumbers, home-grown, per dz.	1 0-	2 0	— (Outdoor), per half-sieve ...	2 0-	2 6
— Ridge, per pad (about 10 doz.)	5 0		Tomatos, home-grown, smooth, per doz. lb. ..	2 6-	3 0
— Dutch, per doz.	1 0		— ord. kinds, do.	1 6	2 0
Marrows, Vegetable, per 5 doz. tally ...	2 0-	3 0			

Potatos

Supplies heavy, and demand slow. Best samples 60*s.* to 70*s.*; Ordinary, 35*s.* to 45*s.* per ton. *J. B. Thomas.*

SEEDS.

London: *September 9.*—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., state that there were but few buyers on to-day's seed market. Some recent purchasing of red Clover seed has substantially advanced values for same. Sowing orders for Trifolium and Mustard seeds now naturally diminish, both in number and size. In Rape seed the tendency continues upwards. There is no change in seed Rye. Winter Tares keep steady alike in value and demand. Canary seed exhibits an improving tone; the fact that Turkey still refrains from offering new seed is regarded as very significant. Hemp seed is firm. Blue Peas are decidedly dearer. For Haricot Beans the market is strong.

FRUIT AND VEGETABLES.

LIVERPOOL: *September* 10.—The following are the prices at yesterday's markets: Potatos: English Regents, 1*s.* 6*d.* to 1*s.* 9*d.* per cwt.; Kidneys, 2*s.* 3*d.* to 3*s.* 3*d.* do.; Maincrops, 1*s.* 10*d.* to 3*s.* 6*d.* do.; P. E Kemps, 1*s.* 10*d.* to 2*s.* 4*d.* do.; Sutton's Abundance, 1*s.* 6*d.* to 2*s.* do.; Bruces, 1*s.* 6*d.* to 2*s.* 2*d.* do. Turnips, 6*d.* to 9*d.* per dozen bunches; Carrots, 6*d.* to 8*d.* do., and 3*s.* 6*d.* to 4*s.* per cwt.; Onions, English, 6*s.* to 7*s.* per cwt; do., foreign, 3*s.* 6*d.* do.; Parsley, 4*d.* to 6*d.* per dozen bunches; Lettuces, 6*d.* to 9*d.* per dozen; Cucumbers, 1*s.* to 2*s.* 6*d.* do.; Cauliflowers, 10*d.* to 1*s.* 9*d.* do.; Cabbages, 6*d.* to 10*d.* do.; Celery, 1*s.* 6*d.* to 2*s.* 3*d.* do.

GLASGOW: *September* 9.—The average of the prices for the past week are nearly as follows:—*Fruit:* Walnuts, 20*s.* to 33*s.* per case; Grapes, hothouse, 1*s.* to 2*s.* per lb.; do., new, 1*s.* to 3*s.* do.; Damsons, 12*s.* to 12. 6*d.* per cwt.; Apples, American, 13*s.* to 20*s.* per barrel; Plums, Victoria, 8*s.* per sieve; do., Hamburgh, 2*s.* 9*d.* to 3*s.* do.; Tomatos, Scotch, 7*d.* to 1*s.* per lb.; do., Guernsey, 3*d.* to 4*d.* do.; Melons, yellow, 6*s.* to 6*s.* 6*d.* per case; do., bronze, 6*s.* to 6*s.* 6*d.* do.; Pears, William, finest, 3*s.* 6*d.* do.; do., Dutch, 3*s.* 3*d.* to 3*s.* 6*d.* do.; do., crates, 11*s.*; do. Bonne Louise, 11*s.* per case; Green Gages, English, 7*s.* 6*d.* per case.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (−) the Mean for the week ending September 5.	Accumulated. Above 42° for the Week.	Below 42° for the Week.	Above 42°, difference from Mean since December 29, 1895.	Below 42°, difference from Mean since December 29, 1895.	Rainfall. More (+) or less (−) than Mean for the Week.	No. of Rainy Days since Dec. 29, 1895.	Total Fall since Jan. 1, 1896.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Dec. 29, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	2 +	96	0	+ 247	− 318	6 −	166	35·8	30	24
1	1 +	97	0	+ 220	− 241	1 −	134	16·1	15	31
2	1 +	111	0	+ 272	− 222	1 +	112	12·0	4	30
3	0 aver	116	0	+ 211	− 229	10 +	113	13·9	11	36
4	0 aver	105	0	+ 240	− 247	9 +	108	13·1	6	33
5	0 aver	123	0	+ 288	− 240	14 +	99	12·6	25	39
6	2 +	106	0	+ 276	− 228	6 −	141	27·8	24	33
7	0 aver	107	0	+ 349	− 258	3 +	127	20·1	10	34
8	1 −	109	0	+ 387	− 206	1 +	104	14·9	24	42
9	0 aver	99	0	+ 278	− 233	4 −	146	24·5	24	29
10	2 −	97	0	+ 369	− 210	1 −	121	20·3	29	34
*	1 −	125	0	+ 495	− 109	12 +	114	12·1	28	48

The districts indicated by number in the first column are the following:—
0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending September 5, is furnished from the Meteorological Office:—

"The *weather* continued very unsettled in all parts of the kingdom. Rain fell almost daily at most of the English stations, the falls over all the more southern and eastern counties being very heavy. Over Ireland and Scotland, however, the rain was less frequent and comparatively slight. Thunder and lightning occurred over south-eastern and central England on Monday, and in the south of Ireland and south-east of England on Saturday.

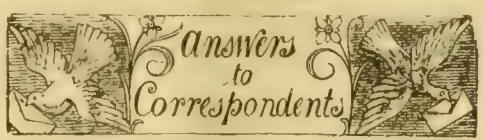
"The *temperature* was a little above the mean in Scotland, but did not differ much from the normal value over England and Ireland. The highest of the maxima were recorded towards the end of the week, when they ranged from 75° in 'Ireland, N.,' 74° in 'England, E.,' and 72° in 'England, N.E.,' to 67° in 'England, N.W.' and 'Ireland, S.,' and to 65° in 'Scotland, N.' The lowest of the minima, which were registered on rather irregular dates, varied from 35° in 'Ireland, S.,' 37° in 'Scotland, N.,' and 41° in the 'Midland Counties,' to 51° in 'England, S.,' and to 54° in the 'Channel Islands.'

"The *rainfall* greatly exceeded the mean over central, southern, and eastern England, as well as in the 'Channel Islands,' and was rather above the normal over south-western and northern England. In Ireland and Scotland, however, the fall was less than the mean. The total fall for the week exceeded 2 inches at many of our southern stations, the largest amounts recorded being 3·21 inches at Jersey, 3·25 inches at Hurst Castle, and 3·45 inches at Westbourne (Sussex).

"The *bright sunshine* was very deficient in nearly all parts of the kingdom, but exceeded the mean in 'Scotland, N.,' and was also fairly prevalent at a few isolated stations in other districts, notably, at Margate and in the Scilly Islands. The percentage of the possible duration ranged from 30 in Scotland, and 29 in 'Ireland, S.,' to 11 in 'England, E.,' 10 in 'England, N.W.,' 6 in the 'Midland Counties,' and 4 in 'England, N.E.' In some of the inland counties bright sunshine was extremely deficient; thus, at Cambridge, only 4 per cent. of the possible amount was recorded; at Harrogate, 3 per cent.; at Durham and at Thurcaston only 1 per cent.; while at Worksop the week was altogether sunless."

TRADE NOTICE.

MR. H. PEWTRESS, late of Hampton, Middlesex, and his brother, Mr. T. Pewtress, of Bishopstone, Hereford, have taken the Tillington Nurseries, near Hereford, which for many years was carried on by Mr. T Griffiths, and intend to trade under the title of Pewtress Brothers.



CARNATIONS DISEASED: *J. L. B.* The disease in each case is caused by the Spot fungus (Helminthosporium). Plants very badly affected should be thrown away, and steps taken to rid those remaining of the pest by taking away at once all leaves so affected, and continuing to remove others as they may show signs of the disease, until the plants are clean.

GRAPES: *G. D.* Bowood and Alexandria Muscat are identical.

INCREASING AMPELOPSIS VEITCHI: *Ampelopsis.* Take, in September, cuttings of ripe wood 9 inches long, and insert them for three-quarters of their length in a bed of sandy soil under a handlight, in a partially-shady place. Take cuttings of young growing shoots in the spring, preferably from a plant started in gentle warmth early in March, and strike in mild bottom-heat, say, 70° to 75°. Take long shoots, without detaching them from the parent plant, and lay them on the surface of the soil, securing them with wooden pegs at short intervals, covering the shoots at those points with a little soil. This last method will furnish with certainty a number of plants. It should be done in June and July.

INSECTS: *W. B., Harefield.*—The common slug-worm, Selandria atra, a very destructive pest.

KAINIT AND GYPSUM: *C. W. H.* Either or both together are good materials to incorporate with the soil in which stone fruits are growing.

MELON PLANT WITH A FRUIT FORMED AT THE COLLAR: *W. S. T.* An unusual occurrence. Could you send a photograph or a drawing of the same?

NAMES OF FRUITS: *J. K. B.* 1, Blenheim Orange; 2, Cox's Orange; 3, Warner's King; 4, Reinette du Canada; 5, Cellini; 6, Pott's Seedling. The fruits of last year were useless—almost rotten.—*H. Wigley.* Apple Gloria Mundi.—*J. W.* Pears: 13, Beurré d'Amanlis: 14, 15, Williams' Bon Chrétien; 16, Louise Bonne of Jersey. Apples: 1, Gloria Mundi; 12, Golden Noble; 3, Yorkshire Beauty; 9, Red Quarrenden. We can only undertake to name six fruits at a time.—*W. C.* Plum, Damas de Septembre.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to be so good as to consult the following number.* —*J. Bowden.* Clethra alnifolia.—*W. P.* 1, Pteris serrulata; 2, P. serrulata cristata; 3, P. cretica albo lineata; 4, Doodia caudata; 5, Gymnogramma ochracea; 6, Doodia caudata.—*W. A. M., Manchus.* We know of no yellow-flowered Cosmos, there are scarlet and purple-flowered species. The foliage looks like that of C. bipinnatus, which has rose or purple flowers with a yellow disc. The other flower sent is Coreopsis auriculata; a native of the U.S.A., and perennial.—*T. C.* 1, Cratægus Crus-galli; 2, Rhus Cotinus; 3, Salix cuprea; 4, Juniperus excelsa; 5, Hypericum patulum; 6, Acer plantanifolia.—*J. P., Donegal.* Potentilla fruticosa.—*C. J.* Lycium barbarum, with the berry; Rhus typhina, the leaf.—*D. B. R.* The white one is Cattleya Eldorado Wallisii; the other C. labiata Luddemanniana, generally called in gardens C. speciosissima.—*Fircroft.* Your flower is Dendrobium taurinum.—*Constant Subscriber.* Cassia corymbosa.—*S. J. G.* 2, Croton undulatum; 3, Draccena amabilis; 4, D. Fraseri; 5, Alocasia Veitchii; 6, A. (Colocasia) antiquorum.—*W. H. Patterson.* Sagina apetala.—*Sir G. B.* Blitum virgatum.—*Main & Sons.* Festuca pratensis.—*J. L. Clucas.* Alonsoa caulialata. *J. Morley.* 1, Salix aurita; 2, Lythrum Kennedyanum; 3, Stenotaphrum americanum; 4, Teucrium chamædrys; 5, Glyceria aquatica; 6, Spiræa canescens; 7, Hyssopus officinalis; 8, Alyssum maritimum; 9, Artemisia maritima.—*L. B. G.* Hardy plant Hibiscus syriacus (Althæa frutex of gardens). Others next week.—*E. J.* 1, Jasminum revolutum; 2, Cassia corymbosa; 3 and 4, next week; 5, Grevillea rosmarinifolia.

PEARS DISEASED: *A. B.* The granulation complained of in the flesh of your Pears is not uncommon with some varieties—more especially Marie Louise. We have believed it to be due to the roots getting into bad soil; and Marie Louise is a deep rooter on the Pear stock. Improve the soil.

PHOTOGRAPH TO COPYRIGHT. *G. H.* You should direct your enquiry to the Copyright Office, Stationers' Hall, London, E.C.

PRESERVING CACTUS DAHLIA BLOOMS: *C. M. R.* No method of preserving that we know of will preserve the colours intact. You might dry them, and after exposing them to the vapours of burning sulphur in a close box to bleach them, dye them of any desired colour.

STOCKS AND DAHLIAS WITH DOUBLE FLOWERS: *C. M. R.* None of the so-called double-flowered Stocks are quite destitute of the organs of reproduction, and seed is saved from the more double ones that chance to be self or cross fertilised. It is the same with Dahlias, although frequently their sports give new colours.

ZONAL PELARGONIUM BLOOMS: *H. Cannell.* Extremely large, and generally of unusual thickness; the purplish-coloured variety is novel. We do not like the suggested name for this strain, viz., "Zonal tuberous Begonia Pelargoniums," it being unhandy, and likely to lead to mistakes.

COMMUNICATIONS RECEIVED. G. N.—G. Burrows (too late)—C. H. P. M. T. M. -W. S. Ellis.—H W.—H.W. W.—W.G S.—E. G. L—A. F. B.—N. E. B.—W. J. C. E. M.—W. E. Gumbleton.—T. B.—J. B.—E G W. Rev. D. W. R. D. R. Turnbull.—A. D. W. W. H. A.—C. De B.—W. B. H.—U. Dammer.—C. T. D.—J. McIntyre.—G. A.—A. S. B.—W. G. G. D.—F. G.—W. A.—W. H. D.—J. Dawson.—Billingham.—Carter, Page & Co.—M. D.—J. G.—S. A.—H. Low & Co.—G. H.—Kilmright.—A. M.

DIED.—On August 30, at Bloemfontein, Orange Free State, South Africa, in his 28th year, ARTHUR GEORGE MARTIN, late Publisher of the *Gardeners' Chronicle.*

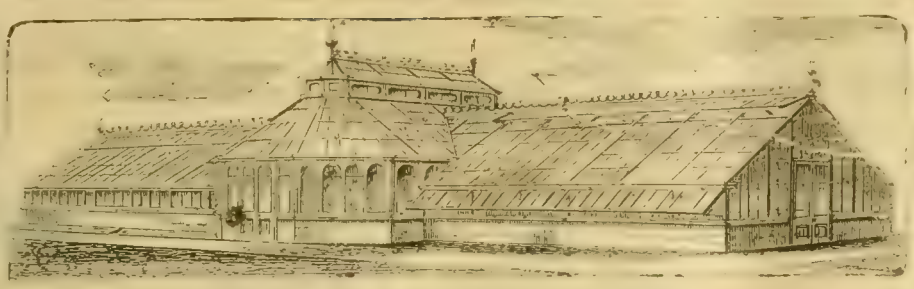
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Increased to the extent of more than 90 per cent. and hat it continues to increase weekly

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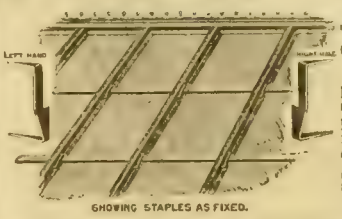
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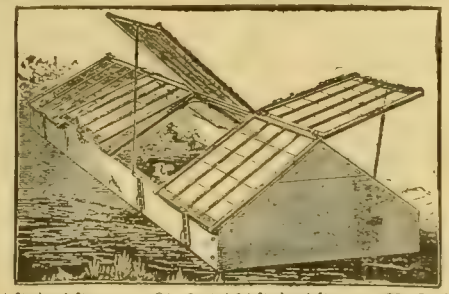
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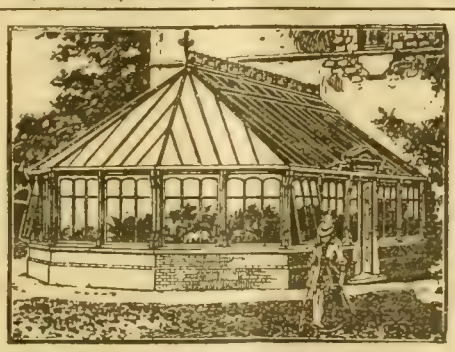
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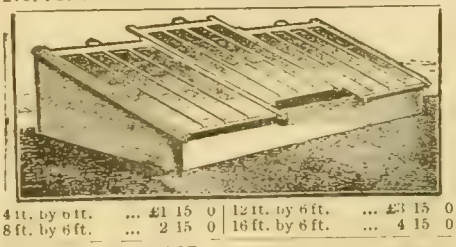
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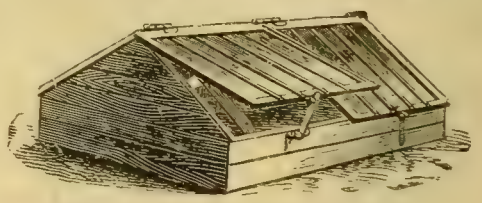
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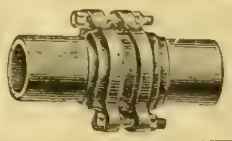
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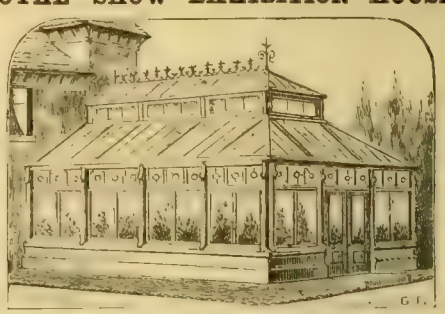
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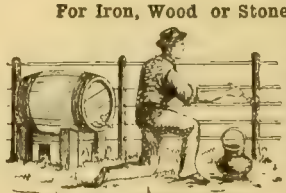


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Mr. JAMES WATSON, for the past twenty-two years Gardener to the late Mr. HENRY RUSON, Sea View, Sunderland, as Head Gardener to Mrs. BACKHOUSE, Ashbourn Hall, Sunderland, taking over his duties in November.

Mr. T. C. SUTHERLAND, Gardener, Merlewood, Virginia Water, as Gardener to T. LIVINGSTONE LEARMOUTH, Esq., Park Hall, Polmont, N.B.

Mr. F. RUNDLE, late Foreman, Penitillic Castle Gardens, as Head Gardener to FRANCIS J. HEXT, Esq., Tredethy, Bodmin.

Mr. A. MASTERS, for the past two and a half years Head Gardener to Lord STALBRIDGE, Motcombe House, Shaftesbury, Dorset, as Head Gardener to Lord HEYTESBURY, Heytesbury House, Wilts.

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Mr. J. MAGNESS, as Head Gardener to C. T. CAVENDISH, Esq., Crakemarsh Hall, Uttoxeter, Staffordshire.

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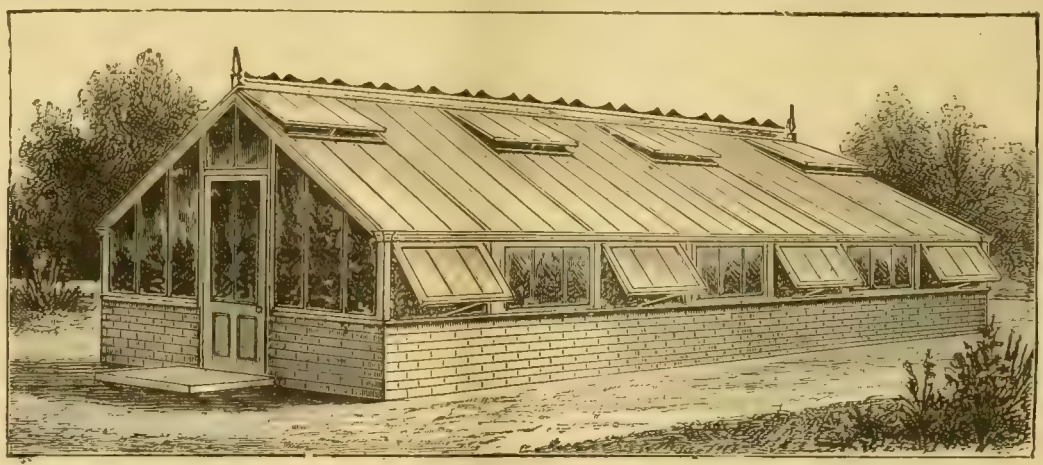
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Printed for the Proprietors by Messrs. BRADBURY, AGNEW, & Co. (Limited), Lombard Street, Precinct of Whitefriars, City of London, in the County of Middlesex, and published by HARRY GILLARD COVE, at the Office, 41, Wellington Street, Parish of St. Paul's, Covent Garden, in the said County.—SATURDAY, September 12, 1896. Agent for Manchester—JOHN HEYWOOD

The Gardeners' Chronicle

ESTABLISHED 1841. No. 2908.

No. 508.—Vol. XX. {Third Series.} SATURDAY, SEPTEMBER 19, 1896. {Regt. as a Newspaper.} PRICE 3d. Post-free, 3½d.

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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

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MESSRS. PROTHEROE AND MORRIS beg to inform their clients that SATURDAY'S SALES of BULBS will be DISCONTINUED.

They find this course absolutely necessary in order to facilitate the dispatch of the large and increasing quantity of Bulbs now sold. Bulb Sales will be held from this date every day EXCEPT SATURDAY.

67 and 68, Cheapside, September 14, 1896.

Maidenhead.

SALE of well-grown GREENHOUSE PALMS, FERNS, &c., by order of Mr. Robert Owen.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at the Floral Nurseries, Castle Hill, Maidenhead (one mile from Maidenhead Station), on TUESDAY NEXT, Sept. 22, at 2 o'Clock, 3,000 Greenhouse Palms and Ferns, 500 Cyclamens, 200 Cannas, 1,000 Cupressus, Arbor Vitæ, Retinosporas, and other Shrubs, 1,000 German Iris and Herbaceous Plants, Fruit Trees, and Privet; and 20,000 Dutch Bulbs, including Hyacinths, Crocus, Spanish Iris, &c.

On View. Catalogues on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Tunbridge Wells.

About ten minutes walk from either of the Tunbridge Wells Railway Stations.

TWO DAYS' UNRESERVED SALE of well-rooted NURSERY STOCK, by order of Messrs. Thomas Cripps & Sons.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, the Tunbridge Wells Nurseries, Tunbridge Wells, on TUESDAY and WEDNESDAY, October 6 and 7, at 12 o'Clock precisely each day, 2000 Specimen BORDER SHRUBS, 3000 Hardy CLIMBERS and other PLANTS, 3000 Standard and Dwarf ROSES, 2000 oval-leaved PRIVET, 2000 Standard APPLES, all named and the best kinds; 1000 ORNAMENTAL TREES, together with a prime Stack of MEADOW HAY, about 30 tons.

The Stock may now be viewed. Catalogues may be had on the Premises, at the Seed Shop, 48, High Street, Tunbridge Wells; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Chilwell Nurseries, Chilwell, Notts.

CLEARANCE SALE of FRUIT TREES, in consequence of the approaching Expiration of Lease of a portion of these Nurseries.

MESSRS. PROTHEROE AND MORRIS are instructed by Messrs. J. R. Pearson & Son, to SELL by AUCTION, on the Premises, as above, on THURSDAY, Oct. 8, at Twelve o'Clock precisely, without reserve, a quantity of general NURSERY STOCK, recently transplanted and beautifully grown, including 8,000 STANDARD and 6,500 PYRAMID APPLES, 7,000 FANCY HOLLIES, and a number of PEARS, PLUMS, CHERRIES, &c.

May be viewed. Catalogues may be obtained on the Premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Friday, September 25.

GREAT SALE of WINTER and SPRING-FLOWERING ORCHIDS.

All bright, large flowered, floriferous kinds, specially selected. Strong established Plants, which cannot fail to yield the best results, and a

GRAND FLORAL DISPLAY

for the conservatory and house throughout the dull winter and early spring months.

A splendid and varied lot of DENDROBES, with well-matured Bulbs, including—

DENDROBIUM FARMERI.—Drooping racemes of flowers; sepals and petals white, flushed with pink; pubescent lip, rich straw-yellow and orange.
DENDROBIUM PARISHII.—Compact habit, beautiful dark rose-purple flowers.
DENDROBIUM FINDLAYANUM.—The first to flower in winter; among the most profuse-blooming and beautiful of all Orchids. The stems are literally smothered in large white, rose-pink, and orange flowers.
ODONTOGLOSSUM CERVANTESII. — A cool-house gem, sweet-scented; flowers pure white, or flushed with pink, and marked with concentric rings of brownish-crimson.
HABENARIA SUSANNÆ. — Large, snow-white, fringed flowers, borne on tall scapes. F.-C.C. August 28, 1894.
DENDROBIUM CREPIDATUM.—Flowers as though moulded in wax, white, often entirely suffused with pink.
DENDROBIUM WARDIANUM GIGANTEUM.—The gigantic richly-coloured Upper Burmese type, the finest of all; unequalled for size, brilliancy of colour, and floriferousness.
DENDROBIUM THYRSIFLORUM.—Great clusters of white flowers, with a golden-orange lip. Very handsome.
ODONTOGLOSSUM ROSSI MAJUS.—A cool-house, large, fragrant-flowered species. Among the most pleasing and attractive of all.
LÆLIA PRÆSTANS.—Semi-established plants; brilliant rose and dark Syrian-purple flowers.
DENDROBIUM DENSIFLORUM.—For ease of culture, floriferousness, and decorative effect, this popular species is hard to beat.
CŒLOGYNE CRISTATA.—Always in demand for wreaths, bouquets, table decorations, &c.
DENDROBIUM AUREUM.—Deliciously fragrant, exhaling an odour between that of Violets and Primroses.
DENDROBIUM SUAVISSIMUM, D. CHRYSOTOXUM.
DENDROBIUM NOBILE.—Established plants, imported from the Lang-Tang Mountains, which have yielded so many grand varieties.
DENDROBIUM CRASSINODE.—Unflowered plants, Barberianum type; the most richly-coloured of all.
LYCASTE SKINNERI, CYPRIPEDIUM INSIGNE MONTANUM, DENDROBIUM AGGREGATUM MAJUS.
CALANTHE WILLIAM MURRAY, C. VICTORIA REGINA, C. VEITCHII, C. LUTEO-OCULATA, SANDER'S VAR., and—
CATTLEYA LABIATA, Sander's Red and White unrivalled unapproachable type. Also—
CYPRIPEDIUM EXUL (Imported).
A Box of DENDROBIUMS (Mixed), offered as received, and containing several distinct-looking species.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., by order of Messrs. F. SANDER & Co., St. Albans, on FRIDAY NEXT, September 25, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

PRELIMINARY NOTICE OF

FORTHCOMING SALES OF NURSERY STOCK

IMPORTANT TO NOBLEMEN, GENTLEMEN, AND OTHERS ENGAGED IN PLANTING.

MESSRS. PROTHEROE AND MORRIS beg to announce the following fixtures:—

OCTOBER 6 and 7.—At the TUNBRIDGE WELLS NURSERIES, TUNBRIDGE WELLS, by order of Messrs. Thomas Cripps & Sons (two days).
OCTOBER 8.—At the NURSERIES, CHILWELL, Notts, by order of Messrs. J. R. Pearson & Sons.
OCTOBER 8.—At the ALBION NURSERIES, FARNHAM, by order of Mr. J. Clarke.
OCTOBER 13.—At the NURSERIES, FRAMFIELD, by order of Messrs. Wm. Paul & Son.
OCTOBER 19 to 24.—At the NURSERIES, BAGSHOT, by order of Mr. Chas. Noble (six days).
OCTOBER 21.—At the NURSERIES, CLIFFE, Kent, by order of Mr. W. Horne.
OCTOBER 27, 28, and 29.—At the HALE FARM NURSERIES, TOTTENHAM, by order of Mr. T. S. Ware (three days).
OCTOBER 29 and 30.—At HOLLAMBY'S NURSERIES, GROOMBRIDGE, Tunbridge Wells, by order of the Exors. of the late Mr. Edwin Hollamby (two days).
NOVEMBER 6.—At the NURSERIES, COOKSBRIDGE, Lewes, by order of the Exors. of the late Mr. F. Woollard.
NOVEMBER 18.—At the NURSERIES, CLIFFE, Kent, by order of Mr. W. Horne. Second Sale.

DATES NOT FIXED.

OCTOBER.—At the ALMA NURSERIES, FARNHAM, by order of Mr. S. Bide.
At the NURSERY, AMPTHILL, Beds, by order of Mr. I. Crick (one day).

Other Sales are in course of being arranged, and notices will be announced in due course.

The Auctioneers will be pleased to forward Catalogues of any of the above Sales free by post on application.

Auction and Estate Offices, 67 and 68, Cheapside, E.C.

Lilium longiflorum.

IMPORTANT CONSIGNMENT of 330 CASES from Japan.

MESSRS. PROTHEROE AND MORRIS beg to announce that they have just received advice of the shipment of the above 330 CASES, and as soon as they arrive in this country the date of Sale will be announced.

Auction Rooms, 67 and 68, Cheapside, London, E.C.

In the High Court of Justice, Chancery Division.

PEACOCK v. OLYMPIA, LIMITED.

OLYMPIA adjoining Addison Road Station. CLEARANCE SALE of valuable SPECIMEN PALMS and OTHER PLANTS. By order of the Receiver for the Debenture-holders.

IMPORTANT to the FURNISHING TRADE, GENTLEMEN, AND OTHERS.

MESSRS. PROTHEROE AND MORRIS are favoured with instructions to SELL by AUCTION on the Premises, Olympia, Addison Road, W., on WEDNESDAY, September 30, at 1 o'clock precisely, the valuable collection of about

500 SPECIMEN and HALF SPECIMEN PALMS

and other DECORATIVE PLANTS, comprising 17 magnificent specimens of Seaforthia elegans, 8 to 10 ft.; very fine plants of Latania borbonica, Phœnix, Corypha, Thrinax, Chamærops, Ficus, Specimen Bamboo, Green Bays, Ornamental Shrubs in tubs; Aloes, green and variegated; Cycas revoluta; Geraniums; Solanums, and other miscellaneous plants.

Catalogues may be had of the person in charge of the Gardens; of JOHN HOLMES, Esq., Solicitor, 34, Clement's Lane, E.C.; of Messrs. EDWARD MOORE & SONS, Chartered Accountants, 3, Crosby Square, London, E.C.; and of Messrs. PROTHEROE and MORRIS, Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

FRIDAY, OCTOBER 9, 1896.

PRELIMINARY NOTICE.

20,000 ORCHIDS.

THE GREATER PORTION WILL BLOOM EARLY THIS WINTER AND THE COMING SPRING.

7000 DENDROBIUM PHALÆNOPSIS SCHRODERIANUM,

In absolutely perfect condition. We guarantee them the best and finest lot in every way ever imported. The plants will bear flowers on the present growths in about November and December, and on their new growths about April and May; thus two crops of blossoms may be had in about six months.

9000 CATTLEYAS, LÆLIAS, CYPRIPEDIUMS, and DENDROBES.

A Consignment of LÆLIA ANCEPS,

of a grand white, with rhomboid petals, as in Dawsonii, and only found in this type.

NEW SOBRALIAS.

DENDROPHYLAX FAWCETII.

A beautiful new Orchid, which grows and flowers without leaves. Flowers are snow-white, resembling the large white Angræcum Fournierianum. Offered for the first time.

SCHOMBURGKIA THOMSONIANA.

Flowers like a cream-coloured Lælia purpurata, with a black-maroon lip. Twenty flowers borne on a spike.

In the same Sale we shall offer the

GRANDEST OF ALL EXHIBITION CATTLEYAS.

A very big lot. Season of Blooming, May and June.

In all, about

20,000 PLANTS, WITHOUT ANY RESERVE.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. F. SANDER & Co., St. Albans, to SELL the foregoing in their Central Auction Rooms, 67 and 68, Cheapside, London, E.C.

Condover Hall Gardens, near Shrewsbury.

On THURSDAY, October 1.

SALE of the CONTENTS of the CONSERVATORIES and GLASSHOUSES, by order of R. H. Cholmondeley, Esq., who is leaving. The Collection includes specimens of Chamærops excelsa, 10 feet high; Kentia Belmoreana, 9 feet high; Cycas revoluta, Thrinax elegans, 9 feet high; Adiantum Farleyense, Lapageria alba, Seaforthia elegans, several large specimens; Adiantum cuneatum, large and healthy plants, suitable for large Conservatories, Winter Gardens, &c.; also Greenhouse and Stove Plants.

Full particulars in Catalogues.

WM. HALL WATERIDGE AND OWEN, Auctioneers, Shrewsbury.

WANTED to RENT, a SMALL NURSERY, 600 to 800 feet Glass. No stock.—X. Y., 41, Wellington Street, Strand, W.C.

WANTED, to RENT, near a Town, Private GARDENS, or SMALL NURSERY, with good Glass and Dwelling-House.—SMITH, 85, Bolton Road, Chorley, Lancs.

WANTED, to RENT, a NURSERY, with option of Purchase, 1000 to 2000 feet run of Glass, Cottage, and about an Acre of Land. No Stock.
Apply, with full particulars, ALPHA, care of Mrs. Heath, News Agent, Cheshunt Street, Cheshunt, Herts.

WANTED, Second-hand SPAN-ROOF GREENHOUSE, in good condition.—Send full particulars and price to—
Mr. ALLEN, 23, Grove Park Terrace, Chiswick.

THE SELLY HILL COLLECTION of ORCHIDS.

MESSRS. CHARLESWORTH & CO.

Have great pleasure in announcing that they have purchased the entire COLLECTION of ORCHIDS formed by CHARLES WINN, Esq., The Uplands, Selly Hill, Birmingham.

Mr. WINN is one of the oldest Amateurs, having been forming his Collection for over thirty years, during which time he has brought together one of the choicest and most select lot of plants ever seen.

The Collection is up to date in Novelties, and is especially rich in

CATTLEYAS, LÆLIAS, CYPRIPEDIUMS, DENDROBIUMS, ODONTOGLOSSUMS, & MASDEVALLIAS, BOTH SPECIES & HYBRIDS.

MESSRS. CHARLESWORTH AND CO. are posting the CATALOGUE of above on September 25, to all their Customers. Any one not duly receiving the same can have a copy on application.

THE PLANTS ARE NOW ON VIEW AT THEIR NURSERIES.

Orders will be executed in strict rotation, as fully explained in the Catalogue.

CHARLESWORTH & CO., Heaton, BRADFORD.

HADLEIGH, SUFFOLK.—TO BE DISPOSED OF, the Lease, Goodwill, Stock in Trade, and Glass Erections, &c., of above NURSERY, comprising about 1¾ acres of Land, convenient DWELLING-HOUSE, Packing and Potting Sheds, SEED SHOP, and Fittings. Lease about nineteen years unexpired. Rent £27. No other Nursery within several miles. Price £150. Apply to—
WILLIAM BADMAN, Cemetery Nursery, Gravesend.

To Market Gardeners and Others.

WEST BEDFONT, MIDDLESEX, 14 miles from London.—9 Acres of capital GARDEN GROUND, including 2 acres of Fruit Trees, Small Cottage, Stable, Sheds, &c., to be let. Rent £34 per annum.
Apply to Messrs. BUCKLAND AND SONS, 4, Bloomsbury Square, London, W.C., and Windsor.

NURSERY and JOBBING BUSINESS for SALE, 80 years Lease, 500 feet run of Houses, and some Pits, plenty of good Jobbing; all produce sold at home. Ground Rent, £15 10s. per annum; one of the prettiest suburbs of London. Price £650.—L. B., 41, Wellington St., Strand, W.C.

PROTHEROE AND MORRIS, HORTICULTURAL MARKET GARDEN and ESTATE AUCTIONEERS and VALUERS, 67 and 68, Cheapside, London, E.C., and at Leytonstone, E. Monthly Horticultural Register had on application.

JOHN RUSSELL, COMMISSION AGENT, 47, Wellington Street, Covent Garden, W.C.
Bankers, L. & S. W. Bk. Telegrams, "Euonymus, London." Telephone, 2707.

5,500,000 BULBS. None better, none so cheap (Trade supplied). Tulips 1s. 4d., per 100, named Hyacinths 2d. each. Order at once. Satisfaction guaranteed.—SELLENS, Bulb Grower, Coventry.

GERANIUM CUTTINGS, strong, from pot plants.—A quantity for disposal, or in exchange for almost any sorts of Plants, Fruit, &c. State quantity required.
MORLE AND CO., The Conservatories, Finchley Road, N.W.

NEW VIOLETS.

Admiral Avellon, very large royal purple flowers; Princesse des Galles, the largest and sweetest Violet. These are the greatest novelties in Violets since I introduced the popular Marie Louise. Nice established plants, in pots, 12s. per dozen, 90s. per 100. California, very large, sweet-scented, free-flowering nice plants, 6s. per dozen, 40s. per 100.
GENERAL NURSERY CATALOGUE on Application.
FREDERICK PERKINS,
NURSERYMAN, REGENT'S STREET, LEAMINGTON SPA.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

CARNATIONS.—Special Offer to the Trade. Bankrupt Stock. 20,000 LAYERS for Sale. For particulars apply to R. E. HAW, Mowbray Gardens, Harrogate.

LOVELS' YORKSHIRE STRAWBERRIES. Prepared Runners from Maiden Plants:—
Thury, Paxton, President, and others.
Sample packet, 6d.; 100, 4s. 6d., carriage paid for cash. List.
W. LOVEL AND SON, Strawberry Farm, Driffield.

MALMAISON'S BLUSH, Strong, Healthy Stuff, in 4-inch Pots, ready for a shift, 8s. per dozen, £3 per 100. Also Strong Layers of GERMANIA, GLOIRE DE NANCY, ALICE AYERS, and BABY, 18s. per 100.
A. M'CULLOCH, Newstead Abbey Gardens, Notts.

H. ZEISSOLD, 13, Glockenstrasse, Leipzig, offers a large assortment of CACTUS, AGAVES, &c. Price List gratis and post free.
N.B.—I am authorised to sell a Collection of Cactus belonging to an amateur, consisting of, in part, 200 rare species, and large exhibition plants. Particulars furnished on application.

MALMAISONS.—Princess of Wales (deep Pink), beautifully Clove-scented (the queen of Malmaisons for cut flowers and decorations), fine plants, 12s. per doz.; Malmaisons, Blush, 9s. per doz. BORDER CARNATIONS (Selfs), Picotees, Flakes, and Bizzares, the finest named vars. extant, my selection, 6s. per dozen.
CHAS. A. YOUNG, Floral Nursery, West Derby nr. Liverpool.

SAMPLE BEFORE YOU PURCHASE.

HYACINTHS, the pick of Holland, 4s. per dozen.
" 2nd size, named, 2s. per dozen.
TULIPS, Duc Van Thol (scarlet), 2s. per 100.
" La Reine (rosy-white), 2s. 6d. per 100.
DAFFODILS, finest sorts, mixed, specially recommended, 2s. 6d. per 100; do., Single, common, 1s. per 100.
All other Bulbs equally cheap. Samples (full value), with Catalogue, sent for 1s., stamps or P.O.
MORLE AND CO., Conservatories, Finchley Road, N.W.

FERNS AND DECORATIVE PLANTS!—(TRADE):—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 12s. 100; ditto, large, in 48's, 10 best selling sorts, 6s. doz.; strong seedlings, 6s. 100, 50s. 1000; Adiantum cuneatum, in 48's, for cutting, 6s. and 8s. doz.; ditto, for making large plants quickly, 16s. and 20s. 100; Cyperus, Aralias, Grevilleas, Begonias, Geraniums, Fuchsias, and Heliotropes, in 48's, 6s. per doz.; Marguerites, Mignonette, Campanulas, and Chrysanthemums, in 48's, 8s. per doz.; Ficus, Palms, Dracænas, Crotons, and Bouvardias, in 48's, 12s. per doz.; Lists free. Packed free. Cash with order.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

EXHIBITIONS.

NATIONAL CHRYSANTHEMUM SOCIETY, Royal Aquarium, Westminster.
October 6, 7, and 8, 1896.
EXHIBITION of CHRYSANTHEMUMS, TABLE DECORATIONS, &c.
Schedules of Prizes on application to—
RICHARD DEAN, Secretary, Ealing, London, W.

BRISTOL CHRYSANTHEMUM SOCIETY'S THIRTY-THIRD ANNUAL SHOW
Will be held in the COLSTON HALL, on WEDNESDAY and THURSDAY, the 18th and 19th November Next.
Special Classes and Prizes for Amateurs.
In addition to the many Valuable Prizes usually given, and the TWELVE-GUINEA CHALLENGE VASE, the NATIONAL SOCIETY'S JUBILEE MEDAL will be awarded to the Best Bank of Chrysanthemums.
Schedules free of the Secretary—
EDWIN G. COOPER, Mervyn Road, Bishopston, Bristol

SEEDLING LATANIA BORBONICA with two leaves for Sale. 8s. per 100.
F. CLARK, Manor Road Nursery, Park Lane, Tottenham.

HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.C. Prompt cash.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free.
P. MCARTHUR, The London Nursery, 4, Maida Vale, London, W.

500 Strong ARUMS, at £1 per 100.
Apply to—
A. BRINKMAN, Great Berkhamsted.

50,000 EUONYMUS, Green and Golden, all splendid bushy plants.—GREEN: 12 in. to 15 in., at 30s. per 100; 15 in. to 18 in., at 40s. per 100; 18 in. to 21 in., at 55s. per 100; 21 in. to 24 in., at 75s. per 100; 25 in. to 40 in. at special prices.
GOLDEN: 5 in. to 12 in., at 3s. to 8s. per dozen. Cash with order. J. J. CLARK, Goldstone, Brighton.

BEGONIAS of the newest and most superb type, including many rare varieties. Double and Single, for Conservatory or Bedding. See B. R. Davis' Descriptive CATALOGUE, free. A handsome coloured plate of Six Double Varieties and a Treatise on Cultivation, free for 1s.
B. R. DAVIS, Yeovil Nurseries, Yeovil, Somerset.

BOX'S BEGONIAS, for quality and quantity, are unequalled; obtained highest award for Begonias at Temple Show. Exhibition of 2 acres in bloom till end of September, at West Wickham Nursery, near Station, Mid Kent, S.E.R. A visit solicited.—JOHN R. BOX, Croydon.

STRAWBERRIES.—11 Acres especially for RUNNERS.
ROYAL SOVEREIGN, rooted runners, 20*s.* per 1,000.
STEVENS' WONDER, ,, ,, 10*s.* per 100.
EMPEROR WILLIAM, ,, ,, 15*s.* per 100.
Catalogue of these in pots, and all other kinds in cultivation, sent post free.—H. CANNELL AND SONS, Swanley, Kent.

ORCHIDS, BULBS, CACTI.
Prices include carriage to London. Cancels Oct. 1.
LÆLIAS—Albida, anceps, autumnalis, and majalis, 15*s.* per dozen, 100*s.* per 100.
CHYSIS, LYCASTE SPS., 20*s.* per dozen, 110*s.* per 100.
ODONTOGLOSSUMS—Cervantesii, maculatum, and nebulosum, 12*s.* per dozen, 80*s.* per 100.
BULBS—Amaryllis, Milla biflora, and Bessera elegans, 70*s.* per 1000.
CACTI—Per 100, in 10 vars., £1; in 20 vars., £3; in 30 vars., £4.
Address all orders to—
WATSON AND SCULL, 90, Lower Thames St., London, E.C., as Agents to J. A. MCDOWELL & Co., Mexico.

To the Trade.
B. MALLER AND SONS beg to offer a very extensive and unusually well-grown Stock of ERICAS (Hyemalis and the other varieties); EPACRIS, SOLANUMS, GENISTAS, CYCLAMEN, DOUBLE WHITE PRIMULAS, BOUVARDIAS, of sorts; ADIANTUM CUNEATUM, and other FERNS; PALMS, in variety; GREVILLEA ROBUSTA, ASPARAGUS PLUMOSUS, STEPHANOTIS, DIPLADENIAS, FICUS ELASTICA, CROTONS, TREE CARNATIONS of sorts; TEA ROSES in pots; BORONIAS of sorts; VINES in pots, &c.
An inspection is invited.
Trade Catalogues forwarded on application.
Burnt Ash Road Nurseries, Lee, S.E.

25 PER CENT. SAVED!
DUTCH BULBS.
THE BEST HYACINTHS THE WORLD PRODUCES AT
☞ 2½d. each.
Before buying elsewhere, send for our CATALOGUE (FREE) and compare prices.
EXPECTED FAMINE in HYACINTHS
To avoid disappointment ORDER AT ONCE.
ROMAN HYACINTHS,
Guaranteed first size. 10/6 per 100.
MICHAEL RAINS & CO.,
Bulb Growers & Seed Merchants,
34, MANSELL STREET, ALDGATE LONDON, E.
AND THE NURSERIES, HAARLEM, HOLLAND.

ORCHIDS — ORCHIDS.
Clean, healthy, well-grown plants at reasonable prices; many large specimens and rare varieties.
CHOICE DENDROBES A SPECIALTY.
PLEASE WRITE FOR LIST.
JAMES CYPHER, EXOTIC NURSERIES, CHELTENHAM.

TO THE TRADE ONLY.
NEW ZEALAND GROWN SEEDS
ALSO
SEEDS of NATIVE FOLIAGE, and FLOWERING SHRUBS and TREES, obtainable from
NIMMO AND BLAIR,
Seed Merchants and Seed Growers, Dunedin, New Zealand.
London Agency:—W. G. INNES AND CO., 22, St. Mary Axe.
CATALOGUES EXCHANGED.

BULBS
FOR OUTDOOR & INDOOR CULTURE.
Large Collections of all the very Best Varieties of
Hyacinths, Tulips, Crocuses, Narcissi, Snowdrops, Irises, Lilies, &c.
Only the very best supplied. Prices extremely moderate.
Illustrated Descriptive Catalogue (No. 468).
POST FREE ON APPLICATION.
DICKSONS
Bulb Growers & Importers,
CHESTER.

EDWIN ELLIOTT, Fruit, Flower, and Plant Salesman, No. 9 Block, Open Market, Leeds.
Good references.

STRAWBERRIES.—A fine collection of the best varieties can be supplied. Orders should be booked now. Descriptive CATALOGUE post-free.
THOMAS RIVERS & SON, Sawbridgeworth.

GOOD BULBS.—DOUBLE WHITE NARCISSUS, 15*s.* per 1000; POETICUS PHEASANT-EYE, 10*s.* per 1000. All carriage paid.
CHARLES TWYFORD, Totnes.

LÆLIA PRÆSTANS, L. ANCEPS, CATTLEYA CRISPA, C. HARRISONIÆ VIOLACEA, to hand in fine order,
2*s.* 6*d.*, 3*s.* 6*d.*, and 5*s.* each.
W. L. LEWIS AND CO., Southgate, London, N.

FOR SALE, three large AZALEA ALBA, 4 to 6 feet through, heavily budded.
Also six smaller Deutsche Perle.
£10 10*s.* the nine; delivered within fifteen miles.
G. THRUSSELL, Goff's Oak, Cheshunt.

STRAWBERRY PLANTS (Sir Joseph Paxton), strong rooted runners from Maiden Plants. Parcel Post, 4*s.* per 100; on rail, 20*s.* per 1000.
Sample free.—Address—
J. WISE, Chertsey, Surrey.

FOR SALE, five Dendrobiums nobile, four Stanhopeas, two Cypripediums, two Euphorbia splendens, three Lomaria gibba, two Nephrolepis, two Polypodium aureum, one Dioscorea, one Tydæa amabilis. Large plants.—Apply, DENNIS, 11, Carter's Cottages, St. John's, Redhill, Surrey.

LILAC CHARLES X.—Bushy plants, 3 years old, full of flowering buds, cultivated in pots, for early forcing, 12*s.* to 18*s.* per dozen. A few dozen extra large plants 5 and 6 years old, 24*s.* and 30*s.* per dozen. Cash with order.—T. JANNOCH, Lily Nurseries, Dersingham, King's Lynn, Norfolk.

Important to Mushroom Growers.
CUTHBERT'S SPÉCIALITÉ MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5*s.*
R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

Hyacinths, Tulips, Crocus, Lilies, &c.
C. G. VAN TUBERGEN, Jun., Haarlem, Holland. Wholesale CATALOGUE now ready, and may be had free on application to—
Messrs. R. SILBERRAD AND SON, 25, Savage Gardens, Crutched Friars, E.C.
N.B.—Many new, rare, and interesting plants and bulbs will be found in this Catalogue.

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BOUVARDIAS. — Fine bushy plants, in 5-inch pots, quite clean and healthy, well set with buds, including those grand varieties Alf, Neuner, The Bride, Priory Beauty, Humboltin, &c.; 12 grand plants for 6*s.* 6*d.*
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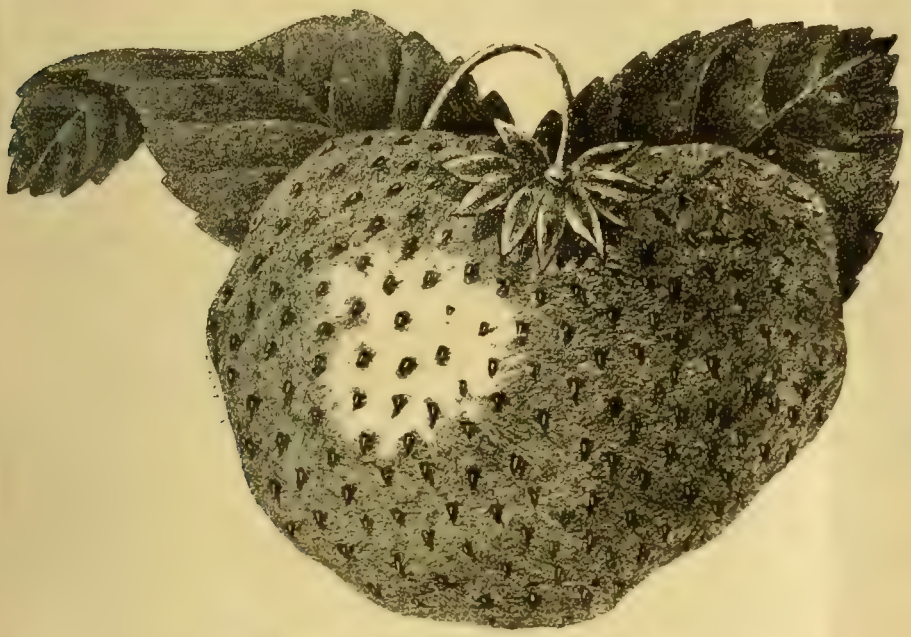


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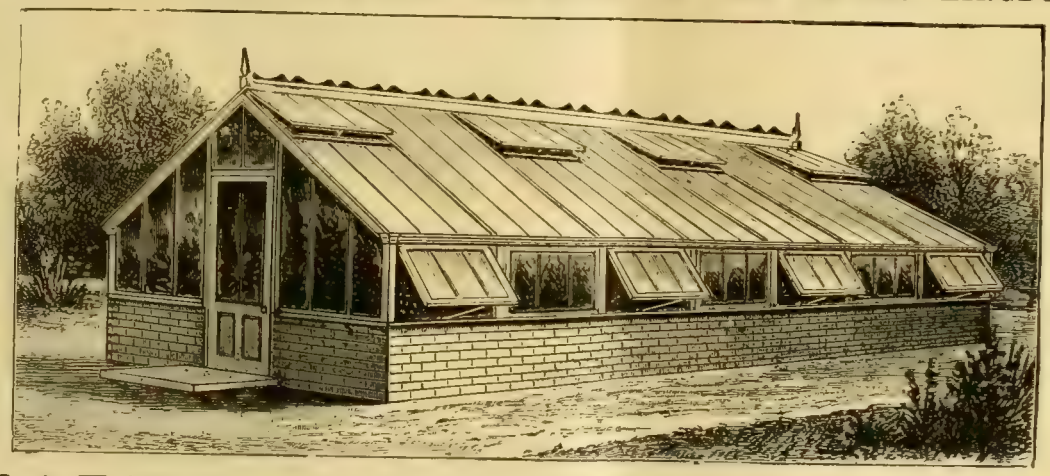
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THE
Gardeners' Chronicle.
SATURDAY, SEPTEMBER 19, 1896.

PLANT-BREEDING.

WE are most of us now-a-days so much accustomed to see our gardens or our houses bedecked with flowers, and our tables supplied with vegetables and fruit, that we take these things for granted, and do not trouble to inquire whence they come or how they are produced. But if we look back even a few years, we shall see how much larger a share plants have now in our lives than they had then. We shall see, moreover, that while there has been enormous numerical increase, there has also been in many cases continued progression in form and other attributes. We are not concerned here with the introductions from foreign countries, important though they are; our business for the moment lies with the changes resulting from the natural processes of variation as controlled by the art of the gardener. The garden Roses of to-day, for instance, are not the Roses of a dozen years ago; and as to the sorts that were grown by our fathers and grandfathers, they have, with some few exceptions, utterly gone. It is the same with Peas and Potatos, and with most other plants that are grown on a large scale. True, there are some exceptions; there are some "good old sorts," which seem to show by their persistence that they are the fittest to survive under existing conditions. The Black Hamburgh Grape is an illustration, the old double white Camellia is another; but these plants are not re-produced by seed, and therefore do not invalidate the rule, that each succeeding generation of plants differs in some degree from its predecessor. At first the differences are slight, and it may be imperceptible to all but the trained expert; but they become more accentuated as time goes on, till at length they eventuate in forms so different from that from which they sprang, that they would undoubtedly be considered of specific if not of generic rank, were not their history known. The Jackman Clematis and its near allies may be cited as cases in point; and still more remarkable are the tuberous Begonias, which, like the Clematis just mentioned, have been created, so to speak, within the last quarter of a century, and which are so different from anything previously known amongst Begonias, that they have actually been rasied to the dignity of a genus by M. Fournier, a French botanist. Pansies and Auriculas—garden productions both—are now, morphologically speaking, as good species as are most of the groups of indi-

viduals to which this rank is assigned by naturalists. Of their seedlings a large proportion comes true—that is, the parental characteristics are so far reproduced that there is no greater amount of variation among the offspring of many of these artificially-made species than there is in the progeny of natural species. If, as is the case in some Auriculas and the gold-laced Polyanthus, we find little change has occurred during the last few years, may not this relative invariability be the result of the gradual assumption of a degree of stability which we usually associate with the idea of a species? Again, it often happens that these high-bred, close-fertilised plants become sterile, so that their continuance can only be ensured by cuttings, or some means of vegetative propagation. Is not this analogous to the retrogression and ultimate extinction which occur in natural species? It is not necessary here to cite more illustrations; our concern lies rather with the way in which these changes are brought about. This leads us to what is called the improvement of plants, or plant-breeding. There seems to be a growing tendency to make use of the latter term; but if it is to be adopted, it must be taken in a broad sense, and not limited to the results of sexual propagation.

The two methods made use of by gardeners and plant-raisers for the improvement of plants are selection and cross-breeding—the latter, as far as results are concerned, only a modification of selection. The natural capacity for variation of the plant furnishes the basis on which the breeder has to work, and this capacity varies greatly in degree in different plants, so that some are much more amenable and pliant than others. The trial-grounds of our great seedsmen furnish object-lessons of this kind on a vast scale. Very large areas are devoted to the cultivation of particular varieties of Cabbage, of Turnips, of Peas, of Wheat, or whatever it may be. The object is two-fold—primarily to secure a "pure stock," and secondarily to pick out and to perpetuate any apparently-desirable variation that may make itself manifest.

The two processes are antagonistic—on the one hand, every care is taken to "preserve the breed," and to neutralise variation as far as possible, so that the seed may "come true;" on the other hand, when the variation does occur, the observation of the grower marks the change, and he either rejects the plant, manifesting it as a "rogue," if the change is undesirable, or takes care of it for further trial, if the variation holds out promise of novelty or improvement. It is remarkable to note how keen the growers are to observe the slightest change in the appearance of the plants, and to eliminate those which do not come up to the required standard, or which are not "true."

Where the flowers lend themselves freely to cross-fertilisation by means of insects, as is the case with the species and varieties of Brassica, it is essential, in order to maintain the purity of the offspring, to grow the several varieties at a very wide distance apart. In passing along the rows or "quarters," the plant-breeder not only eliminates the "rogues" and retains what he thinks may be desirable variations, as we have said, but he specially marks those plants which most conspicuously show the characteristic features of the particular variety he desires to increase, and he takes care to obtain seed from the plants so marked. The variety thus becomes "fixed," but it is obvious that that word is only used relatively; really, there is a constant change, which may be either in a retrograde direction, or which may be looked on as an amelioration. Thus, in the seedsmen's advertisements we see announcements of this character:—"So-and-so's *Improved* Superlative Cucumber," or whatever it may be. This "improvement," when it exists, is the result of the careful scrutiny, elimination, and selection exercised by the raiser. These are repeated season after season, till a degree of fixity is attained, and a good "strain" is produced.

Fierce competition and trade rivalry forbid the growers to relax their efforts, and thus it happens that the Pea or the Potato of to-day is not the same, even though it may be called by the same name as its predecessors. To the untrained eye, the primordial differences noted are often very slight; even the botanist, unless his attention be specially directed to the matter, fails to see minute differences which are perceptible enough to the raiser or his workmen. Nor must it be thought that these variations, difficult as they are to recognise in the beginning, are unimportant. On the contrary, they are interesting physiologically, as the potential origin of new species, and very often they are commercially valuable also. These apparently trifling morphological differences are often associated with physiological variations which render some varieties, say, of Wheat, much better enabled to resist mildew and disease generally than others. Some, again, prove to be better adapted for certain soils or for some climates than others; some are less liable to injury from predatory birds than others, and so on. These co-relations, then, are matters of the greatest importance to the biologist intent upon the study of progressive modification, and to the merchant and the cultivator for practical reasons.

So far we have been alluding to variations in the plant as grown from seed, but similar changes are observable in the ordinary buds, and gardeners are not slow to take advantage of these variations. The buds taken from the base of a plant not unfrequently differ from those which are developed higher up, and these differences are perpetuated by propagation by means of cuttings or grafts. An interesting illustration of the variability in flower-buds is furnished by the gigantic Chrysanthemums which attract so much attention in late autumn. Without entering into technical details, it may be briefly stated that the cultivator selects certain buds, or one bud occupying a special position, and pinches off and rejects most or all the others. The result is not only a flower-head of large size, such as we might expect under the circumstances, but also, in very many cases, one which presents different characteristics to those which are manifested by the other buds when allowed to develop themselves. "As like as two Peas in a pod" is, therefore, a motto which has not the significance it had before we had observed that the Peas are mostly different, sometimes very much so, and the same thing happens, as has been shown, in the ordinary leaf and flower-buds; doubtless each cell has its peculiarity, which only awaits a Röntgen ray or some other means to become visible.

Before we leave the subject of buds, some mention may be made of that form of bud-variation which the gardeners speak of as "sporting." Sports are bud-variations which occur suddenly, without assignable cause, and often simultaneously in different regions widely separate. Thus we get Peaches and Nectarines on the same bough, black and white Grapes on the same shoot or even in the same bunch, finely-cut leaves on a branch that normally produces broad or entire leaves, and so on. The gardener who is on the alert takes care to remove such buds, and to propagate them by cuttings or grafts. If raised from cuttings or layers, the duration of the sport is indefinite; if propagated by grafting, their duration is naturally conditioned by the life of the stock. The problems afforded by sports are of great interest, and are by no means fully solved. Many of them may arise from atavism, or a reversion to an ancestral condition; but of this there is no proof, neither can we appreciate the reason why such reversion should take place. Some may be the result of the dissociation of previously mixed characteristics. Of this we frequently see unmistakable evidence. Thus hybrid Berberries frequently show on the same plant an unmixing or separation of the characters belonging to the two parent-forms.

This brings us to the subject of crossing-breeding as a means of obtaining new or improved varieties. Cross-breeding may occur in all degrees from the case where the pollen of one flower is transferred, by insect or other agency, to the stigma of another on the same branch, to that in which the pollen is transferred to the flower on a plant of a different species. Watch a bee travelling over the great disc of a Sunflower, and it will become obvious that (always provided the stigmas be in a receptive condition) cross-fertilisation of neighbouring flowers must take place.

There are endless adaptations which ensure cross-fertilisation, and on the other hand there are very numerous structural arrangements which necessitate close fertilisation, or the fertilisation of a flower's ovules by pollen produced in the same blossom. In view of the copious literature on this matter, it is not necessary here to enter into further detail. It is enough to say that some of the most astonishing results of the gardener's art are due to this practice of repeated cross-fertilisation. When the cross is effected between plants of two different species the term "hybridisation" is made use of, but it is obvious that there is only a difference of degree between the fertilisation of different flowers on the same plant and that of flowers belonging to different species, or even genera.

The tuberous Begonias, before alluded to, are the results of the successive intercrossing or hybridisation of several species, and the result is the production, within little more than a quarter of a century, of a race or garden-group, not be matched in nature, and so distinct as to have been thought worthy not merely of specific but of generic rank.

Many recognised genera, we might even say most, are not so sharply differentiated as are these Begonias from others of the same family. These extreme crosses apparently are not effected under natural conditions, and some botanists even hesitate to admit the occurrence of hybrids in Nature except under very exceptional circumstances. The gardeners and cultivators, however, have long considered certain forms to be of hybrid origin; and one of the most interesting things in this connection of late years is the positive evidence which cultivators have been able to bring forward as to the existence and the parentage of natural hybrids. Certain Orchids, now rather numerous, were, from the appearances they presented, assumed to be "natural hybrids" between certain species. That such assumptions were correct has now been proved by the production in our Orchid-houses of forms indistinguishable from those met with in a wild condition, as the direct consequence of the designed fertilisation of one flower by the pollen of another.

Fairchild, a nurseryman at Hoxton, and the founder of the flower-sermon, was the first on record to raise a hybrid Pink. Indeed, this is the first artificial hybrid of any kind on record, and it dates from 1719. From that time to this, gardeners have gone on selecting, cross-breeding, and hybridising. At one time some good folk looked askance at such operations as an interference with the laws of Providence. So much was this the case, that one eminent firm of nurserymen in the early part of the century led their customers to believe that certain heaths (Ericas), which they had for sale, were imported direct from the Cape of Good Hope, instead of having been raised by cross-fertilisation in their own nurseries at Tooting!

Gardeners for the most part pursue their experiments with no scientific aim. The names of Philip Miller, Thomas Andrew Knight, and of Dean Herbert, amongst others, suffice, however, to show that some gardeners appreciate the deep scientific value of these every-day procedures. From the labours of these men and their successors, it is made obvious that the cultivator, by availing himself of natural tendencies and natural agencies, and by his power of eliminating conflicting or unpropitious elements, does actually bring about, in a relatively very short period, the same results that occur under natural conditions only after the lapse of a prolonged period. Do not these facts show the desirability for our own biologists to study carefully the results obtained by the gardener, and better still to enter, as their great leader Darwin did, the field themselves as experimenters?

There can be few departments in which greater promise of important results can be held out. *Maxwell T. Masters, in "Nature."*

New or Noteworthy Plants.

DENDROBIUM JENNYANUM, *Krzl., n. sp.**

A new giant Dendrobe, of Eastern origin. It resembles D. undulatum, but differs in the size of the plant and that of the flowers, but principally by the following characters:—1. The sepals are broader, not twisted, not even waved on the borders, but simply reflexed. 2. The petals are longer than in D. undulatum, with scarcely one torsion, and the borders are not waved. 3. The lip is broadly expanded, the side lobes very large, the middle one short, broad, nearly twice as broad as long, with a short apiculus, whereas in D. undulatum it is lanceolate and acuminate. The colour is yellowish outside, on the inside brown, and varnished all over. The lip is paler, especially in its basal part, and is adorned with chocolate-brown veins; the calli are whitish, and pale violet at their base. The dimensions are much greater than in D. undulatum, Mirbelianum, and the rest of this group of the "Antennata" section, the flowers being more than 1½ inch long and wide, measuring from sepal to sepal. The plant was imported by Mr. Zollinger-Jenny, at Zurich, Switzerland, and flowered with him in August. It is not a beauty in the way of the Indian Eudendrobia or the D. Phalænopsis varieties, but its stately form, and the richness of its long racemes make it, nevertheless, a lovely plant. *F. K.*

BROUGHAM HALL, WESTMORELAND.

Amongst the old baronial halls of England, not the least in point of historical interest is that of Lord Brougham and Vaux. It is a fine old building, half-castle, half-mansion, and stands in a pleasant situation. It is about 1½ mile from the quaint old town of Penrith, with its ruined castle. Anyone of an antiquarian turn of mind might spend a delightful holiday at Penrith. There is a British circus or camp on the banks of the Lowther, directly opposite to Brougham. This is said to be King Arthur's Round Table; but long before "King Arthur," or "Elaine," or "Sir Lancelot" were thought of, the Romans had established themselves at Brougham. There is nothing mythical about the Romans or their remains, for here are undoubted traces of their great roadways and encampments. Brougham itself was an important Roman station; the remains of a Roman camp have been found near the Hall, and a field in the vicinity appears to have been used as a burial-ground.

Stukeley, writing in 1725, says, "The trace of the Roman city is very easily discovered, where the ditch went between the Roman road and the river. I saw many fragments of altars and inscriptions at the hall near the bridge, all exposed in the courtyard to weather and injuries of every sort."

Stukeley had an eye for the picturesque, and was delighted with Brougham; describing the view from the British circus or camp, he says: "The rapid river Lowther, all along the side of it; the Eamont joins it a little way off, in view. Beyond is a charming view of a vast wood, and of Brougham; beyond that the ancient Roman city, and the Roman road going along under the high hill whereon is the beacon." Many changes have taken place since those days. The old castle yet stands; the beacon is on the hill, but its light is quenched. Brougham is there, but it is adapted to modern requirements. Much of the vast wood has been cut down, but trees have been planted, and the visitor may see what Stukeley probably did not, a well-kept garden, under the care of an excellent young gardener, Mr. Taylor. I called at the place on my way south from Newcastle flower show, where it was, as usual, raining heavily, and I was shown the gardens by Mr. Taylor also under the depressing influence of a wet day. I did wish, as it poured down all day long and all night, that the rainfall could be more equally divided, for at Penrith their average rainfall is about 40 inches. Near London it is about 20 inches for the year. One feature especially struck me, and that was the greenness of the vegetation, so different from the then rusty appearance of everything in the south.

The gardens are extensive, and, owing to what they term there a dry season, the crops of fruit and vegetables are excellent. The favourite flower at Brougham appears to be the Carnation. The older border varieties are extensively grown; the best of them are Ketton Rose, of which 300 plants in one bed made an excellent display, but which was surpassed by another bed of Duchess of Fife, containing 600 plants; the last-named is a fine, pale rose-coloured variety, which ought to have been named The Burn or Burn Pink, Duchess of Fife being a synonym only. Countess of Lonsdale is a salmon-pink coloured variety; The Duke is a pretty rosy-salmon. Mr. Taylor has some large beds of seedlings from good parentage, and the beds of seedlings make a rich and varied display of delightfully fragrant flowers. Many persons do not sow the seed sufficiently early in the year, the result being a poor show. I had a bed of seedling Carnations this year, and upon some of the plants 100 flowers were open at one time, and some plants had 200 flowers and flower-buds upon them. The seed was sown the third week in March. The end of the month of March or early in April is the best time to sow.

Some amateurs complain that the seed does not vegetate, and the fact is usually due to the soil having been allowed to become too dry during the process of germination. But this is a digression suggested by the subject. In one of the houses was a fine batch of Malmaison varieties, the pink and blush varieties being chiefly grown, with only a few of the scarlet Madame Warocqué. Like many other growers, Mr. Taylor has been troubled with the Carnation-rust; but he is dealing with it in the best way, by picking off all the leaves as they become attacked by it. This will cure the worst cases; but it must be done persistently until all traces of the disease have disappeared.

The varieties of Tree Carnations here are very limited in number, Mdlle. Thérèse Franco and Miss Joliffe being the best pinks, and Winter Cheer the best scarlet. The plants in all the houses are well grown, and as Mr. Taylor is a disciple of Mr. Lette', this is only what one would expect. There are fine examples of Dipladenia amabilis in the stoves, and of Darwinia macrostegia in the greenhouse; but plants that are suitable for furnishing and will produce flowers for cutting, are most desired in this and similar country gardens. There is a stock of clean healthy plants of Eucharis grandiflora, and with them a few Pancratiums, of which the most useful is P. fragrans. Some of the more useful species of Orchids are grown, and such Dendrobiums as D. Wardianum, D. nobile, with a few plants of D. chrysanthum, were ripening in the vineries. D. Phalænopsis is doing remarkably well. Mr. Taylor is also growing Vanda cœrulea very successfully.

A house containing young plants with ornamental foliage for decorative purposes in the mansion was very interesting; especially beautiful being the choice varieties of richly-coloured Crotons.

The Vines are doing well, and producing good Grapes, but the houses require to be furnished with a more modern system of ventilation.

It was a pleasure also to see such excellent crops of vegetables as are grown here. The early crops of Peas were over, but there was a fine crop upon Main Crop and some late varieties. Mr. Taylor thought the best main crop Pea in the collection was Prodigy; it was bearing an immense crop, and the flavour when cooked was excellent. Veitch's Main Crop was a close rival to Prodigy, and was also bearing very finely, the pods being large and well filled, and the quality excellent. Stratagem completes a trio of Peas as good as need be grown in any garden.

The Don was thought to be the best of the late Peas; that is, if there is any advantage to be derived from growing Peas that take so much longer to bring their crop up to a useful stage. I take it that quality and productiveness being equal, the sooner the crop can be produced the better. If late Peas are wanted they can be sown later, but most practical gardeners are well aware that the best late Peas are the early ones.

Having seen all that was to be seen at Brougham, and thanked Mr. Taylor for his courtesy and guidance, we proceeded to Lowther Castle. *J. Douglas.*

Orchid Notes and Gleanings.

ODONTOGLOSSUM × CORADINEI VAR.

Odontoglossum × Coradinei is one of the least-prized of natural hybrid Orchids, but there occasionally flowers a really showy variety of it which becomes greatly admired. There is the probability that most of these hybrids spring from crosses between O. Lindleyanum and the poor forms of O. crispum, and the showier are crosses between O. Lindleyanum and a finely-blotched variety of O. crispum.

An exceptionally showy flower of O. Coradinei, which seen from the front resembles a bright yellow-coloured O. × Wilckeanum, heavily blotched with red-brown, but which on turning the flower sideways displays the unmistakable long, straight column, and correspondingly elongated base to the lip, comes from the collection of A. Warburton, Esq., Haslingden, Manchester (gr., Mr. T. Lofthouse). The flower possesses a slight odour of Hawthorn, and it is possible that O. × Andersonianum (odoratum × crispum) may have entered into its composition in place of a true O. crispum. The plant is said to bear two fine spikes from one pseudo-bulb, the one of eleven, and the other of thirteen flowers, and to be a very handsome object. *J. O'B.*

THE LILIES OF THE EAST.

The reign of the imperial Lily is almost as long in duration as that of its most formidable rival, the Rose. Lilium dauricum (L. umbellatum, Hort. et Baker) a native of Siberia, begins to flower on the confines of June; its two finest varieties—so far as my own experience extends—being dauricum evectum and d. incomparabile. It belongs to the sub-genus Isolirion, which also embraces L. croceum, and other varieties; all of which are more or less attractive by reason of their bright colouring, which sometimes offers an effective contrast to contemporaneous flowers of widely different hue. Of all existing forms of this early-flowering Lily, d. incomparabile is decidedly the most impressive; it is also the most enduring, and the most floriferous. Lilium dauricum is followed in my garden by its near relative, L. croceum to which I have already alluded, but which, though widely cultivated in Scotland and Ireland, I have not grown much, other and more artistic varieties monopolising my attention. But it cannot be denied that the venerable Orange Lily has a certain beauty peculiarly its own. As long as I can remember, it has adorned our ancient churchyard, where those who are dearest to my memory repose. Thus it is often that such a flower becomes a very precious link between the fleeting Present and the irrecoverable, unalterable Past.

After Lilium croceum comes L. Thunbergianum, a very dwarf Lily, bearing the name of a great naturalist, to whom we are indebted for the introduction into

* *Dendrobium Jennyanum*, Krzl., n. sp. (Antennata).—Caulibus elatis 1·60 m (5 ped. et ultra) altis, foliosis, paulum supra basin incrassatis 2—3 cm. crassis deinde attenuatis, foliis oblongis obtusis, pro plantæ magnitudine parvis, 10—12 cm longis ad 6 cm. latis, racemis elongatis pluribloris, (25—30) laxifloris, bracteis minutis quam ovaria multo brevioribus, pedicellis 3 cm. longis, ovario vix 5 mm. longo. Sepalo dorsali ligulato acuto, lateralibus triangulis acutis, postice tantum in pseudo-calcar breve obtusum antice omnino apertum coalitis, omnibus 3 a tertia parte anteriore revolutis, petalis a basi sensim dilatatis lineari-oblongis apice acutis quam sepala ⅓ longioribus semel tortis, labelli sepalis æquilongi lobis lateralibus semi-obovatis antice rotundatis, antice explanatis intermedio brevi transverse oblongo apiculato, callis 3 longitudinalibus per discum, lateralibus minoribus mox desinentibus intermedio satis alto antice undulato basi lobi intermedio desinente; toto labello intus venis trabeculatis anastomosantibus decoro, gynostemio brevi antice tridentato, dente postico breviore, anthera plana antice hyalino-pilosula. Flores illis Dendr. Mirbeliani et Dendr. undulati duplo majores extus lutei, intus coriaceo-brunnei vernixii, labelli calli albidi basin versus violacei, sepala 3 cm. longa, petala 4 cm. longa antice 5 mm. lata, labellum 3 cm. longum inter lobos laterales 1·8 cm latum, lobus intermedius 6 mm. longus, 1·2 cm. latus. *F. Krzaczka.*

this country of other Lilies of greater fascination, which Thunberg may be said to have been the first to popularise. Lilium Thunbergianum, however, was not one of these. Though this is a Lily of very limited growth, it produces large flowers, for the most part of an orange or deep apricot hue. It has many varieties, some of which are very distinctive; but it would be a mere waste of time and mental energy to enter into an elaborate description of any of them here, for I do not regard even the best of them as remarkable acquisitions. Infinitely more beautiful is Lilium candidum, a native of the Levant, which for decorative influence has never been surpassed. It glorifies my garden throughout the greater portion of the month of July, during which period it puts all other flowers, yea, even the greatly idolised Rose, completely into the shade. L. auratum may be more gorgeous, more tropical in aspect, but it has not the pure stateliness of the fair Madonna Lily; nor is it so abiding, seldom remaining with us, in its integrity, for more than two years. Perhaps the special variety, called auratum platyphyllum, is an exception to this general rule. Lilies, I regret to say, often have a highly objectionable perfume; and L. auratum, with all its oriental splendour of aspect, is one of these. And though it may be admitted that it is not so offensive in this respect when grown in the open air, when flowering profusely in a conservatory its odour invariably imposes upon its value a serious limitation. But this is an objection which, however applicable to such Lilies as L. auratum and L. longiflorum, does not equally apply to L. Krameri, L. Browni, or L. speciosum. These therefore are admirably adapted for in-door cultivation, by reason of the rare inoffensiveness of their odour. But they have assuredly much loftier qualifications than this somewhat negative merit; for each of these possesses an individual beauty, always easy to recognise, but difficult to describe. Of these, L. Krameri is undoubtedly the rarest, and therefore most valuable, for the obvious reason that it has always been regarded by cultivators as the most difficult to grow. I tried its culture for several successive seasons without success. I have an idea that the somewhat diminutive bulbs of this precious Lily that I planted, perhaps, in too wet and exposed situations, speedily succumbed to the influence of the heavy winter rains. Having obtained an extra large specimen from Mr. William Bull, of Chelsea, in November last, I planted it carefully in a sheltered, warm border (where L. speciosum in all its forms invariably luxuriates), on gently sloping ground. With this treatment, and the addition of peat to the soil, it has proved successful beyond anticipation, and will probably grow stronger every year. Another Lily of great value for garden-decoration, which I found at first considerable difficulty in thoroughly establishing, is monadelphum var. Szovitzianum, sometimes called "The Persian Lily," but really belonging to the regions of Mount Caucasus and the upland districts of Asia Minor. I have learned from experience that it receives most inspiration for a strong and vigorous growth from a soil very largely composed of clay; from which I infer that its native element must be of this special description, otherwise it would not refuse to develop its resources, as it did here at first, in ordinary garden-loam, which had proved eminently favourable to the growth of its companion, the graceful, buff coloured, half-Martagon, Lilium excelsum, which would be much more extensively cultivated were its merits more fully known. When L. m. var. Szovitzianum has become adequately established under the conditions I have indicated, it grows very steadfastly, increasing in strength and stature year by year. I have never seen it finer than in the picturesque gardens of Rochester Deanery, where it is much cultivated and greatly appreciated. L. Szovitzianum, which is without doubt one of the noblest of Lilies, belongs to what may be called the great Martagon sub-genus, to which pertains also that splendidly-coloured dark Lily of the west, L. pardalinum, from California. Another brilliant member of this comprehensive family is Lilium chalcedonicum, which grows so widely all over Palestine that it is, in the opinion of Mr. Baker of Kew, Dr. Wallace, and Sir Edwin Arnold (of whom the last-mentioned writer has celebrated its beauty and intense classicality in most musical language in his *Light of the World*), the Lily immortalised in the greatest of his utterances by the "Friend of man."

Several Lilies of great interest and of recent introduction have bloomed in my garden for the first time this year, among which are L. longiflorum Takesima, of creamy-white complexion, and greater substance than Lilium l. Harrisii; and L. l. albomarginatum, whose foliage is of a striking purplish-green, distinctly margined with white. As its flowers are as large and gracefully formed as any, and its aspect more distinct, it is certain to prove a valuable acquisition. *David R. Williamson.*



Fig. 60.—Ferula fœtida.
From a photograph taken in Mr. Buysman's Garden. (Much reduced.)

FERULA FŒTIDA.

The identification of the plant producing the drug known as Asafœtida is a matter upon which some doubt is still experienced. Indeed, it is not at all unlikely that more than one species yields this disgusting, but sometimes serviceable, medicament. In the *Botanical Magazine*, at t. 5168, Narthex Asafœtida of Falconer is figured, but this is a native of Tibet. Our present illustrations (figs. 60, 61) are taken from photographs sent us by Mr. Buysman, of Middelburg, Holland, the well-known collector and preparer of botanical specimens. Mr. Buysman can supply both photographs and seeds of this remarkable plant. Ferula Asafœtida was originally described by Linnæus, but the best recent account is that of Boissier. *Flora Orientalis*, ii., 994, if, indeed, his plant be the same as that of Linnæus. Our illustrations give a sufficient idea of the habit and general appearance of Mr. Buysman's plant. It is a native of Persia Afghanistan, and southern Turkestan.

Dr. Aitchison, in the "Botany of the Afghan Delimitation Commission" (*Trans. Linn. Soc.*, April, 1888, p. 69, tt. xii. to xiv.) refers to Boissier's plant under the head of Ferula fœtida of Regel (1877), which is apparently not considered the same as Linnæus' plant (see also Aitchison, in *Pharmaceut. Journ. and Trans.*, 1887, p. 465). If Mr. Buysman's plant be identical with that of Regel and Aitchison, it should bear the name F. fœtida, but this is a point upon which we can express no opinion, not having compared the specimens. We may, however, append Dr. Aitchison's remarks:—

Ferula fœtida.—"Native names: Anguza-Kema, Kurne-Kema, Khora-Kema; stems from 3 to 5 feet in height, from a perennial root-stock that produces annual radical leaves for several years, and then a flowering stem, and upon the fruit ripening the plant dies. The young flowering stem, rising from a tuft of radical leaves, appears in the form of a Cabbage, being at first wholly enclosed in the broad

stipular expansions, or bracts, to which the cauline leaves are reduced; and when the growing branches of the inflorescence first push them open, the whole plant resembles a Cauliflower. The stem seems out of all proportion, massive, pillar-like, and stout or the plant. The inflorescence is globose, and from 1 to 2 feet in circumference. The flowers are white, and the young fruit soon takes a more or less purplish tinge. In all stages of its growth every part of the plant exudes, upon abrasion, a milky juice, which is collected, and constitutes the drug of commerce called Asafœtida. The stem in a young state is eaten raw or cooked."

METHODS OF PROPAGATION.

(*Continued from p. 271.*)

Training.—As the Irish schoolmaster is reported to have said, "Thrain up a child like a tinpanny nail, when he will not only go through the worrld, but ye can clinch him o' t' other side," so may it be said of the training or education of trees of all kinds, but especially fruit trees destined to occupy walls, fruit houses, and the margins of the paths in the kitchen or fruit garden.

This part of the gardener's art dates from very early times, as is proved by the many fine examples of horizontal training still to be found in this country in abbey and castle gardens. As much of a child's training is relegated to the schoolmaster, and too often ends when the school years are passed, so there is a growing tendency among modern gardeners to let the nurseryman do this all-important work, and trees are demanded not only fully trained, but even capable of bearing fruit the next season after purchase; but this practice is only excusable when such are needed to fill up speedily an accidental gap in a wall or in a fruit house.

It might even be said that every gardener should know how to start and train from a "maiden" tree, i.e., a tree one year old from the bud or graft, and most practical gardeners prefer to do so.

Experience shows that the best form for training an Apple or a Pear which is to occupy a place on a wall, fence, or to grow as an espalier by the sides of walks, is the so-called horizontal, while all stone fruits generally do best as partly vertical or fan-shaped trees, but no hard-and-fast line can be drawn here, for while Morello Cherries do best as "fans," the Duke Cherries—more especially the Bigarreaus—are better when horizontally trained. As an example, I will take a maiden Pear, with its three shoots springing from the graft; one of these must be tied to a stout stake to form the axis or stem of the young tree, and the others extended right and left at right angles, and at about 10 inches above the ground level. Now, all of these shoots should be cut back, when, if the tree be healthy, each eye or bud on the portion left will in due season burst into growth; those on the horizontal shoots, with the exception of the leader, being pinched back to form fruit-spurs, while those on the stem are utilized to form tiers of branches. So much for theory; in practice, however, from some cause or another, all the buds do not start into growth, either on the central axis or on the laterals; and the void thus left must be filled up by the insertion of a bud or buds. Frequently some of these shoots are too vigorous, and others thin and weakly, and it requires careful treatment to suppress the one and encourage the other, supposing the aim of the trainer to be a well-balanced tree. The terminal "break," as it is called, must be utilised to extend the tree laterally and upwards, so as to fill the required space the after-treatment being within the capability of most gardeners. If the trees are trained as espaliers, their training is precisely the same as if they stood against a wall; but, in this case, I would impress upon the reader the use of creosoted, stout stakes, or failing these, of oaken uprights, to form the fence—for although galvanised fencing-wire is handy and neat for this purpose, and fewer uprights are required, I do not like it, and what is of more moment, I am quite sure that the trees do not, as it is too rigid, as well as cold. Take care to leave 1½ to 1½ feet space between the tiers of branches, or when the fruiting-spurs are formed they will be too crowded, with the result that the wood will not ripen, and little or no fruit will form. Cordons are but a modification of this method, and the name comes from a French word, meaning girdle or band; but let the grower of such trees think for a moment that if he grew a dozen vertical or oblique cordons on a given wall-space, which would accommodate but one espalier, there will be instead of one a dozen trees, taking the nutriment out of the soil of the border. I admit that the finest fruit may be gathered from cordons trained along within a foot of the surface of the ground; but this is due to skilful treatment, and the radiated heat from the soil, which helps to keep an almost constant temperature night and day during the ripening season—factors in successful culture in favour of which one cannot say too much, as the fruit then suffers no check, and the colour, flavour, size, and ripening are perfect.

On the other hand, the number of fruits on a cordon are counted in dozens, whereas from a fruitful horizontally-trained espalier they number hundreds, while if all be done that will allow the maximum of sunshine and air to reach the fruit, by summer pruning and thinning, the individual fruits, if not quite so large as those on cordons, will be well coloured and handsome and, as a rule, of better flavour.

There are many modifications of this method of training, as the "gridiron," in which the lowest horizontal branches are stopped and encouraged to make perpendicular shoots at right angles to them, each of which finally becoming single cordons, and this, in my opinion, is preferable to a number of independent single cordons. *Experience.*

(*To be continued.*



Fig. 61.—Ferula fœtida: foliage and umbel. (see p. 330.)
(Much reduced.)

APPLE MAGGOT.

The Apple-maggot (Trypeta pomonella) has done a considerable amount of damage to the Apple crop this season. The adult insect resembles the common house-fly, but is somewhat smaller. It is readily recognised by its general black colour, yellowish head and legs, dark feet, prominent greenish eyes, white spots on the back and upper part of the thorax, three white bands across the abdomen of the male, and four across the abdomen of the female, and four black bands across the wings, resembling the outlines of a turkey.

The flies appear in the early part of June, and begin their attack on the Apples by puncturing holes in the fruit (so small as to be hardly visible to the naked eye), in which they lay their eggs. Egg-laying continues until checked by frost in the autumn, each female being capable of laying between 300 and 400 eggs. The eggs hatch in four or five days, and the maggots begin at once to feed on the pulp of the fruit, which they will finally completely honeycomb. When the maggots mature (which, under favourable conditions, requires four or five weeks) they usually go into the ground a short distance and are transformed into pupæ; although this transformation may occur in stored fruit and windfalls, and on the surface of the ground under fallen fruit or other refuse. They remain in the pupa state until the following summer, when they emerge as adult flies.

All varieties of Apples, both early and late, are subject to attack. Repression of the pest is difficult. Spraying with insecticides is of doubtful efficiency. Care in collecting and destroying windfalls and refuse under trees, and the contents of bins or store-rooms in which fruit is being kept, are efficient means of repression. Pigs and sheep running in the orchard will aid in the destruction of the larvæ and pupæ. *J. J. Willis, Harpenden.*

FERN BUDS AND BULBILS.

As one of the commonest and best known trade Ferns is Asplenium bulbiferum, which produces a multitude of young plants upon its fronds, a word or two on such buds should be of interest to many readers of the *Gardeners' Chronicle*. At the outset, one is struck by the peculiarity of a plant producing its young as this Fern does, from a number of apparent pimples on the very face of the foliage, instead of from buds generated in the axils of the frond divisions. With trees and shrubs, as most people know, there is a bud, latent or patent, snugly ensconced between the base of the leaf-stalk and the twig from which it protrudes; but where is the tree or shrub the leaves of which after developing with a normally smooth surface, breaks out into a rash of youngsters? who, moreover, while still parasitical upon the mother-plant, are capable of breaking out into a second rash on their own account, so that actually two generations may be pendent from the fronds of the original Fern.

This remarkable fecundity is indeed the secret of its trade popularity, since a strong old plant yields an annual harvest of sturdy offspring, which only need picking off and inserting in soil to start manufacturing on their own account right away. In this case, and that of a number of kindred species of the same genus, the little plants remain normally dependent upon the parent frond until it decays, which being borne to the ground by the weight of its progeny, gives them an opportunity of rooting and becoming independent. Woodwardia orientalis, however, another Fern which is less common than it should be, since it is nearly hardy, while producing youngsters much more freely, the upper surface being absolutely crowded with them under favourable circumstances, has apparently different views upon the subject of their support, and after providing them with two or three oval fronds, arranged parachute fashion, shakes them off upon a favourable breeze, to shift for themselves; the least shock, at any rate, suffices to detach them, and it is very interesting to watch them descend and settle the right side up upon the ground, where, if the soil be moist and open, they readily root and establish themselves. A near relative of this—Woodwardia radicans, which bears grand pendulous fronds 7 feet long, produces one or sometimes two buds upon the midrib, near the tip of the fronds, these are, however, firmly attached, and develop into fairly large plants with fronds, it may be a foot long, and a bunch of short aërial roots at the point of junction as large as a Walnut. Their weight naturally tends to depress the already pendulous mother frond, so that a plant growing on a slope would gradually find its way, step by step, to the bottom. The so-called "Walking Fern" of America, Camptosorus rhyzophylla, a near ally of our common Hart's-tongue, acts in a very similar fashion. This is a small, slender-fronded Fern, the fronds of which grow out at the tip into long, slender projections by continuance of growth of the midrib; a terminal bud is then produced, which as it develops weighs down the tip until it reaches the soil, where it roots and takes another stride. Obviously a provision of this sort, which deposits the offspring well outside the root-range of the parent, gives such Ferns an advantage over those which only propagate (the spores, of course, being left out of the question) by offsets or fission of the crowns. It is not therefore surprising that we find in many species provision of this sort. The Ostrich Feather Fern (Struthropteris), for instance, arrives at the same result but in a different fashion. This Fern is a true Shuttlecock Fern, i.e., the fronds spring up symmetrically in a circle, and stand erect, like the feathers of the popular toy, and each frond terminating with a feathery non-proliferous tip, the analogy we have cited seems appropriate. If, however, we instal one of these Ferns in our rockery, which, as it is perfectly hardy, we may do with advantage, we shall probably be surprised ere long by finding another, and then another, a yard or so away, each a well-defined shuttlecock, and apparently altogether independent of the others. Digging one up, however, we shall find that lateral underground buds have developed long runners or stolons, like subterranean Strawberry runners, and thus these, when they reach a favourable position, develop the shuttlecock, and so spread the Fern far and wide. A very familiar example among exotic Ferns is the Nephrolepis family, which, in suspended baskets, throw out these runners in great profusion into the air in a vain quest for fresh fields and pastures new. Bring them in contact with soil, and they start at once producing the apparently interminable fronds of the species. *Apropos* of this, many years ago a friend gave the writer a small plant of Nephrolepis exaltata, then a stranger to him. It was carfully placed in a Wardian case, and fronds speedily began to rise and uncoil—in a short time they reached the roof; fortunately there was a ventilating slit through which they could be conducted week after week. They continued to unrol without any apparent diminution pointing to a coming finish, and at this stage, in ignorance of its real name, we christened it Firescapia neverendingia, which certainly fits it exactly. Stoloniferous Ferns of this class lead on, of course, to those producing rhizomes generally; but the essential difference between these is, that a rhizome proper yields its fronds one by one at intervals, which the stolon does not do.

Buds or bulbils upon the fronds are found in numerous species other than those already cited, and more often on abnormal forms than on normal ones. Polystichum angulare proliferum is a well-known trade Fern. This has innumerable bulbils produced in the axils of its subdivisions on the primary and secondary midribs; and fronds so characterised only need pegging down on open soil, and kept close, to yield plants freely. Some varieties of Hart's-tongue, notably Scolopendrium var. cristatum, O'Kell, bear little plants on their fronds or stalks; and of our other native species, Lastrea montana, Athyrium filix-fœmina, Asplenium ruta muraria, the rare A. refractum, Osmunda regalis, Trichomanes radicans, and Adiantum capillus-veneris have afforded examples. Among exotics, the curious Cystopteris bulbifera is unique in producing large egg-shaped bulbs rather than bulbils on the backs of its fronds, which fall to the ground and produce full-sized plants so quickly as to render it a weed. It has been found, however, that some Ferns possess the power of producing buds under particular treatment even in cases where no possibility of a latent bud exists. In many Ferns, such as the Male Fern (Lastrea filix-mas), it has been shown that at a certain point in the base of each frond there is normally such a modification of the cell-growth as constitutes the nucleus of a bud, and that if anything happens to check the development of the normal axis of growth in the centre of the crown, the root energy finds a vent through these lateral buds which grow and produce a number of young plants; the old crown probably perishing. It has been demonstrated, however, especially in the case of the Hart's-tongue, that any portion of its caudex including the bases of the fronds themselves will produce buds, and eventually plants if severed and carefully cultivated. Careful examination of such sections will show that the buds are produced quite indiscriminately from any part of the surface, cut or uncut, while Lastrea bases so treated will only yield a plant if the one latent bud be unharmed. Some species of Marattia have yielded plants in like manner from the fleshy scales on the base of the fronds. In Athyrium filix-fœmina each frond at its extreme base would appear to have one or more latent buds, since, if properly treated, plants can be obtained therefrom, as we have repeatedly proved.

As will have been noted from the foregoing, bulbils are generally produced on the upper surface of the fronds. An exotic Lastrea, L. prolifera, however, has them associated with the spore-heaps, i.e., on the back of the fronds, and this same phenomenon has been remarked in several of the plumose forms of our native Lady Fern (A. f.-fœmina). Curiously enough, the plumose or extra-feathery character of most Ferns is accompanied by comparative barrenness, the extra leafage being at the expense of the reproductive powers, and in the cases cited spores are produced comparatively sparingly. Notwithstanding this, and the fact that the spores are perfect, producing plants quite freely, the transformation of energy not only produces the extra leafiness in question, but partially transmutes the very spore-heaps themselves, so that in the midst of them emerald-green growths appear which uncoil under favourable conditions into little fronds, and can, with great care, be cultivated into independent plants. As these only appear very late in the season, in fact, just before the mother fronds die down for the winter, the babies are orphaned almost before they are born, and the nurse must be clever who rears them. Precisely the same peculiar character has been observed in two distinct varieties of our English Maidenhair (Adiantum capellus-veneris), viz., Daphnites and imbricatum. Both these are distinctly plumose forms of the species, the latter especially, which does its best to rival A. Farleyense in its own line plus a greater density of growth. In both these varieties tiny plants make their appearance under the rolled back edges of the pinnæ, and in conjunction with the spores, which are also produced sparingly. A form of the Bristle Fern, Trichomanes radicans, bears little plants on the upper surface, precisely like Asplenium bulbiferum. Buds and bulbils, it has been found, are not confined to Ferns, as we generally know them, but are even produced in the prothallus stage. Professor Farlow first discovered apogamy, by which Ferns are re-produced from the prothallus without sexual action through buds; and I have recently discovered a curiously clear example of this in one of my sowings, in which a half-dead prothallus developed two long horns, each of which bore a bulbil proper near its tip. There is no doubt that adventitious buds are often produced owing to the parent frond being damaged in a young state, so that the root-energy finds an outlet for itself by generating a bud, and eventually a plant. In the frilled section of Hart's-tongues—S. v. crispum—they quite frequently appear on the stalks, and even the surface of malformed fronds, though we have never found them on perfect ones. Many exotic Ferns are proliferous in various ways, but we think the propagator has much to learn regarding the formation of induced buds on the lines above described; and I think, therefore, my article will be of interest as indicating an almost unworked line of research.

Chas. T. Druery, F.L.S., F.R.H.S.

NOTES ON THE OUT-DOOR PEACH-CROP.

THE Peach season of 1896 has generally been a very good one, and the crops have been unusually heavy. Owing to the extreme heat and drought the fruits have been rather under-sized, but this has not been the case where water has been moderately afforded, together with a mulching of stable-manure covering a space of 3 to 4 feet from the walls. Several remarkably early dates have been chronicled of the gathering of ripe out-door Peaches this year, and so far as my experience goes the record has been beaten in this respect. Ripe Peaches from out-of-doors in the month of June have been very rare, but in many places in the south such fruits have been had this year.

The earliest varieties are Waterloo and Alexander, and although there is very little difference in them, it is in favour of the former. It is earlier, and has a rather better flavour and colour. A few fruits of this variety ripened here (South Bucks) in June, and in the first week of July good dishes were gathered. Amsden June is another fine early Peach, ripening about ten days later than the two preceding varieties. Condor is a Peach of excellent flavour; it attains a good average size and colour, and ripens about three weeks later than Waterloo. It is superior in flavour to Hale's Early, a free-bearing Peach that ripens about the same time. Early Silver follows the preceding very closely, and is a pale-coloured Peach of very good flavour. As a further succession we have Grosse Mignonne, Bellegarde, and Dymond, three excellent varieties. The latter is one of the best either for outdoor culture or under glass, the fruit of large size, a dark-red in colour, and flavour capital, in this respect equalling Noblesse. This variety should not be omitted from the smallest collections, it being a good grower and of a hardy constitution, and of fine flavour. Royal George is a good old Peach, but it is sometimes subject to mildew. Dymond I consider a better Peach, and should plant it in preference to the old variety. Crimson Galande ripens freely on the south and west walls rather earlier than Royal George. The fruit is of medium size, and bright colour; but in flavour it is not equal to that of the four preceding varieties. Late varieties of Peaches have ripened earlier than desired this year. Barrington, a good September Peach, which usually ripens towards the end of the month, ripened fruits on a west wall during the first week; and Walburton Admirable, the best-flavoured late Peach I am acquainted with, will be over, apparently, a fortnight earlier than was the case last year. The Nectarine Peach is also a good late variety; the fruits are of extra size when well grown, and although it does not crop so freely as most of the varieties enumerated, it is useful by

reason of its late ripening, size, and good quality. The above varieties are out-door Peaches, that may be relied upon as sure croppers in any ordinarily good season; and all excepting the very late ones may be grown successfully on west walls in the south and midland counties of England, unless the situation be unusually low-lying and wet. *C. H.*

FORESTRY.

PRUNING TIMBER TREES.

The amount of pruning performed on forest trees usually has to be regulated in accordance with the staff of forest labour employed, and the object the owner has in view. The fact that pruning is necessary or desirable is a proof that the previous management of the plantation has not been quite as it should have been, for, when properly humoured and directed, Nature performs most of this kind of work. In Fir woods generally, and those consisting of shade-bearing hard woods, close order from the start, and a slight irregularity in the size and vigour of the trees, will always ensure a crop of clean stems without much loss from overcrowding. But in light-demanding species, close order for any length of time invariably means a reduction in the number of well-shaped stems; and thinning, if not affected artificially, will, sooner or later, occur by the dying out of weak individuals. The result of this is a certain degree of freedom in the growth of the crowns of those remaining, which frequently exceeds that necessary for the proper development of the stems. In such cases pruning may be beneficial in several directions, although the age of the trees, and the value of their timber, determine the return which may be expected from the work.

In ordinary plantations, pruning is usually confined to the removal of dead branches and double leaders. When a branch loses its vitality, the growth of the cambium proceeds but a short distance beyond the junction between the branch and main stem. The point at which this growth ceases gradually becomes more apparent, owing to the increase in the circumference of the living portion taking place more rapidly than that of the main stem, by reason of reduced bark pressure and the accumulation of organised sap at this point. As growth proceeds, fresh layers of the new wood are pushed out along the dead branch, until the latter decays or is blown off, when the exposed end of the stem gradually becomes "occluded" or covered by layers of live wood. The most favourable result of this process is a dead knot, the formation of which begins upon the death of a branch, and finishes when its stump is covered by new growth, and is the almost invariable result of the death of a small branch. When large branches die and remain on the tree for many years, more serious defects, however, often arise in the timber. Such branches retain a good deal of moisture, and their sapwood quickly becomes infested by saprophytic fungi, which considerably hasten their decay. With species having no true heartwood, such as Beech, Ash, and Sycamore, or in which the heartwood possesses little durability, as in the Elm, the mycelia of these fungi frequently penetrate not only into the interior of the branch, but also through them into the main stem, and may cause its entire decay. With a durable heartwood as in the Oak, the centre of the branch usually resists infection, and the gradual process of seasoning to which it is subjected endows it with a bone-like hardness and degree of durability which renders it almost imperishable. In such a case, infection of the main stem is less likely to occur, for as the sapwood at the base of the branch becomes soft and rotten, the new layers of the surrounding wood push their way down to the centre of heartwood, after which the formation of a dead knot of sound wood is alone possible. From the above, the desirability of removing dead branches over 3 or 4 inches in diameter, at an early stage in their decay, will be apparent, but when we come to those still living, the consideration of several points over and above those already mentioned is involved. It is always a difficult matter to say what proportion of branches is really necessary for carrying on the assimilative functions which result in a properly-nourished timber stem. If the greatest possible quantity of wood were the object in view, the more branches the better, but as everyone knows, wood is not necessarily timber. The motto of the economic forester should be "First make your stem, and then cover it with timber."

When worked out, this means that branches are necessary evils until the tree has almost attained its complete height, after which, the more the better, providing they contribute to the thickening of the stem. A branch can only be said to do this when its leaves receive sufficient air and light to convert the raw material they receive from soil and atmosphere into organic compounds in excess of the requirements of that particular branch. Failing this, it does more harm than good by throwing a greater burden upon the absorptive powers of the roots and the water-conducting channels of the stem. It is in the removal of such branches that stem-pruning proves beneficial; and we may regard it as a safe proceeding to take off all branches which are placed below the maximum breadth of the crown, or which are entirely shaded by those above them. This, of course, only applies to plantation-trees, which receive the whole of their light from above, and where the side-light is too dim to be of much value. The intensity of light necessary for the formation of starch in the leaf probably varies with the nature of the soil and the supply of potash-salts, but for practical purposes this may be left out of account as regards pruning. In any case, pruning is only justifiable on economic grounds when carried out on a small proportion of well-formed stems intended for the production of large timber, being too costly and dangerous an operation for general practice. *A. C. Forbes.*

TRENT PARK.

This is the name of the residence of F. A. Bevan Esq., which is situated in Hertfordshire, not far distant from the town of Barnet. The gardens, which are of considerable extent, are under the care of Mr. Lees, of Chrysanthemum fame. In recent years many alterations and improvements have been carried out under his direction in the flower and pleasure-grounds, which form some excellent features; and noticeable in this way are some beds of new and rare shrubs which have been made in the vicinity of the mansion. The bedding-out, as seen on the terraces, is bold in character and at the same time effective, and without formality. The keeping of this part of the gardens was excellent, everything being neat and clean, and the gravel walks noticeable for their firmness and dryness.

The kitchen garden is well cropped with first-class vegetables. The walls are covered with fruit trees faultlessly trained, and those of Pears, Plums, and especially Peaches and Apricots, were bearing good crops of very fine fruits. The crop of Apples is a heavy one, and the fruits are very well coloured, although they are not of large size. Many borders for the growth of flowers are found in the kitchen garden, and one of mixed hardy herbaceous perennials was rich in species and varieties. Other borders contained Roses in variety, Carnations and Violets; the last-named plants are in some cases grown in these borders for winter flowering, and they are already fit for being lifted and placed in the frames. Here also was found a collection of Michaelmas Daisies of remarkable extent and variety.

The many glass structures existing contain Peaches, Vines, and Figs. A houseful of Muscat of Alexandria Grapes consisted of very superior bunches, large in berry, well finished, and of that beautiful golden-yellow which bespeaks high culture. Some of the plant-houses contained collections of Crotons, Palms, and many other plants used in the dwelling and for table decoration, all of which were in excellent condition. There are two houses filled with Carnations, mostly Souvenir de la Malmaison, the plants well grown and robust, and of which Mr. Lees is justly proud.

Several houses are devoted to Orchid culture, a good collection of these plants being grown, many of which were in bloom. I should suppose that Odontoglossum crispum is the favourite species, and the numerous examples of it were in fine condition.

There are other houses and pits, which contained Melons, Cucumbers, Tomatos, and a large quantity of winter-blooming plants, such as Cyclamens, Primulas, Bouvardias, &c. Strawberries in pots receive considerable attention, and they were about the best I have ever seen.

The Chrysanthemums, so largely grown here, are marvellous examples of good culture, with spotless foliage, and all "the buds taken." The pots are crammed with roots, which will carry the plants on well throughout the flowering season. The collection is complete as regards every new variety in all the various sections, and Mr. Lees should be able to make a good show on the exhibition-tables this season. *J. W. McHattie, Strathfieldsaye, Mortimer.*

FLORISTS' FLOWERS.

SEASONABLE NOTES ON CHRYSANTHEMUMS.

During rainy weather Chrysanthemums should be supplied with stimulating plant-food, but owing to the soil being always in a moist state, it is not possible, even were it necessary, to apply this aid to growth in the form of liquid manure. Some persons are under the impression that Chrysanthemum plants grown for the production of large blooms cannot have too much moisture at the roots. This is a fallacy, and likely to mislead the inexperienced cultivator. Stagnant root-action is one of the causes of defoliated stems, and lack of moisture is another. After a spell of wet weather it is no uncommon sight to find the lower leaves, in fact for 2 feet up the stem, suddenly turn black, and die off later without apparent cause. In my opinion, this is a result of stagnation of root-growth, mainly caused by a too moist state of the soil. The best method of applying nutriment during wet weather is to sprinkle it on the surface of the soil, at the rate of one teaspoonful to each plant. For this purpose Thomson's, Ichthemic guano, Clay's, and Standen's manures are suitable ones to use. Fresh and dry hen or pigeon droppings make a capital manure, and by rubbing them through a fine-meshed wire sieve, the particles are fine enough to be quickly washed into the soil. The safer way of employing all such manures is, little and often. Soot is a valuable manure, containing, as it does, a quantity of sulphate and chloride of ammonia. A dressing of soot will perhaps, restore chlorophyll to the leaves when it is deficient, more quickly than anything else. Although lime is required by the Chrysanthemum, yet it must be carefully used, as too much causes loss of colour in the foliage; and the same effects are noticed when water from off the chalk is employed. The foliage turns of a pale yellowish tint, and a dressing of soot counteracts this. Around Liverpool, where the Chrysanthemum has long been admirably cultivated, soot is in great favour. As a rule, though soot is all the better when used mixed with water, it is preferable to use it as a top-dressing in long-continued wet weather.

At about this season, the last top-dressing of soil mixed with some kind of fertiliser should be afforded. One important point in producing large blooms is the encouragement of the surface-roots, for no Chrysanthemum plant was ever furnished with too many of these, for the more there are, the greater the amount of food taken up by the plant. By adding a surface-dressing an inch thick consisting of two parts loam and one of manure, artificial or otherwise, the roots that are near the surface are encouraged to increase in number and length, and remain there. After the dressing is finished, lay a large crock or tile on the surface to receive the water as it comes from the spout of the watering-can. The crock has, moreover, the advantage of encouraging the growth of the roots at the surface, as may be seen by lifting it a short time after the top-dressing has been put on.

Earwigs are extremely numerous this season, and the traps set for them should be examined daily, and the insects destroyed. Earwigs injure the blooms later on, it is therefore wise to lessen their number as much as possible before the plants are housed.

I note the presence of mildew on the under surface of the leaves, as is commonly the case after a hot and dry summer. Some varieties are much more susceptible to mildew attacks than others, and especially where the attention given to watering the plants has not been of that regular order consistent with good management. Princess Teck and the members of that family are perhaps more liable to have mildewed leaves than any other variety. Some remedies should be applied without delay; and flowers-of-sulphur is one of the best of these. *E. Molyneux.*

THE BOTANICAL GARDENS, EDGBASTON, BIRMINGHAM.

THE drought has been felt as severely in the Birmingham districts as in those further south, and it might be said, pre-eminently so on the undulating banks of the Birmingham Botanical Gardens, and yet, though the turf and some other things showed signs of the hot, dry summer, the grounds had a bright and fresh appearance at the end of July, and were gay with flowers, evidences of careful attention on the part of Mr. W. G. Latham. The newly-planted alpine and bog-garden is fast becoming well-furnished with verdure in spite of the drought, which had almost entirely dried up the marshy spots where the aquatic plants find a home. The hose and the watering-pot had done their utmost to master the drought, but at the expense of considerable time and labour. The terrace flower-garden and that upon the extensive slope which falls away from the terrace towards the grounds on the lower level, was surprisingly gay and effective, though the position is a very trying one for plants in such a dry summer. Panels of zonal Pelargoniums were in full bloom, while Centaurea ragusina, Violas, a dwarf blue Ageratum, Koniga variegata, yellow-flowered Calceolarias, Pyrethrum Golden Feather, &c., made out the pattern. It is necessary to look upon this gaily-decorated slope from below to appreciate its effectiveness. Borders of perennial plants are well furnished, many an interesting genus being represented; and by the sides of winding walks, the visitor comes upon large beds of what Mr. Latham grows as Chrysanthemum maximum, but it is early to bloom, and answers to the description of Chrysanthemum lacustre of botanists. There were bold and striking beds of Coreopsis grandiflora and other subjects, such beds being in good keeping with the masses of foliage on either side. Everywhere the grounds are in excellent order; and while the claims of botanical science are by no means overlooked, the popular taste is also considered and catered for. The residents in Edgbaston have a delightful promenade in the grounds of the Botanical Gardens.

The houses are always in perfect order, and the plants in the best condition. In the show-house Fuchsias are largely employed to secure appropriate decorative effects; the named varieties are there in abundance, and also such species as corymbiflora, and triphylla, always very attractive subjects here during the summer, and others. In one of the show-houses could be seen a very fine strain of Gloxinias, and an equally good one of Begonias was coming on to take their place. There is a wide selection of plants, not a few being such as are seldom met with, and the presence of which forms an additional attraction to those interested in plants. In the open air, growing in front of the plant-houses, could be seen bushes of Olearia Haastii laden with blossom. *R. D.*

GERMAN AMBER.—The production of German amber in 1894 amounted to about 4,400 centners (220 tons), or about 1,000 centners (50 tons), more than in the previous year. By far the larger portion of the above quantity is put out by the two mines of Palmnicken and Kraxtepellen, belonging to the firm of STANTIEN & BECKER; while the smaller portion of about 120 centners (6 tons) only is obtained by dredging and searching the foreshore of the Baltic Sea. The two mines named above, with the home industry, employ about 1200 persons.—*Jour. Soc. Arts.*

BOOK NOTICE.

AMERICAN GRAPE-GROWING AND WINE-MAKING. By George Haussmann. (Published by Orange Judd Company, New York.)

WE have here what seems to be a very practical treatise on the Grape-vine as grown in America, and which we think will prove of considerable interest and value to those concerned in the cultivation of American Grapes. Comparatively it is of little value to growers in this country. In the first place, Grape culture in America is almost all carried on in the open air. In California and the Southern States they ripen thoroughly, and are not unpalatable when one gets accustomed to the foxy taste of the native Grapes. As elsewhere, great improvements are being made, innumerable new hybrid varieties being introduced every year. The great merit of the American Grapes is their hardiness and robust constitution, and their suitability to the climate, whilst the European Grapes are found not to succeed. That which will probably prove of the greatest interest to English growers are the chapters referring to the diseases and insect enemies of the Vine. It is to be remembered that to America we are indebted for the introduction of the Phylloxera, the direst scourge that has ever appeared amongst Grape-vines, causing wholesale destruction in European vineyards and elsewhere. It is somewhat remarkable that the country which should send us the "arch-destroyer" should also furnish us with its master. The success attending the grafting of the European Vines on the American Vine (Vitis riparia) is most gratifying, an immense trade having been created in the manufacture (so to say) of phylloxera-proof stocks that is simply astounding.

The fungoid diseases, Anthracnose and Black-rot, which threatened at one time to annihilate Grape culture in some of the States, and which, we fear, is paying some of our growers in this country an unwelcome visit just now, had better take note that "Mr. Haussmann says these may be kept in check by repeated sprayings of the Bordeaux Mixture. The great ignorance displayed, and the strange objections made to these sprayings, is well told by the following:—'A neighbour of ours postponed his spraying because the incessant rains would be sure to wash off the solution.' 'Another neighbour argued that spraying was useless until dry weather set in, because the rains would wash away all rot and mildew from the fruit.'" Just such mistakes as these are to blame for all failures in spraying Grape-vines, for where fruit and foliage were covered with a copper solution, the germination of the spores of this fungus is impossible. "When by the naked eye we can discover the least trace of mildew or rot, it proves that we should have commenced spraying at least ten days before."

A good portion of the work is devoted to wine-making, as to the merits of which we can pass no opinion; but we are astonished at the enormous extent to which this industry is carried, especially in California.

In the chapter on raisin-making, the author falls into the common error of stating that the Sultana Grape is a distinct seedless Grape; whereas it is but the badly-set berries, the thinnings, in fact, of the Muscat of Alexandria—the best fruit on the stalks making the finer raisins, and the seedless berries the Sultanas.

THE WEEK'S WORK.

THE KITCHEN GARDEN.

By C. HERRIN, *Gardener, Dropmore, Maidenhead.*

Cabbage.—If the ground for this crop has not already been prepared, the work should be done at once; and if the crop of spring-sown Onions has sufficiently matured for removal, the land on which they have grown will answer well; and if it was well manured for the Onions, very little preparation will now be necessary. After cleaning the piece from weeds, &c., scatter thinly over the surface a dressing of lime and soot. If the Onion-quarter be not now at liberty, and Cabbage must follow another crop [which should not be Cauliflowers, but may be Potatos], a moderate dressing of half-rotten manure should be dug in, and a surface-dressing of quick-lime and soot afforded, the ground being trampled evenly all over so as to make it firm before any planting is done. Plant the Cabbages with balls of earth attached, in drills made about 3 inches deep, planting with a trowel. Those from the earliest sowing, which have already been once transplanted into nursery beds, will now be ready for the final planting, and if the varieties are small-growing, such as Ellam's Dwarf and Little Pixie, they may be planted at 9 inches apart in drills, at 18 inches apart, which will leave them, when each alternate plant is pulled up for consumption in the winter, or as soon as they crowd the permanent plants at 18 inches apart. Varieties of larger growth should be so planted that ultimately they will stand at 2 feet apart each way. A good portion of ground should be reserved for plants from the later sowing.

Celery.—The earthing-up of Celery should be done in dry weather, as opportunity offers. It is an error in cultivation to earth-up Celery too freely at one time, and it is preferable that it be rather under than over-done at the present time. If done too freely further growth may be hindered, and if the hearts be smothered, the heads are often burst or become otherwise deformed. Where nice clean sticks are required for exhibition, bands of brown paper should be placed round the stems before the soil is placed around them, but first sprinkling a little soot about the surface as a preventive of disfigurement by slugs. If Celery be required for use early in the coming month, this should now be given a final earthing-up, and if not treated as above with bands of paper, the stems should either be tied loosely with a strip of matting, or be held together by a second person to prevent the soil getting into the hearts of the plants.

Parsley is now plentiful in most gardens; and where this is the case, remove all of the outer leaves from a portion of the plants, and thin out any plants standing thickly together so as to induce a sturdy growth that will survive the winter. Where small boxes have been filled with roots, place them in the most exposed position available.

Mushrooms.—The collection of manure for the formation of beds should be carried on daily. It is necessary that it be wheeled into an open shed out of the reach of rain, and frequently turned until the rank heat and steam have been dissipated, and the necessary degree of dryness obtained.

PLANTS UNDER GLASS.

By JNO. MCINTYRE, *Gardener, Woodside, Darlington.*

Thoroughly cleanse all structures required for housing Chrysanthemums or other plants that have stood out-of-doors during the summer months. Should frost occur suddenly, the plants will have to be taken up hurriedly.

Zonal Pelargoniums.—A good batch of cuttings should be taken for furnishing plants for next season. Insert these singly in thumb-pots, and place them in a cold frame, the lights of which need only be placed over them during wet weather, or on cold nights. Ivy-leaved varieties have nearly finished flowering; and if they are to be kept for another year, do not give them much water. The better plan is to raise young stock annually, and discard the old plants. Take cuttings of varieties of the Regal type from well-ripened plants. Old plants which have finished flowering may be stacked on their sides out-of-doors, where they will mature. Spring-struck plants now blooming may be afforded an occasional dose of liquid-manure.

Cyclamens.—Sow seed during the present month, taking especial care that it has been obtained from a good strain. Use shallow pans, and a compost of leaf-soil and loam. Until the seed germinates keep the compost always moist. A position upon a shelf near the glass, but well shaded, in an intermediate temperature, is the best suited for them for some time to come.

Climbing Plants upon the roofs of conservatories or other houses, now require to be well thinned and regulated, so that all the light possible may pass through them during the winter.

Greenhouse Rhododendrons, and other hard-wooded greenhouse plants standing out-of-doors, should be trained into shape. If the plants are root-bound, assist them occasionally with soot-water. All plants should now be put in readiness, as they must be housed on the first signs of frost.

The Fernery.—If fire-heat has been dispensed with during the hot weather, it will be necessary now to again use a little to prevent the temperatures becoming too low. Continue to feed large specimens that are root-bound with farm-yard liquid or soot-water. The house should be looked over daily, and all decaying fronds removed from the plants, and any plants showing signs of resting should be removed into another house where they may be given less water. Adiantums are sometimes grown in batches for cutting from and for general decoration. If a young stock of the plants is now in 3-inch pots, they should be moved into 5-inch ones. Use peat and good loam in equal parts, with the addition of some silver-sand.

Anthurium Scherzerianum. These plants are over for the season, and may be re-potted. A compost consisting of peat, sphagnum-moss, and charcoal in small pieces is the best for them. If the spathes be now removed, and the plants repotted, they may be kept growing all through the winter. A. Andreanum quickly becomes leggy and unsightly: take off the tops therefore from a few of the aërial roots from any such plants, and insert them in 4-inch pots in sphagnum-moss and peat; put these in the propagating-box for a time, and good useful plants may be had for next season's blooming. Cut the old shoots well back, and they will then make several breaks. The plants may thus be grown on until the spring, when the shoots may be removed for propagating.

THE ORCHID HOUSES.

By W. H. WHITE, *Orchid Grower, Burford, Dorking.*

Miscellaneous Species.—Where a large number of Odontoglossums are grown, a great deal of time during the next few weeks will be spent in re-potting or re-surfacing the plants, but there are other Orchids which must on no account be neglected. The Dendrobiums must be frequently looked over, and any plants that have fully completed their growths should be at once removed to a lighter house and cooler temperature. An atmosphere conducive to growth must still be afforded such late-growing species as D. Dalhousieianum, D. Bensoniæ, D. Brymerianum, D. Parishii, D. albo-sanguineum, D. Lowii, D. fimbriatum, D. clavatum, D. Dearei, D. sanguinolentum, &c. Some plants of Phalænopsis Schilleriana, P. Aphrodite, P. leucorrhoda, and P. casta will have now finished making their leaves, and great care must be exercised in affording water to them so as not to saturate the sphagnum-moss, which at this season, if heavily watered, takes a long time to dry. The green-leaved varieties, as P. violacea, P. Luddemanniana, P. Mariæ, P. tetraspis, P. cornu-cervi, P. speciosa, and P. Micholitzi all do best in a rather damp and shady position. At this season of the year a gummy exudation may sometimes be seen on the under sides of the leaves of Phalænopsis, especially those of the darker-leaved kinds. The plants should be examined each time they are watered, and if any exudation is observable, it should be immediately removed. Oncidium Lanceanum is a splendid late-blooming Orchid, and one that is usually given a stove temperature. Plants that are now making no growth should be kept somewhat drier at the root, particularly if they are potted in the ordinary way; but so long as the roots continue to grow, the atmosphere should be kept fairly moist. Plants upon blocks must be very carefully afforded water, and no water should be allowed to touch the rhizomes or the base of the leaves, as these are liable to decay from this cause. Oncidium hæmatochilum now developing its flower-spikes will require the same kind of treatment as O. Lanceanum.

Cattleya-house specimens of Platyclinis Cobbiana that are in full growth, and producing their spikes, will require abundance of water at the root until growth is finished. P. glumacea, P. uncata, and P. filiformis, being at rest are perfectly safe in this house until growth recommences. Epidendrum Stamfordianum and E. Frederici Guilielmi are both very desirable Orchids for exhibition purposes, but unfortunately they are generally difficult to cultivate. Their principal requirements are intermediate-house temperature, and an abundance of water during the season of growth. To ensure strong-flowering pseudo-bulbs, the plants should now be placed well up to the roof-glass. Both species may now be repotted, if necessary. Newly-imported plants of the pretty E. Endresi should be carefully looked after; it being a species worth every attention. It will thrive luxuriantly in small shallow pans suspended to the roof of the intermediate-house, in a moist shady position. All the tall-growing Epidendrums, as E. O'Brienianum, E. xanthinum, E. myrianthum, E. elongatum, E. evectum, and E. arachnoglossum, are now producing their flowering-stems, and should be periodically examined for scale and mealy-bug. Flowering plants of Vanda cœrula should be placed where they may obtain plenty of light, and be kept fairly moist at the root till their flowers open.

FRUITS UNDER GLASS.

By W. POPE, *Gardener, Highclere Castle, Newbury.*

Melons.—Great care will now be required in affording water to plants whose fruits have attained to nearly their full size, as an excess of moisture at the root or much humidity in the air may result in the fruits splitting before they ripen. Afford, therefore, a constant small amount of air day and night, and a temperature of 70° to 75°, letting it mount to 90° or 95° when the sun shines, with a corresponding increase in the ventilation. Should canker attack the stems, rub quick-lime into the affected parts once or oftener. Melons should always be cut from the bine before they are quite ripe, that is, as soon as a fissure appears round the stalk, placing them in a light, moderately airy fruit room, where they will keep a longer time in good condition, and the flavour improve. The latest batch of plants should now have their fruits set, and be afforded a temperature of 70° to 75° by day with as much ventilation as will avert any stagnation of the air of the house. As the fruits grow in size close early in the afternoon, sunheat being better for the plants than that obtained from the hotwater-pipes. Use the syringe sparingly, damping the foliage only on bright afternoons; sufficient air moisture being obtained by sprinkling the floor, walls, and other available surfaces in the mornings and at closing time. When water at the roots is really needed by the plants, a sufficient quantity should be afforded as will wet the bed to its entire depth, and occasionally weak, warm liquid-manure, or a small quantity of guano sprinkled on the bed once or twice a week; or, failing this, the Melon-bed may be top-dressed with fresh horse-dung. Melons growing in dung-pits and frames will need especial attention, and if the crops are approaching ripeness, apply water at the roots in just sufficient quantity to prevent the flagging of the leaves, wetting the foliage as little as possible in so doing. Renew the dung-linings if the heat is declining, so that air may be constantly admitted, and the flavour of the fruits thereby improved. Keep the foliage thin, and bring the fruits up to the light; and now that the nights are colder, the frames should be covered with mats.

Peaches and Nectarines.—The late varieties, Sea Eagle, Walburton Admirable, and Stanwick Elruge, will now be ripening their fruits, and should, like the Melons, have a free circulation of air, sun-heat being utilised as much as possible, the thermometer being allowed to reach 80° or 85° before more air is afforded. Under this sort of treatment the fruit and wood ripens better than when the heating apparatus is used. The border in which these varieties are growing should be kept less moist for the present, though not to the extent of causing suffering, and an occasional damping of the mulching on fine days will prevent evaporation of moisture from the soil to some extent. Where fire-heat is at command, it should be made some slight use of in dull and wet weather.

THE FLOWER GARDEN.

By HEDLEY WARREN, *Gardener, Aston Clinton, Tring.*

Violas and Calceolarias may now be propagated, as by this time there should be plenty of young growths fit for the purpose. Violas may be propagated by cuttings, or by dividing the old roots into small pieces and inserting them in light, rich soil in cold frames, or under hand-lights. Calceolarias must be propagated by cuttings only, and may be treated similarly to Violas, but they must be protected from hard frost. If desired, the cuttings may be inserted in sandy soil in shallow boxes, and these placed in cold frames, where they should be kept close for a few weeks until rooted.

Violets are now making plenty of growth, and in some instances they are flowering freely; but preparations must soon be made to protect some of the plants during the winter. The frames in which they will be planted should be overhauled, and the soil for planting them in made ready. Wash with quick-lime the sides of the frames or pits, so as to destroy any red-spider that may be lurking there, for once this pest attacks the plants it is a difficult matter to eradicate it. After making up the bed (which should consist of two-thirds fibry-loam and one-third leaf-mould, and a little sand) to a depth of 9 to 12 inches, carefully lift the plants with as many roots as possible, and plant them about one foot apart each way, well water them in, and keep close for a few days, after which air should be freely admitted, and the lights removed altogether during favourable weather.

Planting Hardy Bulbs.—Although many of these are not generally planted until November, if it be possible they should be planted during the present month, especially Narcissus, these commencing to make roots very early. Narcissus bulbs should be planted about 4 to 6 inches, but those of Tulips need not be planted at more than half that depth. If it is intended to plant bulbs in patches on the lawn, the present time is a good one for doing this, as the turf is in a moist condition.

Mesembryanthemum cordifolium variegatum.—Cuttings should be put in at once, inserting the cuttings (which should be 1½ to 2 inches long) in light sandy soil in boxes or pots, placing them in cold frames, and keeping them close and shaded for a few days. Or they may be placed in heat, and as soon as the cuttings are rooted, removing them to cooler quarters, and, if possible, to a shelf near the glass during the winter months.

General Work.—Keep the flower beds and borders in neat condition, and roll the walks and drives so that these may be in good condition before the winter sets in. Evergreen hedges may still be trimmed, and the planting of shrubs proceeded with as advised in a former calendar. Some herbaceous plants will yet need further attention by securing the growths to stakes, &c. Some of the plants in the herbaceous borders will look unsightly from the presence of the old flower stems, which are turning yellow, and these should be promptly removed.

THE HARDY FRUIT GARDEN.

By G. WOODGATE, *Gardener, Rolleston Hall, Burton-on-Trent.*

Root-pruning, if it be done in an efficient manner, and at the correct time, is one of the best methods by which to make a healthy barren tree become fertile. The operation should be carried out as soon as the leaves commence to change colour in autumn. It may be done in some cases as soon as the fruit has been gathered, but greater care is then necessary that too severe a check be not given to the tree, and it will be needful to shade and syringe the foliage in the event of warm, dry weather. If the work be postponed until after the leaves have fallen, a season, at the least, is lost before bringing the tree into a fruiting condition; but if the root-pruning be performed as advised, many flower-buds may form before the end of the season, and the young wood will become sufficiently ripened to withstand the frosts of winter.

Trees which have been planted only two or three years, but which are making too much growth, should be lifted and replanted. This simple operation is a work that requires great care. A trench about 1 foot wide should be taken out round the tree at a distance of 18 inches from the stem, and about 15 inches deep. Cut off all roots found in making the trench; work a little of the soil away from the ball with a garden-fork, then insert a spade underneath the tree, so as to cut off any of the roots which may be growing downwards. The tree may then be lifted without disturbing too much of the soil from the roots near the stem. With a sharp knife shorten back the main roots, cutting them from the under-side upwards and outwards. The young rootlets which will spring from the point of the roots thus cut will remain nearer to the surface than if cut the reverse way. Prune back any of the smaller roots which may have been bruised with the spade, and replant the tree as soon as possible. Keep many of the roots near to the surface, and, if necessary, afford water to settle the soil about them. Afterwards make the trees temporarily safe by fixing them to supports. Trees which are too large to be lifted may be made fertile by taking out a trench 2 feet deep at some distance from the stem; this distance depending upon the age and size of the trees, cut off all roots that are found to extend into the trench.

THE WEATHER IN THE NORTH OF SCOTLAND.

Writing under Monday's date (14th inst.), an Aberdeen correspondent says: "The cold, dismal, foggy weather still continues, with no improvement apparent. The bright expectations indulged in, in the months of June and July, as to an early harvest have been abundantly realised, but the wet weather prevailing will not permit of the corn crops being removed from the fields. Three weeks have elapsed in many cases since the crops were cut, and much damage must necessarily ensue."

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the PUBLISHER.

Letters for Publication, *as well as specimens and plants for naming, should be addressed to the* **EDITOR, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY, SEPT. 22 { Geneva Exhibition Temporary Show (twenty-three days).

SALES.

MONDAY, SEPT. 21 { Dutch Bulbs at Protheroe & Morris' Rooms.

TUESDAY, SEPT. 22 { Sale of Greenhouse Palms, Ferns, Herbaceous Plants, &c., at the Floral Nurseries, Castle Hill, Maidenhead, by order of Mr. R. Owen, by Protheroe & Morris. Dutch Bulbs at Protheroe & Morris' Rooms.

WEDNESDAY, SEPT. 23 { Dutch Bulbs at Protheroe & Morris' Rooms.

THURSDAY, SEPT. 24 { Dutch Bulbs at Protheroe & Morris' Rooms.

FRIDAY, SEPT. 25 { Dutch Bulbs at Protheroe & Morris' Rooms. Orchids at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—56 3°.

The New Tulip Mania.

WE are glad to observe in so widely read a newspaper as *The Field*, in its issue for September 5, the following protest against the use of Latin names for florists' varieties of Dutch bulbs, and the needless and confusing practice of giving new names to old varieties. We have suppressed the names of persons mentioned in the article, not wishing to particularise any firms when the practice condemned is become almost universal:—

"We find in the catalogue of a large bulb-grower and dealer the following flowers of speech, descriptive of groups of Tulips:—'Late Rectified Amateur Tulips,' 'True English Amateur Tulips,' 'True Flemish Amateur Tulips,' 'True Old Dutch Amateur Tulips,' and 'Darwin Tulips.' Confusion must arise in the public mind from these things, and such language is no gain to our garden lists. It is surely time the Royal Horticultural Society stepped in and simplified Tulip names a little, using English names for garden varieties, and stopping this needless confusion about late Tulips, which are dignified by so many names and called a new race, which they are not.

"It is not only that this misnaming is wrong in itself, but it confuses the fact that these so-called Darwin Tulips are simply the self-coloured kinds, once thrown on one side in the raising of the striped florists' late Tulip, varieties of T. Gesneriana. People should now begin to see that the once-rejected self-colours of the late Tulips are the finest and most effective kinds. 'Late self-coloured Tulips' is quite sufficient to distinguish them as a group, each variety to bear any simple name fitted for it that the raiser selected. As in the case of the Carnation, which has been kept out of gardens for years owing to the misguided efforts of the so-called florists, and the Rose, which rosarians have tried to model on the form of a flat Dutch Cabbage, we see that similar silly ideals set up for the Tulip begin to be knocked on the head. Then there is the misuse of Latin names for garden forms, as such names as Tulipa Gesneriana major aurantiaca maculata, for Tulips that are of garden origin, and should have an English or some simple name. Latin names are often falsely, and quite needlessly, applied to plants of garden origin; and hybrids and varieties of garden origin, it is now agreed, should bear simple names only, as, indeed, some of our handsome late Tulips now bear, such as Ida and White Swan. It is not a question of our own wishes only in the matter, as the question has been deliberately discussed by botanists at a conference, and the law as to names of garden varieties laid down, so there is no real excuse for giving a Latin name to any but the wild forms or species of Tulip."

Market Measures for Fruit and Vegetables.

PENDING the long-wished-for introduction of the metrical system of weights and measures into this country in place of the present chaotic ones now in vogue in almost all trades and occupations, it is very necessary that the buyer in the fruit and vegetable markets should know when he purchases in quantities other than strictly retail the exact equivalent of market measures of capacity. So long as his transactions with the market salesmen concern pounds, dozens, and similar obvious denominations, he is on safe ground. Far otherwise is it, however, when he buys by the sieve, half-sieve, barrel, flat, box, punnet, bunch, tally, &c. The introduction of some sane method in place of all these confusing measurements of capacity and of numbers would be of incalculable benefit to the ordinary purchaser, however little such a method would serve the needs of the retailer and middleman, by whom the market measures are well understood, and who make their calculations accordingly. Still, in the interests of these persons, unvarying uniform measures of capacity would be a great advantage, especially in purchasing from those Continental countries which have adopted the metric system in its entirety, kilogramme and litre, their subdivisions and multiples being identical the world over.

We publish herewith some remarks, which we have received from a correspondent well acquainted with markets, growers, and market-men, pertinent to the matter appearing in our issue of last week, p. 308.

"It seems somewhat odd that the very interesting and important question raised by the prosecution of Mr. A. REFFELL at Brentford, reported at p. 308, should have originated at a subordinate market, whilst the greater ones of Covent Garden, the Borough, &c., should have been ignored. The law is the same in relation to the stamping of measures in the county of London as it is in Middlesex, but hitherto no motion in the direction of prosecuting the users of unstamped basket-measures in London seems to have been thought of. When a law is made it ought obviously to be universally respected. In this case it seems to have been left entirely to the discretion of an inspector of weights and measures to make the law operative or otherwise. It does not seem as if the public, and especially that portion most immediately interested in the matter, viz., the retail buyer, had urged that the law should, in relation to ordinary wicker-bushels, half-bushels, or similar well-known measures, be put into force. Indeed, it seems rather as if the purchaser was more the gainer, seeing that all these wicker measures, when first made (and they are always made to an exact pattern, of precisely the same dimensions), have, when thus new—and when, of course, they should be stamped—their smallest holding capacity. Every time they are used the strain upon their sides becomes greater and the more they expand, so that the older they are, if also in ordinary condition, the greater the quantity they hold. All purchasers know that, and in purchasing, whether Peas, Runner Beans, or other vegetables other than Potatos, also fruit, such as Apples, Pears, Plums, Gooseberries, &c., they can always tell by lifting whether there be good measure or otherwise. So far as Potatos are concerned, 56 lb. is the statutory bushel-weight, and the baskets when filled are always placed upon the scales and weighed before sending to market. These scales and weights, it is well understood, must be stamped, and it is, of course, the duty of an inspector everywhere to see that they are so. But it is not possible to set up for Peas, Beans, Cabbages, and other vegetables, or for fruit, statutory basket-weights, because all these things vary so much, according to sort or to circumstances. But it is to the credit of the market-growing trade that they always give good measure. Anyone who has been even a disinterested observer of their packing methods for market cannot fail to have noticed that the baskets are charged to their utmost capacity ere the contents are finally secured. Of Peas and Beans, for instance, it is notorious that this hard pressing in of the contents, and heaping-up, means five pecks per bushel rather than four; but the grower prefers to err against himself rather than against his retail customer. It is because of this fact so very much that retailers, whether they be shopkeepers or costermongers, thrive so well. If there be any special need for the active supervision of the weights and measures inspector, it is really in the case of these retailers to the consumer in small quantities rather than the wholesale grower, whose keen customers can so well take care of themselves. There seems to be special hardship in thus attempting to interfere with a none too prosperous and yet most meritorious home industry, whilst such enormous quantities of fruit and vegetables come to our markets from abroad neither weighed nor measured, and in all sorts of packages—tubs, boxes, crates, &c., unstamped, and which are openly sold in the market as they are, the purchaser knowing about their small holding capacity, just as he knows the average holding capacity of the market bushel, a sieve, and no one is in the least degree deceived or injured. It is so obvious this state of things cannot continue to exist if the market growers' ancient bushel and half-bushel baskets be condemned, that we may expect to see the Market Growers' Association taking action to compel the London County Council to equally prosecute importers, salesmen, &c., who dispose of vegetable and fruit produce in unstamped measures, even though in the guise of barrels, boxes, or crates; no one, of course, assumes that the inspector in this case has exceeded his duty, or that any animus has been shown towards Mr. REFFELL, or anyone else. The inspector has to do his duty, but it is hard to understand why this particular question should but now be raised, and the Act known as the Weights and Measures Act should so long have been the law of the land. Perhaps the market growers are somewhat to blame in not having sought to have their ordinary wicker baskets exempted when the bill was before Parliament, but probably no sensible person ever dreamt that the Act would be strained and interpreted in the way this case shows it to have been. Some time since the London County Council was strongly denounced because it interfered materially with the profits of coal retailers, but coals have always been sold by weight, therefore no new principle was instituted. That body, however, has not felt it necessary to deal with market measures in the way that has now been done in Middlesex. To tackle the great metropolitan markets in this way would indeed be undertaking a stiff and troublesome job."

A reference to p. 341 in the present issue will show that the resumed hearing of the case before the magistrates sitting at Brentford resulted in the conviction of the defendant. It



FIG. 62.—A SUMMER CAMP FOR ORCHIDS, TROY, NEW YORK, U.S.A. (SEE P. 338.)

is a matter which, from its very important bearings, cannot rest here, and we and our readers will await developments with some amount of curiosity.

A SUMMER CAMP FOR ORCHIDS.—In climates having more summer warmth than the warmest parts of these islands, cultivators of Orchids find it beneficial to these plants and other inmates of warm houses to place them out-of-doors during the summer months, taking care not to expose without shading plants liable to injury by direct sunshine; and to keep the ground moist on or above which they are placed. Mr. A. DIMMOCK, of Messrs. F. SANDER & Co., The Nurseries, St. Albans, Herts, to whom our thanks are due for the use of the photograph from which our illustration (p. 337) was taken, sends us the following note:—"About May 1, A.R. SMITH, Esq., removes all his plants from the houses into the open air, and places them on wooden stages where at all times they are surrounded with pure air and ample shade from the trees. The collection includes some magnificent specimens of Cœlogyne cristata hololeuca, 3 feet across, and a quantity of small plants; fine examples of C. ocellata maxima (about 100 plants), C. Massangeana, C. Sanderiana, C. flaccida, C. Dayana, and others. Vandas and Aërides thrive well, and several may be noticed in bloom. Cymbidium eburneum and C. Lowianum, &c., also make veryvigorous growths; and at the rear a fine lot of Cypripediums in bloom make an extraordinary display. They all remain outside until the end of September, and are afterwards removed to their winter quarters, and grown comparatively cool, which enables the plants to pass through the excessive cold winter months without any difficulty."

THE LATE MR. BRUCE FINDLAY.—We have received the following notification of a movement to be set on foot, having for its object the raising of a fund in aid of the late Mr. BRUCE FINDLAY'S daughters. At a meeting on Thursday, August 27, 1896, at the office of Mr. JOSEPH BROOME, 6, St. Peter's Square, Manchester, Alderman GRANTHAM in the chair, it was stated that the late Mr. FINDLAY entered upon his duties at the Manchester Botanical Gardens in the year 1858. He introduced to the Council at different periods movements to improve the gardens and to make them more valuable and attractive as a place of resort, on easy terms, for the inhabitants of this great, growing city, and the neighbourhood. His chief object in life was to disseminate amongst the million a love of flowers and of their cultivation, knowing the consequent purifying influences this gentle art engenders. The thirty-eight years of his career spent as Curator and Secretary of the Society were oftentimes of great anxiety, requiring sacrificing labour, which he gave unstintingly. Mr. FINDLAY was well known in Manchester, London, and all over the country wherever there were botanists and floriculturists. His fame was not, however, confined to this country; his name and abilities were well known and respected among the leading horticulturists of Continental Europe. It was then resolved, on the motion of Mr. W. STONES, seconded by Mr. BLACK—"That a movement be inaugurated to obtain funds in aid of the daughters of the late Mr. BRUCE FINDLAY, for many years Curator and Secretary to the Manchester Botanical and Horticultural Society. That the following gentlemen constitute a committee (with power to add to their number), to carry out the object of the foregoing resolution:—Thomas Black, Joseph Broome, J.P., Rev. Harry de Trévelec, John Farrell, Chas. Wm. Foster, John Galloway, J.P., Alderman Gibson, J.P., Alderman Grantham, Thos. Harker, J.P., Councillor Jas. J. Lambert, Jno. W. Maclure, M.P., W. H. Milner, Councillor Adam Murray, William Stones, Robert Tait, John Wainwright, J.P., T. R. Wilkinson. That Mr. Joseph Broome, J.P., be Chairman; that Alderman Gibson, J.P., be Deputy-chairman; that Mr. T. R. Wilkinson be Treasurer; and that Mr. James J. Lambert, Solicitor, be Hon. Secretary of this Committee." Promises of support by subscription have been received from various gentlemen, besides those which were mentioned at the meeting, viz.:—Joseph Broome, £105; Wm. Stones, £105; Richard Hardwick, £21; Alderman Grantham, £21. Chas. Wm. Foster, £21; John Wainwright, £21; T. R. Wilkinson, £21; Robert Tait, £21; Alderman Gibson, £10 10*s.*; Francis Robinson, £10 10*s.*; James Brown, £5 5*s.*; James O'Brien, £2 2*s.* Mr. FINDLAY has left three daughters, for whom very little provision has been made; their father's estate, when realised, will only produce a small sum. May we appeal to your most generous impulses to assist in this effort to lighten the cares of the future for these motherless and fatherless daughters, one of whom is in a very delicate state of health. Contributions may be made to any member of the committee; or to the BRUCE FINDLAY Memorial Fund Account, at the Manchester and Salford Bank Limited. JOSEPH BROOME, Chairman; ROBERT GIBSON, Vice-Chairman; T. R. WILKINSON, Treasurer; JAMES J. LAMBERT, Hon. Secretary, 83, Mosley Street, Manchester. September, 1896.

NATIONAL ROSE SOCIETY.—A meeting of the General Purposes Committee will be held, by kind permission of the Horticultural Club, at their Rooms, Hotel Windsor, Victoria Street, Westminster, on Tuesday, the 22nd inst., at 11 A.M.

CRYSTAL PALACE FRUIT SHOW.—On Thursday, October 1, and the two following days, the Royal Horticultural Society's great Show of British fruit will be held at the Crystal Palace; and it promises to be, in regard to the entries, quite equal to previous shows of that kind held by the society. Entries in the competitive classes will be received up to Saturday, Sept. 26, and schedules of prizes in the meantime may be obtained from the office of the society, 117, Victoria Street, S.W. A lecture will be given each day on the following subjects:—Oct. 1, "The Importance of British Fruit Growing, from a Food Point of View," by Mr. EDMUND J. BAILLIE, F.L.S.; Oct. 2, "The Cider and Perry Industry," by Mr. C. W. RADCLIFFE COOKE, M.P.; Oct. 3, "Gathering, Storing, and Profitable Utilisation of Apples and Pears," by Mr. JOHN WATKINS, F.R.H.S. It is hoped that fruit growers who attend the conferences will join in the discussion.

TWO FORCING PLANTS.—Doronicums are well-known bedding and border plants, but it is not widely known that D. plantagineum grown in the open ground and taken up with good bulbs in the autumn, and potted, will flower well after the New Year, if gently forced, say at a temperature commencing at 45°, and never exceeding 55° by night, or 65° by day with sunshine. The flowers are valuable for cutting, and possessing stalks from 1½ to 2 feet high, they are of use for a variety of decorative purposes. Inula glandulosa also, under a similar kind of treatment, the actual forcing of the plants commencing in the early part of the month of February, is a useful plant. The natural flowering period falls in June, but when forced, flowers are obtained in April and May.

MR. J. IRELAND is desirous that we should inform our readers that he has been appointed representative for Messrs. COWAN & Co., Limited, of the Vineyard Nurseries, Garston, near Liverpool.

THE USES OF VARIOUS SPECIES OF GRASSES.—The estimation in which certain gramineous species are held varies much in different countries. For instance, Holcus lanatus, which in Britain is universally regarded as a weed, though it intrudes abundantly upon many of our pastures, is deliberately sown in mixtures of meadow-grass seeds in France. The *Agricultural Gazette of New South Wales* (vii., 5) cites another example in the tufted Hair-grass (Deschampsia cæspitosa, Beauv., or Aira cæspitosa, Linn.). This species is locally known in England as tussock-grass, and as "bull faces" or "bull pates," and efforts are constantly made to extirpate it from our permanent pastures. In Australia, however, "it affords a fair pasturage if periodically burnt down." Graziers on and near the Australian Alps have been asked to send notes of their observations of this species, as it is regarded as quite possible that the Australian plants differ in forage-value from those of the northern hemisphere. The culms are sufficiently tough to permit of door-mats being made from the hay.

TEAK IN SIAM.—We learn from the report of the trade for the past year of Northern Siam, prepared by Mr. ARCHER, British Consul at Chiengmai (Zimme), that the working of the Teak forests—the most important matter connected with British trade in that region—has of late been put on a much more satisfactory footing by a new form of lease issued by the Siamese Government, which has worked without serious complaint up to the present. An experienced officer of the Burma Forest Department has been lent to the Siamese to aid them in framing proper forest regulations.

MARRIAGE OF MR. HENRY CANNELL, JUNR.—Mr. HENRY CANNELL, Junr., eldest son of Mr. H. CANNELL, Senr., of Swanley, was married on Wednesday, the 9th inst., to Miss CHRISTINE ROBERTSON, of Inverurie, at Inverurie.

ONIONS AT BANBURY.—Mr. H. DEVERILL'S annual Onion exhibition took place in his warehouse, Cornhill, Banbury, on the 5th inst., and it being market day, a good deal of attention was drawn to the show. The Onions, having suffered like most plants from the drought, were not so heavy, or on the whole so well finished as last year, though some fine bulbs were staged. The best six specimens of any one of DEVERILL'S Pedigree Onions was Ailsa Craig, weighing 15¼ lb., from Mr. T. BOWERMAN, gr., Hackwood Park, Basingstoke. Six bulbs of the same variety, from Mr. R. LYE, gr., Sydmonton Court, Banbury, weighing 14 lb., were highly commended. Mr. R. LYE was the only exhibitor of twelve bulbs of the new Challenge Onion, receiving the 1st prize. This is a red-skinned variety of a distinct character, with flesh as free from colour as any light-skinned variety, and though flat-shaped, it is heavy and solid, and the base is full. Mr. R. LYE also had the best twelve bulbs of Ailsa Craig Onion, handsome and well finished, which weighed 28¼ lb. Mr. J. MASTERSON, gr., Weston House, Shipston-on-Stour, was 2nd, with some capital Onions, only a little below Mr. LYE'S in weight and quality. He had also the best twelve bulbs of Cocoa-nut, weighing 26¼ lb. Mr. W. T. WYTON, gr., Crookley Hall, Garstang, was 2nd with smaller but well-finished examples. Mr. C. J. WAITE, gr., Glenhurst, Esher, was 1st with twelve bulbs of DEVERILL'S Advancer Onion, weighing over 17 lb., Mr. LYE taking the 2nd prize; and the same exhibitors were again 1st and 2nd respectively with the Improved Wroxton, a globular variety which is said to keep well. One of the handsomest Onions is Anglo-Spanish, and Mr. LYE was 1st with twelve well-finished bulbs, weighing 20 lb., Mr. W. T. WYTON taking the 2nd prize; and Mr. LYE was 1st with twelve Lord Keeper of about the same weight. Mr. PEASE, gr. to Lieut.-Colonel MORRIS, Swalcliffe, Banbury, being 2nd. Mr. LYE was 1st with a dozen Royal Jubilee, of about the same weight; and Mr. PEASE again 2nd. Rousham Park Onion was represented by a dozen fine bulbs, weighing 18 lb., from Mr. LYE; and Mr. W. KEEP, gr., Faringdon House, Berks, was 2nd. Some finely-finished Onions were shown by cottagers, mechanics, and others, the variety Ailsa Craig taking the leading prizes.

THE RAILWAY COMPANIES AND SMALL PARCELS RATE.—The experience of the Great Eastern Railway Company during the last nine months in their endeavours to bring the farmers in the country into closer touch with the consumers in London, have been, says the *Times* of Sept. 12, both interesting and encouraging. As will be remembered, the Great Eastern Railway Co. insisted on several conditions of packing being complied with by senders of farm and garden produce, and they undertook to supply boxes of various sizes at prices ranging from 1½*d.* to 5*d.* each. It was, however, found desirable to make producer and purchaser better acquainted; and the next step the company took was with the aid of their station-masters, to compile a list of farmers, market gardeners, and others in

the district traversed by their lines, who were prepared to send produce direct to consumers. The final edition of this list contained the names and addresses of about 900 such persons, and also stated what produce they could supply, and whether in large or small quantities. Yet even such a list would not have been of much use unless it had been properly distributed, and it is interesting to learn that the railway company has printed and circulated no fewer than 160,000 copies. The effect of all this has been that in many instances producers have been unable to execute all the orders they have received. The demand for Asparagus, poultry, and eggs could not be met. The consumer paying better prices than the London wholesale dealers, it is likely that the latter in many instances will be ousted out of the district.



Fig. 63.—Rudbeckia laciniata flore-pleno "golden glow."

From Mr. W. E. Gumbleton's Garden, Belgrove, co. Cork.

Flowers in Season.—*Quilled Dahlia.*—From Messrs. Keynes, Williams & Co., Salisbury, we receive a Dahlia bloom with quilled florets, which is the first variety we remember to have seen exhibiting this peculiarity in the same degree. In such varieties as Lady Blanche, Guiding Star, and Grand Duc Alexis, the quilled appearance is due only to the florets being folded inwards at the edges, and if one be taken out and examined, it will be seen to be flat when unrolled. In this new crimson variety, however, all of the florets are perfectly tubular and united for about two-thirds their length, beyond which they appear as spreading lobes. It may be that from such a variety a new type of Dahlia will be evolved.

Chrysanthemum Queen of the Earlies.—Blooms of this new variety of Chrysanthemum reach us from Mr. W. J. Godfrey, Exmouth Nurseries. It is a Japanese flower, with slightly incurving and twisted florets. It is almost pure white, but there is a little amber colour radiated from the centre. The flowers are fairly large, and have been produced by plants bearing from five to eight flowers. It is specially recommended as a decorative variety, and for market work, for which purposes it certainly seems suitable. Mr. Godfrey lives in a very favoured spot, and it is possible that in other districts the plant would flower rather later than in this case. In October, such a flower would be welcome, but we hold the opinion that large-flowering Chrysanthemums which bloom in September are not needed.

Violet Princess of Wales.—Some flowers of this single-bloomed Violet are obligingly sent us by Messrs. H. Cannell & Sons. It was figured in *Gardeners' Chronicle*, March 28 last, fig. 53. The flowers are very large, and the peduncles in specimens now before us are upwards of 7 inches long, and they are stout also. It is of French origin.

Mount Lofty Gardeners' Association.—This is a body recently formed of gentlemen in the locality of Stirling, South Australia, having for its objects the formation of a good library, to arrange exhibits of flowers and fruits, and as the Association increases to hold an annual show, and in every possible way to promote horticulture. At the preliminary meeting, which was held in the Stirling West Institute, Dr. Henderson read a paper before intending members on "What should be the Objects of the Association." Dr. E. C. Stirling is the President; Dr. Henderson, Chairman; Dr. Carr, Vice-chairman; Mr. J. Howard, Treasurer; and Mr. O. E. Menzel, Hon. Secretary.

The Late F. G. Tautz's Collection of Orchids.—We learn from Messrs. H. Low & Co., Clapton, N., that the entire collection of Orchids, including seedlings, once the property of the late F. G. Tautz, Esq., of Dibden House, Hanger Hill, Ealing, has passed into their hands by purchase.

Newcastle and District Horticultural Mutual Improvement Society.—The sixth session of this Society was opened on Tuesday night, the 15th inst., when the chairman, Mr. J. Bullock, read an interesting paper, entitled "Forty years in the Garden." Commencing with the kitchen-garden, Mr. Bullock compared the varieties of vegetables grown thirty or forty years ago with those that are grown to-day, treating the flower-garden in much the same manner. Passing on to Vines and Tomatos, Mr. Bullock introduced many observations that were especially interesting to the younger gardeners present.

The Value of Saltbush.—Baron von Mueller favours us with an interesting account received from California, regarding the success of the introduction of Atriplex semibaccatum in the alkali land. For years this land was nothing but a barren waste, until it was suggested by Baron von Mueller that the Australian Saltbush should be tried. He forwarded seeds of various species, but the above-mentioned was the most successful. Now this land has rapidly increased in value, and is being sought after. Professor Hilgard, of the University of California, in a letter, dated March 26, 1896, makes the following remarks:—"The reason why the other Saltbushes have not been mentioned more prominently is simply that they have not showed up to great advantage on the alkali soil (of all kinds and grades) on our Tulara station. But the Atriplex semibaccatum spreads wherever it touched the ground, even in the hard-trodden stable-yard of the station and on roads, which none of the others will do. Sheep, cattle and horses, are particular in selecting Atriplex semibaccata. We find this plant refuses to do anything of practical value outside of alkali lands. Here, at the central station, Berkeley, it is the least successful, remaining quite inconspicuous. Where planted thickly, it grows taller, and can be cut with a scythe for fodder. We cultivated nine species sent by you." The Professor remarked, in a former letter, that the value of this one plant to the alkali country of California had more than paid the expenses of experimental grounds from the commencement.

RUDBECKIA LACINIATA FLORE-PLENO "GOLDEN GLOW."

This very showy novelty came to me in March this year by post from Mr. Henry Dreer, of Chestnut Street, Philadelphia, under the name of Golden Glow (fig. 63), and the plants, though not more than about an inch high, having a good portion of the tuber attached to each, began to grow almost immediately in the pots in which they were placed on arrival, and on being planted out in my border, quickly attained a height of about 5½ feet, and produced a handsome bunch of about thirty flowers each. The duplicature at first was rather coarse and uneven, but the flowers greatly improved after a little, and I consider it quite an acquisition to our hardy borders. The plants are now throwing up young growth all round their bases, so that it should be a plant most easy to increase and propagate. *W. E. Gumbleton.*

HOME CORRESPONDENCE.

A REAL HYBRID BEAN.—Recently, Mr. Bishop made a note in the *Gardeners' Chronicle* respecting Mr. W. Smythe's hybrid French Beans. Being at Alton recently, I went on to Basing Park, not only to see the veteran gardener there, and his beautiful place, but also this interesting hybrid. It has been declared that the two distinctive forms of Phaseolus multiflorus, or the Scarlet Runner, and vulgaris, the dwarf French Bean, would not cross. Mr. Smythe has, however, conclusively proved that such a suggestion is incorrect. It is about ten years since he began by crossing Canadian Wonder with Ne plus Ultra, both dwarfs. Then, soon afterwards, the best product of the strain was fertilised with Scarlet Runner pollen. The product was unsatisfactory, and the best form again was fertilised with pollen from the Scarlet Runner once more. The result now is, that a Bean and plant are produced, having in great part the desired characters, which is a dwarf-growing Bean yet robust, having long erect racemes, as may be seen on the Runner Bean plant, and carrying bright-scarlet flowers. The plants not only crop most profusely, but they seem to merit the appellation of perpetual. The variety is named Smythe's Scarlet Perpetual Dwarf. The pods are long, and of the best form, very green, and slightly rough to the touch, though still most resembling those of a good dwarf Bean. The seeds are reddish, but some are speckled and others striped, and are as pretty as they are distinct. This hybrid seems likely to become, when well selected, a formidable rival to the Climbing Bean on the one hand, and the old bush or dwarf forms on the other. The pods when cooked have in them much of the flavour of the Scarlet Runner pods without their roughness. An early selection has already received three marks at Chiswick. *A. D.*

APPLES AT MERTOUN HOUSE.—There is generally a wide difference in the appearance of Apples in various parts of the kingdom. The finest in size and colour are grown in districts south of London. In the Midlands the fruits are almost of equal size, but the colour is much deficient. Those from parts further north are usually poor in size and also colour. I was surprised, therefore, to find such good specimens in the gardens of Mertoun House, St. Boswell's, Berwickshire, the seat of Lord Polwarth. A good collection is grown there on useful-sized bush-trees, cordons, &c. Mr. Fowler, the gardener, is quite an enthusiast about Apples, and every spare nook on warm walls, ends of hothouses, &c., seems to be occupied by an Apple tree, and well do they repay in size and colour the attention he devotes to them. Among those noticed during a hurried visit I may mention Prince Albert, Pott's Seedling, Ecklinville, Peasgood's Nonsuch (very fine), Lord Derby, Melrose White (pretty), New Hawthornden, Ribston Pippin (several large trees looking very healthy), Lady Sudeley, Gascoigne's Seedling, Yorkshire Beauty, Cellini Pippin, Mère de Ménage, Schoolmaster, Worcester Pearmain, Cockle Pippin, Oslin, &c. There was a fine crop of John Downie Crab on bush-trees. Pears also do well on the walls; Jargonelle, Marie Louise, Williams' Bon Chrétien, Easter Beurré, and several others of the best varieties, were carrying good crops. *W. H. Divers, Belvoir Castle Gardens.*

TROPÆOLUM SPECIOSUM.—Having been in a district in Scotland recently where this plant not only thrives, but in some cases is regarded as a nuisance, I would like to reply to Mr. Coomber's remarks upon p. 277 by giving your readers the information I gathered regarding the culture and habit of the plant there. It is agreed that one has to be patient, for until two years at the least are elapsed the roots do not become established. During this time and afterwards it should be left severely alone. The plant delights in a rich soil, inclining to stiffness. In Scotland, a southern position is invariably selected for its growth, and it flowers abundantly. This treatment I have also found successful in my own case, as three years ago I planted some roots at the foot of a south wall, using heavy Banstead loam. I was despairing of ever being able to establish the plants, when, to my surprise, it started early this summer to throw up strong growths, which subsequently flowered profusely; and I am told by people who grow the plant well that I am sure of a successful plantation and abundance of flowers for years. I had the pleasure recently of seeing a splendid clump growing luxuriantly in a northern aspect at East Burnham Park, the residence of Mr. H. J. Veitch, who informed me that he had the staple soil removed, and provided ample drainage. A compost was used consisting of moderately light soil, with the addition of peat, lime rubble, and sand, evidently a suitable soil, as the growth of the plant was strong. It occurred to me, however, that to ensure the very best results, a site commanding a certain amount of sun-heat is essential, and from my own knowledge of its habits I have formed the opinion that it is a much less difficult plant to grow than is generally supposed. *J. F. McLeod, Dover House Gardens.*

DRY WEATHER BEDDING PLANTS.—I can quite endorse "H.'s" statements on p. 270 of the *Gardeners' Chronicle* for September 5 respecting these plants, and I think Zinnias most assuredly should take first place. I have noted them in various gardens this season, and always found them literally smothered with flowers. Zinnias, both tall and dwarf, are capital town plants, not suffering in the least from smoke. Very large beds of mixed varieties have produced in our garden a fine display for three months, so long a season of flowering being a great advantage. Antirrhinums, too, are attractive and showy plants, coming true to colour from seed. Verbenas and Phlox Drummondi seem to have vied with each other in quantity of bloom this year, despite the fact that Verbenas are now seldom used as bedding plants; and given an average season, they are pleasing plants for beds. Ten-week Stocks do well in town gardens, and grow with great vigour; a large bed here, containing 1200 plants of these Stocks, has presented a beautiful show throughout the season, and their fragrance is, as every one knows, delightful. Nicotiana affinis should not be forgotten, and I do not remember having seen such a wealth of bloom on the plants as this year. The drawback of the plant closing its flowers the greater part of the day in bright sunshine is more than compensated by the show made and delicate odour emitted in the early morning and in the evening. They have been planted in large quantities in the London parks this season. It is fortunate that these subjects will flourish under adverse circumstances, and perhaps I am correct when I say that a more trying season has not been experienced for a very long time—and this, together with the smoke, fog, acids, and other aërial impurities inimical to vegetation, renders gardening in London a difficult business. *W. H. Appett, Bermondsey, S.E.*

FAILURE TO FLOWER THE PRINCESS ALICE STOCK.—This beautiful Stock has failed to bloom with me this season, although the plants attained their usual size. Thousands of plants were raised from seed sown on a hot-bed early in March, which on being planted out grew rapidly, but not a plant has flowered. In other years they have done well; and the seed was procured from a first-class source. *W. H. Appett.*

HYBRID ANNUAL SUNFLOWERS.—Observing that a Cultural Commendation was lately given by the Floral Committee of the Royal Horticultural Society to a hybrid annual Sunflower, I take the opportunity of making a few remarks on garden hybrids. I do not object to such an award being given to any beautiful flower, but these hybrid annuals are mere ephemeral individuals, and though the same cross may be repeated, it can never be perpetuated by the seed of the hybrid. From my habit of allowing self-sown seedlings of all kinds to flower in my garden where they come up, it is probable that few gardens have contained so many accidental and spontaneous hybrids between distinct species of hardy plants. I could enumerate them by dozens, but few have been worth the trouble of trying to perpetuate. One thing, however, I can assert about them that I have never yet had any experience of a true hybrid between distinct species proving constant from its own seed, so as to establish a new garden flower which can be repeated from seed. New varieties proving quite constant from seed may often be raised within a species, either by selection or by crossing distinct varieties of it. This happens every year with such plants as Papaver somniferum, and other variable annuals; but no constant variety can be produced between P. Rhœas and P. somniferum, though such are often offered in catalogues. Ten years ago a friend told me he had raised a beautiful hybrid between Helianthus annuus and H. cucumerifolius, of which he sent me a photograph, and offered seed. I told him that either the plant would be barren, or the seedlings would vary in the direction of one of the parents. He saved sixteen seeds, of which he sent me seven, all of which flowered. Our experience of the seedlings was similar; they divided themselves most conscientiously in flowering between the two parents. Some being unmistakeable H. annuus, and others H. cucumerifolius; these facts I recorded in the *Gardeners' Chronicle*. There are many genera in which hybrids between distinct species are more or less fertile; it is so with Dianthus, Lychnis, Aquilegia, and some others. On the other hand, I have never been able to find a perfect seed in hybrids of Polemonium or Verbascum, though both form hybrids plentifully; or of Papaver, or of Campanula, with the exception of the closely-allied species of the C. rotundifolia section, which may be varieties of one species. With regard to Dianthus, there are two species, D. superba and D. cæsius, of neither of which I can depend upon getting a typical plant from seed saved in my garden, so great does their preference to foreign pollen appear to be. Moreover, in the third or fourth generation, D. cæsius often develops a double garden Pink, such as would probably be classed as D. plumarius, though I suspect that D. cæsius is a factor in many forms of garden Pink. The vagaries of alpine Primroses in crossing are too many and various to explain here. I will only say that seed saved in my garden from typical Primula viscosa, or typical P. auricula (yellow alpine), nearly always produces exclusively the many-coloured large-flowered kinds, commonly called border Auriculas. This has happened so repeatedly that I have ceased to be surprised at it, or to suspect, as I did at first, that seed had been accidentally substituted. If I had space I might say much more about the spontaneous production, and the habits of hybrids, but I content myself with repeating, without any wish to dogmatise, that I should feel much obliged to anyone who would point out to me a true hybrid which can be reproduced in a constant form from its own seed. *C. Wolley Dod, Edge Hall, Malpas.*

MAIZE AS A VEGETABLE.—"A. M. O.'s" complaint with respect to the non-growth here of Maize as an article of food, and, of course, as an ordinary vegetable, comes rather late. The subject is an old one, having been written about, discussed, and put to practical test, years ago. It must have been fully twenty years since, for it was in the days of the great Tichborne trial, that my immediate neighbour was William Cobbett, eldest son of the celebrated William Cobbett. My neighbour claimed that he, and not his father, was the actual introducer into England of the precocious variety of Maize known as Cobbett's Corn. He, for the few years he was resident at Bedfont, filled his garden each season with the variety, and also induced a neighbouring farmer to grow a large breadth of it for seed purposes. Every effort was made to popularise the variety, and induce agriculturists and gardeners to grow it, not merely to produce ripe corn, but also green cobs, such as are referred to by "A. M. O." However, nothing useful resulted, and yet there could be no doubt but that the Cobbett selection was the very earliest variety in cultivation. Maize will grow with us well, but it ripens corn only when the summers are warm. The price of imported Maize is so low that under no conditions could it be made here a profitable crop. As to the green cobs, which can easily be produced, but delectable as they may be to Canadians and citizens of the United States, they do not take on here at all. We have a wonderful wealth of fine vegetables in this country, far beyond what America can furnish, hence there is less need here for such a vegetable. Again, the corn-cob eats here rather watery, and not very highly flavoured, and when cooked whole is a very unhandy vegetable to partake off. In any case, the British people are no more attracted by green corn-cobs than by Pumpkin pies. I do not for one moment wish to deprecate the green corn-cob as a vegetable; I am simply pointing out what has been done with it, and the probable causes of the failure to popularise it. *A. D.*

—— With reference to the note of your correspondent, "A. M. O.," as to the reason Maize is not grown as a vegetable in England, I think the answer must be, that it does not prove a success in our ordinary summers. Somewhere in the seventies, when the late J. S. Morgan first took the lease of Dover House, Roehampton, he was very anxious to have some grown for table, as he spoke of it as a choice vegetable much used in America. He procured some seeds which were sown in heat, grown on into strong plants in pots, and subsequently planted out the first week in June on a plot of ground that had been specially prepared by deep trenching and heavy manuring. Every attention was paid to them, but a very small percentage produced cobs fit for use;

the season being an unfavourable one. Maize was tried another year, but was not an unqualified success, and it was then given up as an unprofitable crop—at least, during my stay there—much to my employer's disappointment. Probably a hot summer would be favourable to it. *J. Howard, Benham Gardens.*

—— Your correspondent, "A. M. O.," is evidently unaware that most varieties of Maize are totally unsuited for the English climate, and especially is this the case north of London. I have for the last twenty years or more grown every variety I could obtain, both in this country, the United States, and Canada. Of all the varieties tried, not one approaches Zea Curagua. In favourable years, we have grown this from 9 to 11 feet high, and one stem grown in 1894 produced three cobs, each weighing, when stripped ½ lb. Although large cobs of the Curagua Maize can be grown easily, we have never found any variety which is good for boiling as "green corn;" it does not grow quickly enough to be tender when boiled, and it can only be classed as a decorative or fodder plant, and even for the latter purpose it is too uncertain and too much trouble to be very desirable so far north as here. *Thos. Fletcher, Grappenhall, Cheshire.*

BEGONIAS FROM BEDS.—The enclosed blooms of double Begonias are from an outside bed, and are all seedlings of this year. You will notice that all the blooms sent have stout upright stems, in which respect they have been very greatly improved during the last few years. There is nothing to compare with beds of double-flowering tuberous Begonias at this time of the year. Most bedding-plants suffer early in the autumn through frequent rains, but Begonias seem the brighter for it. We have several thousands of this year's seedlings, and no other plant could have given us a brighter mass of colour than these have done during the past two months. *T. Geeson, Coombray Gardens, Maidhurst.* [The flowers sent are large, but their most valuable characteristic exists in the exceptional stoutness of the stems, and the consequent "staring" habit of the blooms. Ed.]

SWEET PEA "CUPID."—I have been trying this new Sweet Pea, but have not been successful with it: the plants seem healthy and robust, as you will see by accompanying sample, the flower buds are numerous, but somehow very few come to maturity, the most of them falling off when about half-developed. They do not seem to be eaten by insects. I shall be pleased if any of your readers can give me the reason for this. Ordinary Sweet Peas growing close beside them are flowering beautifully. *A. M.*

SOME FINE VARIETIES OF VIOLET.—I am sending you a bunch of Princess of Wales Violet which is a fine single Violet. It has been grown nearly in the full sun this summer, and has thriven well. In the same bed there were likewise plants of the Princess Beatrice Violet, which has not stood the ordeal of the dry season so well as the first-named variety. Princess of Wales is now in profuse flower, and the long stalks some 9 inches or more in length; the fragrance and bright blue colour of the flower should make the variety a general favourite. *A. B. Wadds, Cliveden Gardens, Maidenhead.* [A bunch of very fine flowers with extremely long stalks came together with this note. Ed.].

BLACKBERRY THE WILSON JUNIOR.—I was not a little surprised to learn from Mr. Divers that he had only recently succeeded in finding good examples of the Wilson Junior Blackberry, and these were in Berwickshire, because there are many splendid examples of this desirable fruit to be found in the Midland Counties. Ten or twelve years since I planted a quantity at Hardwick House, Notts, and successfully fruited it there for some years. The plants were obtained from a Leicestershire firm, who claimed the right of its introduction into this country. Like most of the family to which it belongs, it delights in a moist soil, and the natural soil of the garden being of a sandy kind, it became necessary to plant in a specially-prepared soil: large holes were got out, and filled with good, turfy loam, with a liberal sprinkling of lime scraps. The plants were planted in November, the small growths being cut close back during the following summer. Shoots were made by the plant, ranging from 9 to 10 feet in length. These growths were carefully thinned out to about four of the strongest, which were allowed to remain, and secured to Larch-poles 10 feet high. During the succeeding autumn, quantities of fine fruit were gathered from time to time, which was enjoyed by all who tasted it. The third or fourth year after planting, canes averaging from 10 to 12 feet were made by the plants, which also produced large quantities of excellent fruit. The aspect was south-west; and with the exception of the old wood being annually cut away after gathering the fruit, an occasional application of liquid-manure and a thorough mulching of fresh stable-manure in the autumn, no other attention was given. There are at the present time fruiting in the cottage gardens in various parts of Leicestershire plants of this variety of Blackberry, and I was pleased to notice a fine dish of the fruit at a village show in the Market Harborough district last week. At Woodhouse, Jugby, Market Harboro', Loughboro', and other parts of this county it succeeds under good treatment. It will not succeed in very exposed situations, or in water-logged soil. Many fail with it in its young state after planting, it needs some slight protection till established. The late Mr. William Ingram, after seeing the plants at Hardwick House about six years since, assured me he intended to plant it at Belvoir, but whether he did so I cannot say. *J. H. Wilkins, F.R.H.S., Leicester.*

—— In answer to Mr. W. H. Divers on the above subject, I write to say that I grow the Wilson Junior Blackberry successfully. The plants are growing in good loamy soil, in a line across the kitchen-garden, the shoots being trained on wires. The fruit this season has been very fine and plentiful. I have already gathered two bushels, and should have been able to pick to the end of this month if the rain had not spoilt them. I am surprised to find Mr. W. H. Divers has not succeeded with the plant, as it grows most luxuriantly here, and some of the shoots are 30 feet in length. Possibly the difference in climate may account for his lack of success. *W. Watts, Mansfield Manor Gardens, Hants.*

LAW NOTES.

A TRADE CUSTOM UPSET.

The legal arguments in the prosecution of Mr. Alfred Retfell, farmer and market gardener of Kew Bridge and Covent Garden markets, Staines, and elsewhere, for having in his possession, for use in trade, an unstamped bushel measure, were heard on Saturday last by the Brentford Justices. The facts of the case, as reported in our columns last week, were simple. Inspector Tyler, one of the Middlesex county officials, saw the defendant's salesman at Kew Bridge Market sell Peas from a bushel basket which was found to be unstamped, and was served as alleged. To this the defendant replied that he could by custom of the trade, use such a basket for such a purpose. The Farmers and Market Gardeners' Association instructed Mr. Byron, barrister, to argue on their behalf, and Mr. S. Woodbridge, solicitor, appeared for the Middlesex County Council. The latter, opening the argument, relied on the Weights and Measures Act of 1878, that every utensil used for the purpose of measuring goods must be stamped. Section 28 required that all measures of capacity must be stamped and denominated, and their measure plainly marked on the outside; and Sect. 19 stated that "no local or customary measures, nor those used as heap measures, shall be lawful." He would not contend that all baskets used by a market gardener should be stamped. When used as vessels of conveyance this would not be necessary, but when used to measure a bushel of garden produce, they must be stamped, as in the case of liquor. If a glass of wine or cup of tea were asked for, that was a varying measure, for which there was no standard, and the Act would not apply; but if a specific quantity, such as half-a-pint, were asked for, then the imperial measure must be given. So here, were a basket of Peas bought, the Act would not apply; but when a bushel was asked for, it must be served in a properly-stamped and denominated measure. If his learned friend would assent now to have the bushel basket in question stamped, he would withdraw the prosecution on payment of the costs. The chairman, interposing, observed that stamping a basket would have little effect. The seed could run through it. Mr. Woodbridge replied that by the bye-laws of the county baskets could be stamped and tested with the standards of the Board of Trade. Mr. Byron, in reply, contended that the basket was not a measure, and was not recognised either by sellers or buyers in the trade as one. The sale of garden-produce was by parcel, not measure, and the practice had been followed from time immemorial. The chairman said that a buyer, asking for a bushel must be presumed to consider he was obtaining that which he asked for. Mr. Byron replied that such baskets were well understood not to be measures. They could never be measures. They varied with the temperature, contracted or expanded with the damp, and could be compressed or extended. They were known as sieves. A bushel, in the trade, was taken two ways—as a basket measure and as a basket to put things in. The Chairman stated that a double interpretation would not do. As to the sieve as a measure, Section 19 of the Act abolished it. Here a bushel was asked for. Mr. Byron said that was disputed. The buyer did not ask "What are the Peas a bushel?" but "How much are these bushels of Peas?"—showing he recognised the trade bushel. Moreover, there should be standards at the market office, and the salesman should have been protected by that, as the inspector distinctly said he would be satisfied if stamped measures were on the premises. Thomas Wheatley, salesman to the defendant, said that the buyer in this case asked the price of the bushels of Peas, and he clearly understood he was buying by the parcel. He was a constant dealer, and knew the customs of the trade. "Bushel" in the trade applied to baskets. He believed he was protected by standard measures being in the market office. In cross examination, he said if a sieve or a bushel were asked for, he should give a basket. Mr. W. Poupart, President of the Farmers' and Market Gardeners' Association, Mr. Henry Mash, of King Street, Covent Garden, a dealer of large experience, and Mr. John Asbee, Superintendent at Covent Garden Market, gave evidence that the custom of the trade was to sell by parcel and not by measure. No one but a novice asked for a bushel, and the trade well knew how garden produce was sold. Baskets could never be stamped, because they altered in size under varying circumstances. A member of the firm of Messrs. Perrin, basket-makers, deposed that baskets were never made to size, there might not be three in a thousand of one size. This closed the case. The chairman, in delivering judgment, said that the Bench were all of one opinion, that the word bushel was used in the transaction. In a trade that could have only one meaning, an imperial measure. It was unfortunate that the word bushel was still lingering in the trade, having a meaning different to a measure of capacity, an imperial measure. They must hold that the word bushel meant only the imperial measure. It was so used in the Board of Trade regulations, and it could have no other legal meaning. If a purchaser asked for a bushel, he meant the legal measure, and in this case he was served from an unstamped measure. They were much indebted to both sides for the way the question had been argued, but they would have to convict the defendant for using in his trade an unstamped measure. There was no imputation of fraud, but the law was clear. The defendant would be fined twenty shillings and costs, and as the case was one of great importance, the Bench would assist by every means in their power if a case were desired for the Court above.

SCOTLAND.

APPLES.

For good quantity, size, and high colour in Apples the present season will be long remembered in Scotland. The crops are also some weeks earlier than usual, and on wall trees the fruit is equal to the best grown in the southern and midland counties of England; and at some of the exhibitions the high colour of the fruits led some persons to suppose they were grown in artificial manner. But as is generally known, Apples which are grown on walls and have plenty of sunlight during development, are equal in

colour and flavour to the best orchard-house fruit which is grown. Indeed, we have many varieties of a deep golden tinge this year, which in ordinary years are of a pale green colour. These are from dwarf standards well exposed to the sun.

ONIONS.

This has been one of the best seasons known for vegetables in Scotland for many years. Culinary roots of all kinds are in fine condition in gardens of every grade I have visited. Onions have been for some years a specialty in the north, and the bulbs exhibited at many of the horticultural shows were in capital form. The largest bulbs I have remarked were half-a-dozen from Culzean Castle Gardens, where Mr. Murray, the gardener, has done much to encourage the cultivation of this vegetable. The six were of the variety Ailsa Craig, and weighed 18 lb. My best bulbs this year for trial have again been Cranston's Excelsior, Veitch's Main Crop, and Dobbie's Golden Ball. They were sown early in March in the open ground, and are the best we have had for some years. *M. T.*

NURSERY NOTES.

WM. CLIBRAN & SON, OLDFIELD, ALTRINCHAM.

THIS firm has a large seed, bulb, and cut-flower business in Manchester, and their nurseries extend now, if we include the principality nursery at Llandudno and that at Bangor, to about 200 acres. The Oldfield nursery, which consisted in 1872 of one greenhouse and a few acres of land, has now, beside land, five acres covered with glass. As showing the growth of a horticultural establishment, the rent in 1872 was £20, and the wages bill about £50 per annum. The *employés* are now over 200, and the wages total up to about £7,000, and the rental about £1,500. The firm are issuing this year 100,000 catalogues. The out-door trade is a general one, comprising forest-trees of every description, flowering and evergreen shrubs, herbaceous and bulbous plants galore; while indoors there is a large stock of stove and greenhouse plants, and a varied stock for keeping the cut-flower department in touch with the wants of the Manchester cut-flower trade. The out-door department has been taxed to the utmost this season, partly because of the iron-bound season of the year previous, and of the growing demand among the people for plants to beautify their residences; so that while "bad trade" is a stock phrase among many of the community, there is evidently something to spare for the luxuries of a homestead, showing clearly enough, as is verified by our Board of Trade returns, and the sum-total realised by the income-tax, that the nation is prospering. Instead of going into a general survey of stock-in-trade, which would make up far too unwieldy an article for such a paper as the *Gardeners' Chronicle*, I prefer pointing out some of the more notable and noteworthy subjects that passed before my eyes as possibly being more interesting and instructive to your readers.

FOREST AND ORNAMENTAL TREES.

The Scarlet Oak (Quercus coccinea) is a splendid ornamental subject, with its large leaves assuming already a tinted hue, but most beautiful in the autumn for its ruddiness. Quercus pannonica, by name conferta here, is very striking, its large leaves cut deeply into about twenty divisions, having a glossiness of green that marks it out as one of the first of showy ornamental Oaks. The narrow-leaved infinitesimally-cut form of pectinata called filicifolia is striking because of its rigid, upward-growing, crowded eaves. The variegated form of the Turkey Oak (Quercus cerris variegata) makes a handsome tree because of the whiteness interspersed with green of its oblong cut-in leaves. The golden-leaved Quercus concordia looks a free, decorative slow-growing Oak, with scarcely a shade of green about its crowded-together pectinate leaves.

Chief among the Acers for making a grand landscape tree is Acer pseudo-platanus var. atropurpureus. It has quite as large a leaf as the invaluable Sycamore, and then its dusky-brown upper-surface, and its dull violet under-surface, make it a most effective tree. Acer Schwedleri is a more liver-coloured leaf, and is generally three-lobed, and a limp that does not stand out like the leathery A. atropurpureus. The cut-leaved silver-leaved Maple (Acer dasycarpum heterophyllum) is also a stylish form of tree, with green leaves and pale wine-coloured stems and leaf foot-stalks. The purple form of the Hawks-claw Maple (Acer platanoides laciniatum) is one of the most distinct of the larger-leaved Maples, with large leaves, carried on slender foot-stalks. Acer Woorleyi is a nice greenish-gold-leaved Sycamore. Acer ginnala is a close-growing, upright, finely-cut Maple, not unlike a Birch in its leaf-form, a free-grower, and very effective as an ornamental tree.

The purple-leaved Hazel makes a very effective low-growing tree. Its great cordate, rounded, ovate leaves, tell well among its fellows, with upper-surface bronzy, and under-surface claret-coloured. Among the varieties of greens we have in a landscape this is a notable gain. The purple Birch is a fine fellow to the ordinary alba, having bronzy stems and leaves; and the cut-leaved Weeping Birch (Betula alba lacinata) passes pleasingly before the eye. The Aucuba-leaved Ash has large, ovate, clouded green and white leaves, quite a departure from the normal form, and when grafted on straight stems, as it is here, it makes a beautiful ornamental standard. The mop-headed Robinia inermis makes a splendid plant, with beautiful pinnate leaves of a captivating shade of green; the standards here are very striking. The Imperial variety of Alder (Alnus glutinosus imperialis) has deeply incised leaves of a fine shade of green, and grows freely. The variegated Elm has about as much white as green on the leaves, and is a good grower, making shoots a foot long in the season. The golden-leaved variety of Ulmus campestris (Louis Van Houtte) has nicely-formed ovate leaves of fine sheen of gold on the upper surface, ranking high as an ornamental subject. We were much struck with the golden variegated Cornel bush (Cornus sibirica Spathi. It is a free grower, and very striking in the landscape, standing well, too, in smoky districts, where Acer Negundo gives way. Among Laburnums, Cytisus vulgare aureum is a notable subject; its fine trifoliate leaves of a golden cast attract attention, and it appears to be a free grower.

Chief amongst the lower-growing bush trees and shrubs, we would place the yellow-berried Hawthorn. Its finely cut leaves, as fine as anything in sub-tree life we have, command attention; and then its great crop of berries, generally in clusters of four or five, makes a fine terminal appendage to each shoot. The snowy-flowered Mespilus, with its white pentaphyllous flowers, make it a very desirable subject among others; and the Snowdrop-tree (Halesia tetraptera) is crowded up its stems with three to five drooping white bell-formed flowers. The serrate-leaved Elder (Sambucus racemosa serratifolia) makes an ornamental shrubbery plant, with a profusion of small scarlet berries in midsummer. The Weeping Pear (Pyrus salicifolia pendula) has hoary stems, with lanceolate leaves and prominent white mid-ribs, making ornamental plants when grafted. The golden-leaved Privet (Ligustrum ovalifolium aureum) is a handsome companion to the well-known and invaluable ovalifolium Privet, its leaves having broad irregular margins of white, the green centres having a tendency to colour ruby with age. The Wayfaring tree (Viburnum Lantana) makes one of the best of ornamental shrubs, with its crowd of scarlet berries, grand to look at, and fine for indoor ornamental work. The variegated Snowberry looks well, and is so useful for what we may call a scavenger plant under the drip of trees. The golden Weigela is a useful gain amongst that class of ornamental shrubs. Its leaves are large and golden-coloured, all the better for being set in reddish stems; the new Weigelia Eva Kathke has terminal dull-red Pentstemon-like flowers. The Brambles are in great variety, many of them showing leaves, flowers, and fruit together. Shepherdia argentea is a highly-finished subject with beautiful silvery leaves shining like a piece of silk on bronze-gold stems.

Coniferous plants do not do very well about towns; the principal exception is the Austrian Pine, which is grown here in quantity. The one above all others that is doing well, and commanding a ready sale, is Picea pungens glauca. It forms a most symmetrical young tree of model pyramidal habit, the branches clad with closely set needles of a beautiful glaucous hue; as a villa Conifer of not too large dimensions it is unequalled. Hollies, particularly green Hollies, are in quantities and in varied sizes, and are doing well. The deciduous Mountain Holly (Ilex monticola), is worth noting, although one does not take to Hollies without leaves in winter, but they are as singular and unlike a Holly as possible from its oblong pall-green smooth leaves, and then the balance is in its favour when it is furnished with strings of red berries on the leafless stems.

Herbaceous plants are largely grown, and the mixture of those and of Alpines in the rockeries, surmounted on salient spots with specimens of Adam's Needle (Yucca filamentosa), with its candelabra-like flower spikes, now full of flowers, are very showy. Rudbeckia purpurea looks well in crowds of its composite flowers with dullish-crimson rays. Scabiosa caucasica is a striking plant with it bluish flowers, and the white variety is particularly choice. Heliopsis Pitcheriana carries splendid golden flowers, and is one worthy of general cultivation. Astilbe rivularis has fine leaves, and grows rampantly, all the more so in moist situations, bearing large white flowers. Columbines are in great variety, and so are Campanulas; the purple-belled glomerata being in profusion among many others. Centaureas and Chrysanthemums, particularly of the maximum type, arrest attention, as well as many other herbaceous, and alpine plants.

THE HOUSES.

Large quantities of Crotons are grown, one called ruberrimus being much grown for market; and so are Coleus, Caladiums, and every description of ornamental-leaved plants. Gardenias are found in quantities, and clean and vigorous, radicans and Fortunei especially. Stephanotis is of the fine free-flowering variety, with broadly ovate coriaceous leaves, and full of umbels as one looks along the branching stems. Pavetta montana with its Ixora-heads of white flowers is notable. I was glad to notice a fine lot of Plumbago capensis, and the white variety, which finds a ready sale. It is a good old decorative plant. Daphnes also are in quantity, and among a lot of Acacias, A. pubescens singled itself out. Rochea falcata, too, is worthy of general cultivation.

The stock of Azaleas is a large one, the one most in demand for selling as plants for greenhouses or for cut flower purposes, being Deutsche Perle. It is here in great quantity. Large beds of Begonias, both single and double, were a blaze of flower. Tea Roses are grown by the thousands in houses which get little ventilation. Ivies are done here excellently, and pains are taken to have strong fully-developed variegated sorts, strung up perpendicularly in pots set close together, Petunias, Pelargoniums, Tydæas, Gloriosas, &c., pass before the eye. Ferns of all sorts fill a large space, and so do Clematis of sorts, Fuchsias, and such like. Callas are also grown largely, the two most notable sorts being Elliotiana and Pentlandi, both having yellow instead of white spathes. The leaves of Elliotiana are not unlike a Dieffenbachia, pale green, with white blotchy spots. Both sorts have received the highest award from the Royal Horticultural Society. *J. Anderson.*

TRADE NOTICES.

MR. ALEX. MCGREGOR, who has been head gardener to Charles Walker, Esq., of Brettargh Holt, Kendal, for the last twenty-two years, leaves to start business for himself at the Union Street Nurseries, Greenock, which he has taken on a lease, and where he intends growing for market purposes, plants, flowers, and fruit.

MR. H. W. WARD, an old and talented correspondent of this journal, having left Longford Castle Gardens, Salisbury, has taken some land distant about 2 miles from the town of Rayleigh, Essex, and intends to carry on the business of nurseryman and florist.

SOCIETIES.

BATTLE FLOWER SHOW.

"The month is now September," as John Hullah sang, "the hunter's moon's began," and so summer flower shows should be all over. At any rate, Battle Show would have been had it not been postponed because the chief day of the Hastings' Carnival was fixed for the same date, an alteration which, however, did not please many inhabitants of Battle. But be the differences of opinion what they may, the last horticultural event of the season is, as it deserves to be, very popular in the locality, and no exertions are spared by the committee, and the honorary secretary, so aptly named Allwork, to make it successful.

The exhibits were arranged in three large marquees, but had there been a fourth it would have been better, as there were many evidences of crowding. As usual the cottagers showed very well, proving what a little encouragement, properly exercised, will do; and the prizes provided by the Duchess of Cleveland, by Lord and Lady Brassey, the Honourable T. A. Brassey, and his lady, brought keen rivalry; while I am told the neatest and prettiest garden in the parish, which took 1st honours, was in every way a model of neatness and good culture. The lion's share of the prizes in the Open Division fell to Mr. T. Portnell, gr. to Sir Archibald Lamb, Beauport, and, indeed, he seems quite invincible in flowering plants, and stove and greenhouse cut-flowers. He was also successful with fruit, but was beaten by Mr. J. Snow for Colonel Hankey's prize for eight dishes, which always invites a sharp competition. By far the best Peaches were staged by Mr. Jenner, gr. to E. T. Lambert, Esq., Telham Court. Fruit, generally, was not of the size and colour of that of last year, although Plums were very good; some Gages, and other kinds grown on a high wall on young trees, and shown by Major Thorpe, were beautifully finished, and excellent in every point. Besides stove and greenhouse cut-flowers, florists' flowers were well shown; the Cactus Dahlias of Mr. W. Stredwick, and some bright and fresh Phlox Drummondi, shown by Mr. J. Chivers, being very noticeable. Table decorations were good, Mrs. Gilmour from Hawkhurst being to the fore; while the best bouquet was that shown by Mr. W. Allen, gr. to Lord Brassey Normanhurst. *A Correspondent.*

HORTICULTURAL FÊTE AT MILTON.

September 9, 10.—The ninth annual exhibition of flowers, fruit, and vegetables in connection with the Milton and Sittingbourne Horticultural Society, which took place in the Board Schools, Milton, on Wednesday and Thursday last, will be memorable for having been the means of bringing about what was, perhaps, one of the finest displays of horticultural produce ever seen in Kent.

An interesting retrospect of this unique result was due to the competition among amateur and cottagers' horticultural societies in the county for the Kent Champion-belt, offered by Messrs. H. Cannell & Sons, Swanley. The belt, accompanied by substantial money prizes, forms a competition which has been in existence for some years. It was instituted by Messrs. H. Cannell & Sons with the object of promoting the higher cultivation of vegetables by amateur and cottage gardeners. The idea "caught on" directly, and for a time the champion belt took up its residence in West Kent. At the luncheon at Rodmersham last year, Mr. H. Cannell announced that the conditions of the competition would in the future be altered, and that, in addition to the collection of vegetables, fruit and flowers would also be added. Under the new conditions, cultivators of flowers and growers of fruit would be given chances of exhibiting their skill in these special departments.

There were ten entries this year, the competing societies being Milton (the holders), Ash-next-Sandwich, Chatham, Eynsford, Gillingham and New Brompton, Ightham, Milsted, Murston, Rodmersham, and Rochester and Strood. The exhibits were staged along one side of the building, and each collection was neatly put up. The competition was for ten varieties of vegetables, six dishes of hardy fruit (distinct varieties), and a stand of annuals, or other out-door grown flowers, arranged for effect (the dimensions of the stand to be 2 feet by 1 foot 6 in.). The collection of fruit consisted of two dishes of Apples and two dishes of Pears, each distinct (six to a dish), a dish of twelve Plums, and a dish of Cherries. The vegetables were as follows:—Three Cauliflowers, six Beet, six Tomatos, three Marrows, nine Onions, a dish of Kidney Potatos, and a dish of round Potatos (nine to a dish), thirty Runner Beans, six Carrots, and six Turnips. First prize of £3 and champion belt, Rodmersham, with an aggregate of 87½ points; 2nd, £2, Milton, 82 points; 3rd, £1, Eynsford, 78 points; and 4th, Ightham, 76½ points. The highest possible number of points was 102.

THE BUNYARD CENTENARY SHOW.

September 15, 16.—A thoroughly representative exhibition of fruits, vegetables, and flowers, was held in the Corn Exchange, Maidstone, on the above dates. Kentish grown fruit, with its characteristic finish and quality, was strongly *en evidence*. This remark applies not only to out-door fruits, but also to Grapes, which were very fine. The vegetable classes were surprisingly well filled. A most commendable feature of the show was the encouragement given by special classes to the smaller growers, including the amateur and the cottager. The collections of vegetables exhibited collectively by separate local societies throughout Kent, made a most imposing display, there being no fewer than ten competing societies. The arrangements throughout were excellent, the attractiveness of the show being greatly enhanced by Messrs. Bunyard & Co.'s own exhibits, which embraced a reproduction of the fruit trophy car which appeared in the Lord Mayor's Show in London in 1893. Groups of plants and cut flowers, also from the same source, added greatly to the effect. The good wishes of those present at the luncheon [held at the conclusion of the judging] were expressed for the increased prosperity of the firm, and an acknowledgment was made of the impetus given to fruit culture far and wide by the high-class productions so frequently and successfully exhibited from Maidstone.

Fruit.—For a collection of twelve dishes of indoor and out-door fruits in variety, Mr. Jarman, gr. to H. L. C. Brassey, Esq., Preston Hall, Maidstone, was placed 1st for a collection, including not a weak dish. Grapes were represented by Muscat of Alexandria, heavy bunches, fine in berry and colour; Black Alicante was well finished; Pears, Pitmaston Duchess and Triomphe de Vienne; Apples, American Mother and Gravenstein; Peaches, Princess of Wales and Sea Eagle; Nectarine, Victoria; Plum, Coe's Golden Drop; Melon, Hero of Lockinge; and a strong dish of Morello Cherries. Mr. Earl, gr. to O. E. d'Avigdor Goldsmid, Esq., Tunbridge Wells, also exhibited well, his best dishes being Grapes, which were almost equal to those in the best exhibit.

For eight dishes, Mr. Robinson, gr. to W. Lawrence, Esq., Hollingbourne, was 1st, having well-coloured Grapes, Madame Treyve Pears, and Cox's Orange Pippin Apples as his best dishes. Mr Snow, The Gardens, Wadhurst Park, showed well in this class, but by an inadvertence he staged nine dishes, which led to his disqualification; his Grapes and Peaches were of excellent quality.

For six dishes, distinct (for gardeners employing a lad or boy only), Mr. Relf, gr. to A. T. Killick, Esq., Weavering Street, was 1st for an all-round good exhibit of hardy fruits, the best being Grand Duke Plums, extra fine; excellent Pitmaston Duchess and Durandeau Pears, and Worcester Pearmain Apples. Mr. Kennard, gr. to Herbert Monckton, Esq., was 2nd.

For three distinct kinds of Grapes Mr. Snow was 1st, with large well coloured Black Hamburgh, fine in berry; extra good Muscats, large bunches, well finished; and Gros Maroc, in similar condition. Mr. Robinson, who followed, also showed well, but he had smaller bunches. Mr. Earl was 1st for Muscats, with large well-proportioned bunches, he being the only exhibitor. Mr. Snow won for Black Hamburghs, having another equally fine pair of bunches.

For Buckland Sweetwater Mr. Robinson was 1st, and for any other white Grape also, having clear examples of Foster's Seedling. For two bunches of any Grape, size of berry and of bunch being the qualifications, Mr. Rabjohn, gr. to Hon. R. P. Neville, Birling Manor, was easily 1st with Gros Maroc, having weighty bunches and immense well-coloured berries.

Peaches were shown well, but in more than one instance the wet weather had left its mark upon them. Mr. Woodward, gr. to Roger Leigh, Esq., Barham Court, was 1st for six dishes, staging fruits of extra quality and finish, the best varieties being Dymond, Princess of Wales, Late Admirable, Sea Eagle, and Lady Palmerston; Mr. Browning, gr. to S. Lee Smith, Esq., Larkfield, was 2nd, with smaller fruits.

The best trio of Nectarines, Albert Victor, Victoria, and Pitmaston, were shown by Mr. Snow; and the next best, Pine-apple, Rivers' Orange, and Pitmaston (very close to the former), came from Mr. Woodward.

Mr. Jarman had the best three dishes of Peaches in Thames Bank, Bellegarde, and Sea Eagle, all in good condition.

Mr. Earl was easily 1st for Plums, with well-ripened Jefferson, Bryanston Gage, and Coe's Golden Drop.

Tomatos, though not present in large numbers, were excellent in quality, Mr. Lewis, gr. to T. Oliverson, Esq., East Sutton Park, being 1st.

For two varieties of dessert Tomatos, Mr. Humphrey, gr. to A. M. Dorman, Esq., Ashford, was 1st, with New Green Gage and Sunbeam, both yellow kinds.

With six dishes of Pears, Mr. Lewis was a splendid 1st, with very fine examples of Souvenir du Congrès, Williams' Bon Chrétien, Triomphe de Vienne, and Doyenné Boussoch.

For three dishes, Mr. Rabjohn was 1st; his selection comprised Doyenné Boussoch, Souvenir du Congrès, and Brockworth Park. Mr. Graves, gr. to Rev. E. Bartrum, Wakes Colne, was 2nd.

In the class for twelve dishes of Apples, Mr. Lewis won again with an even exhibit, the best being Peasgood's Nonsuch, The Queen, Golden Noble, and Mère de Ménage.

In the class for six dessert kinds, Mr. Browning was a worthy 1st, having varieties of high-class quality, as Cox's Orange, Ribston, American Mother, King of the Pippins, and Mabbott's Pearmain; in Mr. Graves' 2nd prize exhibit, Ribston Pippin was very good.

Mr. Lewis was 1st for the best dish of Lady Sudeley Apple, with well-coloured fruits.

Vegetables.—These were shown in large quantities in a number of classes, so arranged as to give an opportunity to all, from those with large gardens down to the allotment holders.

The competition in the large class for not more than eighteen kinds brought four excellent exhibits. Mr. Snow was 1st, his collection being staged to the best advantage, whilst there was an absence of coarseness, for where size was apparent it was combined with good quality. His best exhibits were Peas (Kentish Hero), Hill's Prize Scarlet Runners, Ellam's Cabbage, Autumn Giant Cauliflower (large, but solid and clean), and Ailsa Craig Onions. Mr. Clements, gr. to the Rev. H. H. Dombrain, Westwell Vicarage, was a very close 2nd indeed, the arrangement only detracting in a measure from the effect as a whole; Red Celery was fine, so were Tomatos, Puritan Potatos, Excelsior Onions, and Brussels Sprouts.

For nine varieties distinct, Mr. Kennard was 1st, with an extra good exhibit, well arranged, the quality being specially good, and the best dishes those of Windsor Castle Potato, Autumn Giant Cauliflower, and Cheltenham Beet.

Vegetables shown in the next division were for prizes offered for special strains of Messrs. Bunyard & Co.'s own selection or as introduced by them. For their strain of Cheltenham Beet, Mr. Thomas, gr. to Miss Balston, Thornhill, was 1st. For Hill's Prize Scarlet Runners, Mr. C. Beale, Wheeler Street, was 1st. For Turnip-rooted Carrots, Mr. Nunn, Hollingbourne, was 1st.

For Bunyard's White Spanish Onion, Mr. Hosmer was again 1st with the finest sample we have seen this year; a superb exhibit. For St. John's Day Cabbage, Mr. Clements was 1st; and for Ellam's Early, Mr. Frond, gr. to J. B. Hensen Esq., Tunbridge, occupied the same place. For Puritan Potatos, Mr. Clements won, and also for Windsor Castle, both being fine specimens. For Snowdrop Potatos, Mr. Coward, Ashford, was 1st with a good exhibit.

For six varieties of vegetables, open to amateurs who occasionally employ a gardener, Mr. Clements, Westwell, was 1st; and in a similar class for nine kinds, Mr. W. Mist, Ightham, occupied the same post of honour.

In the class for an unlimited collection, in which the members of various local societies may combine their exhibits, there was a grand display, and no fewer than ten entries for the eight very liberal prizes. The Milton Society was the winner of the 1st prize, and rightly so, in a very keen competition; this exhibit was of even quality, very fresh and bright. The Ightham Cottagers' Society was a good 2nd, with a few more select dishes than in the 1st prize exhibit, but scarcely so weighty. These and all of the other exhibits in this class had a line of plants between and at the back of each; thus the divisions were simple and the effect was excellent, and the tables were only about 2½ feet high, being thus very convenient.

Cut Flowers.—These were shown in three sections. Mr. Kennard had the best twelve plants of Asters in pots as lifted from the ground; and Mr. Hardaway, gr. to Colonel Pitt the best twenty-four cut blooms in another class.

Other classes were provided for Asters, also for Scabious, Phlox Drummondi and Zinnias, the exhibits being good, although in most cases the wet weather had evidently had some effect upon them.

Messrs. Bunyard's own exhibits were distributed throughout the show to the best possible effect, forming good accessories behind dishes of fruits, and in various other ways. The firm's chief efforts with fruit were to be seen on the fruit trophy, as here they had a selection of the best Apples and Pears in baskets, and as small pyramids at the base, the whole being very tastefully finished by the use of Crataegus pyracantha in berry and cut flowers. This exhibit was flanked by a group of well-grown and freely-flowered zonal Pelargoniums on the inside, and by cut flowers, plants in pots, and heavily laden trees of Apples and Pears in pots on the other.

The proceeds after the payment of prizes will be distributed between the Gardeners' Royal Benevolent Institution, the Royal Gardeners' Orphan Fund, and the Church Institute at Maidstone.

ROYAL CALEDONIAN HORTICULTURAL.

September 9, 10.—The annual exhibition of this society was held on the above dates in the Waverly Market, Edinburgh, and was a very great success. The Fruit classes were the most important, but Plants, cut Flowers, and honorary miscellaneous exhibits from nurserymen were present in considerable quantities.

Fruit.

Seldom or never has the Waverley Market been filled with a finer collection of Fruit, especially Grapes, than on this occasion. The white or black bunches of Grapes may at times have been bigger, but seldom, if ever, have they been equal or superior in quality, finish, and bloom. Nor were big bunches lacking; the 13½ lb. cluster of Black Muscat grown by Mr. Leslie, of the Portcullen Gardens, Perth, furnishing an admirable illustration alike of size and quality. There were also some admirable clusters in the general collections of fruit, as well as in the special classes for Grapes; in the magnificent collection from the Forth vineyards; in those of Messrs. Buchanan, Bridge of Allan, in which Hamburghs, Alicantes, Alnwick Seedling, Cooper's Black, and Cannon Hall Muscat, were splendidly finished. The finest Muscats in the show were from the same district, that is, at Rothesay, Bridge of Allan, grown by Mr. Rutherford on old-established Vines. His bunches were not more than from 3 to 4 lb. in weight, but they had that rich

golden hue—the sure sign of the highest quality in Muscats—that enabled Mr. RUTHERFORD to take the whole of the 1st prizes for Muscats. The success was so striking and complete as to suggest serious questions as to the effect of size of wood and of bunch, and also the age of the Vines in relation to colour, quality, bloom, &c.

The question is not a new one, but it has not as yet been satisfactorily settled. Perhaps Mr. RUTHERFORD may be induced to chronicle his views on the subject. He was good enough to state, in a conversation at the show, that the Muscats lost weight in the final process of finishing, as also that they seldom reached their best until probably two months after they were ripe. Most of us have noted such facts before, but they need re-discussion, as does another view advanced by the growers of the splendid Grapes from the Forth Vineyard, viz., that while manurial dressings do brighten the berries without doubt, their effect on flavour is probably nil, or may prove injurious. One more point: have the Messrs. Buchanan or any one else ever been able to colour the Cannon Hall Muscat up to the golden standard of Mr. Rutherford's Muscat of Alexandria?—and if not, why not?—or what relation the size of the berries has to the inferiority of the finish?

Grapes may be said to have dominated the fruit show—three fine bunches in each collection of twelve varieties, and two bunches in the collection of eight varieties. Then there were classes for the best bunches of Grapes, containing at least three varieties—for two bunches of Muscat of Alexandria; two bunches of Hamburgh; one bunch of Muscats; one bunch of Hamburgh; one bunch of Alicante; one bunch of Alnwick Seedling; one bunch of Gros Colmar; one bunch of Lady Downes; one bunch of any other black Grape; one bunch of any other white Grape; one bunch of finest-flavoured black Grape; one bunch of finest-flavoured white Grape; one bunch of finest densest-bloomed black. It is only needful to add that most of these classes were well filled to make it abundantly evident that the Royal Caledonian Horticultural Society still holds its place and power as patron of Grape and other fruit growing.

The names of the winners in a few of the principal classes are appended. There were also numerous classes for varieties of Apples and Pears in single dishes of six fruits, and of Currants, Gooseberries, &c. In the long list of classes for Apples, there was only one not familiar to Southerners, James Grieve, raised in Edinburgh we understand.

Collection of twelve dishes of fruit, grown in an orchard house; not more than two dishes (distinct varieties) of each kind, Grapes excluded. 1st, J. HUNTER; 2nd, W. CRUDEN, Castle Kennedy; 3rd, THOMAS BOWMAN, Lasswade.

Collections of twelve dishes of fruit, Pines and Bananas excluded.—1st, Mr. A. KIRK, Alloa; 2nd, Mr. J. HUNTER, Lambton Castle Gardens; 3rd, Mr. SMITH, Oxenford Castle Gardens.

Collection of twelve dishes of fruit grown out-of-doors, 1st, Mr. J. DAY, Galloway House Gardens.

Collection of eight dishes of fruit, 1st, Mr. J. HUNTER; 2nd, Mr. A. KIRK.

Six bunches Grapes, at least three varieties. 1st, J. LESLIE, Porteullen Gardens, Perth; 2nd, D. & W. BUCHANAN, Kippen.

Four bunches Grapes, distinct varieties. 1st, J. LESLIE; 2nd, G. POTTER, Whitehall Gardens, Cumberland.

Two bunches Grapes, Muscat of Alexandria 1st, W. RUTHERFORD, Bridge of Allan; 2nd, J. MAITLAND, Currichill.

Two bunches Grapes, Black Hamburgh. 1st, W. RUTHERFORD. 2nd, G. POTTER.

One bunch Grapes, Muscat of Alexandria. 1st, W. RUTHERFORD; 2nd, P. M'DONALD.

One bunch Grapes, Black Hamburgh. 1st, W. RUTHERFORD; 2nd, D. KIDD, Carberry Towers Gardens.

One bunch Grapes, Alicante. 1st, D. & W. BUCHANAN; 2nd, J. PATERSON.

One bunch Grapes, Alnwick Seedling. 1st, H. THOMAS, Bonnybridge; 2nd, D. & W. BUCHANAN.

One bunch Grapes, Gros Colmar. 1st, A. ROWLAND, Yester House Gardens; 2nd, J. MACPHERSON, Mayfield.

One bunch of Grapes, Lady Downes. 1st, H. THOMAS; 2nd, J. BOYD, Callander House.

One bunch of black Grapes not named above. 1st, W. L. FARMER; 2nd, W. J. GREEN, Yorks.

One bunch of white Grapes not named above. 1st, J. POTTER; 2nd, J. DAY.

One bunch Grapes, finest flavoured black. 1st, G. POTTER; 2nd, J. MORRISON, Archerfield Gardens, Drew.

One bunch Grapes, finest flavoured white. 1st, W. RUTHERFORD; 2nd, J. S ALLAN, Dumfries.

One bunch Grapes, black for finest bloom. 1st, J. MACPHERSON; 2nd, T. BOYD, Falkirk.

One Queen Pineapple, not less than 2½lb. in weight. 1st, D. KIDD; 2nd, M M'INTYRE, Innerleithen.

One Pineapple, any other variety, not less than 5 lb. in weight. M. M'INTYRE

Collection of Apples, twelve varieties, three of each, ripe or unripe. 1st W. CULTON, Castle-Douglas; 2nd, J. NOWELL.

Six Dessert Apples, two varieties, three of each, fit for the table. 1st, J. CULTON.

Collection of Dessert Pears, six varieties, three of each, ripe or unripe. 1st, J. NOWELL; 2nd, J. DAY.

Six Pears, two varieties, three of each, fit for the table. J. NOWELL.

VEGETABLES.

Collections of Vegetables were capital and clean, and the Potatos, notwithstanding the deluge of rain, free from disease. Tomatos were superb; Cauliflowers good; Cabbages, Savoys, Brussel Sprouts, coarse and large; Celery and Turnips, all the dishes, save one golden yellow, were good. Leeks, a dozen or more, were superb; Onions fine but not numerous considering that Edinburgh is full of French and German Onions, hawked in ropes through the town, and that Scotch Onions in the shops are mostly inferior. The pots of well-grown Parsley were a welcome feature, and all the best Carrots well shaped.

Collection of Vegetables, twelve varieties. 1st, D. M'BEAN, Johnstone; 2nd, W. HARPER.

Twelve varieties of Potatos, six of each. 1st, R. WILSON; 2nd, J. COSSAR, Dunbar.

PLANTS.

The two tables of plants exhibited for prizes were gracefully arranged, and maintained a nice balance between foliage and flowers. Messrs. LAIRD'S table, between the two, chiefly filled with choice new flowering and foliage plants, probably helped. Both stove and greenhouse plants were choice and good. A fine Clerodendron Balfouriana, a white Lapageria, and a grand Statice were excellent. Foliage and table plants were also rich, fresh, and nicely blended and contrasted. Tuberous-rooted single and double flowered Begonias made a bright display of colour, while Fuchsias and Zonal Pelargoniums took us back to old times. Pot Lilies were plentiful and good, while Balsams, Cockscombs, &c., were inferior.

Table of plants, circular, 12 feet diameter, for effect—1st, G. WOOD, Oswald Road; 2nd, J. M'INTYRE, Darlington.

Four stove or greenhouse plants, in flower, distinct varieties (First Prize presented by the Corporation of the City of Edinburgh)—1st, J. M'INTYRE; 2nd, G. WOOD.

Four Orchids, distinct varieties—1st, D. WILSON, Glasgow; 2nd, W. HUTCHINSON.

Four exotic Ferns, distinct species, exclusive of all others—1st, J. NAPIER.

Two Gleichenias, distinct species—1st, J. M'INTYRE.

Four Adiantums, distinct species—1st, J. M'INTYRE.

Tree Fern, not less than 3 feet stem—1st, A. LAING.

Four British Ferns, distinct varieties—1st, J. NAPIER.

Nine dwarf British Ferns, distinct varieties—1st, J. PRESTON.

Six Lycopods, not less than three species 1st, G CHAPLIN, Edinburgh.

Six foliage plants, distinct species, exclusive of Palms—1st, T. LUNT.

Six foliage plants, distinct species, exclusive of Palms, pots not exceeding 9 inches—1st, T. LUNT.

Two Crotons, distinct varieties—1st, T LUNT; 2nd, J M'INTYRE.

Six table plants, foliage, distinct varieties, pots not exceeding 6 inches—1st, D. MACKAY; 2nd, A. URQUHART.

Six table plants, ferns, distinct varieties, pots not exceeding 6 inches—1st, T. LUNT.

Six tuberous-rooted Begonias, single, distinct varieties—1st, D. MACKAY; 2nd, D. ADAMS.

Three tuberous rooted Begonias, double, distinct varieties—1st, G. CHAPLIN; 2nd, S. ABBOTT, Prestonfield House.

Two Fuchsias, distinct varieties—1st, D. MACKAY.

Six Chrysanthemums, not less than three varieties—1st, D. MACKAY; 2nd, J. PEARSON.

Three pots Liliums, distinct varieties, in bloom—1st, J BALD.

ROSES

While the Royal Caledonian Horticultural Society has done much of its best and most important work among fruit, it is even more creditable to show to all comers through its great shows in the Waverley Market what can be done by skill and culture and dogged pegging away to wrest a rich harvest of Roses from such leaden skies and flooded soils as have prevailed through this August and September. We have seen more and better Roses than were to be seen here this year; but when one heard, saw, and felt the energy and persistency of these northern rains, the wonder grew not that the Roses were not more perfect, but that so fine blooms were present. In fact, so far as not a few of the white and light pink Teas and perpetuals were concerned, most of them were without speck or flaw; while many, most of the more glowing colours, bore traces of overmuch washing. But considering their local environments for the last month or more, the Roses were wonderfully plentiful and good. Another singular fact may be noted—few or no southern growers put in an appearance. How is this? Is it that the prizes are not good enough, or were the rains, of which we have had so much in the North, came too late to reach the roots of the Roses? Or can it be that the Scotch trinity of growers for trade, the Messrs. Cocker of Aberdeen, the Messrs. Croll of Dundee, and Messrs. Smith & Son of Stranraer are impregnable on Caledonian ground? It is gratifying to find them scattered so widely over the country so that their success can hardly be based on the unco-gudeness of either their soil or climate. These three firms secured all the prizes in the nurserymen's classes, excepting a few prizes taken by Mr. J. Downie, Edinburgh, and Messrs. Adam & Craigmile, Aberdeen, and Mr. H. Dickson, Belfast.

The prizes for private gardeners were also won by very few men.

Twenty-four Roses, distinct varieties 1st, W PARLANE, Rosslea Row; 2nd, J. HOOD.

Twelve Roses, distinct varieties 1st, J HOOD; 2nd, W. PARLANE

Twelve Tea Roses, not less than six varieties. 1st, W. PARLANE; 2nd, A. BRYDON.

CUT FLOWERS OTHER THAN ROSES.

Gladiolus, Hollyhocks, clear of disease, beautiful and stately; Dahlias, Herbaceous plants, Carnations, Picotees, Pansies, Chrysanthemums, Asters, annuals, all were good. Bouquets, sprays, &c., in which Pancratiums, Eucharis, and Orchids played a conspicious part, were tasteful.

A FEW NURSERYMEN'S CLASSES.

Messrs. R. B. LAIRD & SONS won 1st prize for twenty-four evergreen shrubs in distinct kinds, there being no other exhibitor. The same firm were awarded 1st prize for six Palms in distinct species, Mr. A. POTTER being 2nd.

For twelve Conifers in pots or tubs, distinct species, Messrs. J. DICKSON & SONS, excelled Messrs. R. B. LAIRD & SONS.

Mr. J. DOWNIE won for twelve plants most suitable for table decoration, Messrs. LAIRD & SONS being 2nd.

The best tree Ferns were from Messrs. R. B. LAIRD & SONS.

HONORARY EXHIBITS.

The Show was largely furnished and enriched by the liberal contributions of the leading nurserymen. Messrs. DICKSON & Co., 7, Waterloo Place, Edinburgh, had a large table arched over with Grape vines, filled with choice products, and fringed with a magnificent collection of Apples grown in their Silverton Nurseries. Messrs. METHVEN & SONS had a splendid table richly decorated with Lilies, Crotons, Caladiums, a most satisfying maze of beauty and fragrance; and yet another filled with the newer and grander tuberous Begonias. Mr. JOHN DOWNIE, Princes Street, had a rich collection of dwarf Cannas, Liliums, Begonias, and foliage plants Messrs. LAIRD & SONS had a rich display of charming foliaged plants, crowned with the graceful Coccus plumosa, and various other Palms and groups of plants. Messrs JAMES & SON, of Hanover Street, showed some choice Conifers.

The growers of herbaceous plants were greatly in evidence. Messrs. COCKER & SONS of Aberdeen being the largest exhibitors, having over 200 species and varieties. Messrs. DOBBIE & Co. of Rothesay, and others, also made a brilliant display of Cactus Dahlias, Marigolds, Asters, and Pentstemons. Tables of herbaceous plants were also shown by Messrs. LAING & MATHER, Kelso. Mr. JOHN FORBES of Hawick, whose grand clean spikes of Hollyhocks were the admiration of all; W. FELL & Co., Wexham; Mr. CAMPBELL, High Blantyre; ALEXANDER LISTER, Rothesay, who showed a matchless collection of Pansies; CHAS. IRVINE of Jedburgh and others Mr. ECKFORD, Wem, Shropshire, had a table of Sweet Peas; and Messrs. LAING & MATHER, Kelso, had a companion table, entirely furnished with their new seedling white Chrysanthemum Duchess of York, grown wholly in the open air.

CHARLES IRVINE, Jedburgh, showed the finest Penstemons yet seen; and the Messrs. BUCHANAN, of the Forth Vineyard, a charming red Tomato, Stirling Castle.

Mr. CUTHBERTSON, from Rothesay, and others also showed herbaceous plants, Gladiolus, and Hollyhocks.

ADVICE TO THE TRADE.

THE *Florists' Exchange* of New York lately instituted a competition with a view of ascertaining the best method of forming and maintaining a satisfactory business establishment. The following are some of the recommendations made in the prize essay:—

Employ competent help.
Pay your bills promptly.
Keep your environments tidy.
Be punctual in delivering orders.
Read, study, pause and consider.
Maintain a reputation for honesty.
Work hard and study intelligently.
Be neat in your personal appearance.
Never permit lounging in your store.
Grow only what can be sold at a profit.
Always grow the staples in cut flowers
Send out all orders attractively put up.
Post your customers on cultural points.
Place advertising where it will do most good.
If your trade calls for cheap plants, grow them.
Offer bargains when you can afford to do so.
Provide a waiting-room for your customers.
Keep your prices as consistently uniform as possible.
Keep a supply of seeds and bulbs of the best quality.
Keep a stock on hand of jardinières, baskets, &c.
Treat your employés as you would like to be treated.
Anticipate fashion, and be always ready to meet her caprice.
Keep a few of the advertised novelties; also one or two curiosities.
Remember daily the sick poor in your locality with a few flowers.
Show some telling effects in your greenhouses in plant arrangement.
Endeavour to educate your customers to purchase high-grade material.
Do the work for others entrusted to you carefully and conscientiously.
Adorn your surroundings where your work will be seen to best advantage.
Always have some window attraction in the form of a novelty or tasty design.
Have the interior decoration and furniture in your store in perfect harmony.

If situated for it, handle vegetable plants and fruits; but only the best varieties.

Send a few flowers to church every Sunday for pulpit and altar decoration.

Place your advertisement in the programme of any local concert or other local happening.

When called upon, be ever willing to aid an entertainment promoted for the sake of charity.

Keep your name before the public as much as possible, in every legitimate manner.

Make a personal canvass of your town for business wherever you are likely to secure any.

Be courteous to your patrons, and if you employ help, exact from them similar conditions.

Provide your village square with a sample of free bedding for one season; get a contract the next.

Explain the eccentricities of plants, according to environment; "What is one man's meat is another's poison."

Be generous to your patrons—and visitors; a button-hole or corsage-bouquet freely donated, always brings its reward.

Encourage the school children to love flowers by offering a prize in the form of plants or otherwise, for the best written essay on the subject of flowers.

Give free exhibitions, and invite the people and the press to witness them—say at Chrysanthemum, Christmas, and Easter times; or whenever you have a display worthy of notice.

ADDITIONAL HINTS TO THE BEGINNER.

Do not get discouraged.

Economise every inch of space.

Buy in bulk in order to get the largest discounts.

Be able to deal intelligently with outside firms.

Have a thorough knowledge of the work you are to undertake.

Bear in mind that what is worth doing at all is worth doing well.

Subscribe to your trade and all thorough-going horticultural papers.

Employ your time profitably; it pays better to pull weeds than to talk politics.

Be methodical in keeping your accounts. Never hesitate to work at the head of your men when necessary.

ENQUIRIES.

"He that questioneth much shall learn much."—BACON.

A CORRESPONDENT, "J. C. M.," would be obliged if any of our readers will state the disadvantages or otherwise of using the following for preserving woodwork of greenhouses and garden-frames, instead of paint. Creosote, tar, and sulphate of copper. Would either of them have an injurious effect upon plants, or give an unpleasant flavour to Tomatos or Cucumbers? He would want to use the preservative after the house is put up.

The Rev. Canon Ellacombe, Bitton Vicarage, Bristol, would like to know if Clematis Sieboldii (*Bot. Reg.*, xxiv., 25, and *Garden*, August, 1882); and Phlox Van Houtti (*Bot. Reg.*, xxix., 5), are now in cultivation. He used to grow both, but has not seen either of them for many years, and would like to get them again.

Obituary.

SIR THOMAS DAWSON BRODIE, BART.—The death of this gentleman took place on September 6, at his Forfarshire residence, Idvies House, in his sixty-fourth year. The deceased baronet was known throughout Scotland for the active interest that he took in the welfare of the Scottish people, supporting many institutions established for science and art, and the furtherance of philanthropic work. He will be greatly missed in those counties where his extensive property is situated. He was a great admirer of the wild and beautiful, and spent large sums of money in Nairnshire and Morayshire in developing and maintaining the forests and trees generally. He was a munificent patron of agriculture, horticulture, and arboriculture, of which there is much tangible proof at Carron House and Powgoulis, in Stirlingshire; and he was largely engaged in tree planting in Forfarshire. The funeral took place at Dean Cemetery, Edinburgh, on Thursday, September 10, in presence of a large number of sympathising friends.

RICHARD CURNOW.—We regret to announce the death of Mr. Richard Curnow, which occurred at sea, whilst on his way home on sick-leave from Columbia. Mr. Curnow had been in the service of Messrs. H. Low & Co., The Nurseries, Clapton, for more than twenty-two years, the last nineteen of which he had spent as one of their Orchid travellers, and he was, without doubt, thoroughly at home in his employment on foreign service. For some three months he had suffered from malarial fever, and succumbed to a paralytic seizure on August 25 last.

HENRY KNIGHT.—We regret to announce the death of Mr. Henry Knight, head-gardener to His Majesty the King of the Belgians, which took place at Laeken, Brussels, on Wednesday, September 9 last, aged sixty-two years. We shall allude at greater length to the deceased gardener in our next issue.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Accumulated. Above (+) or below (−) the Mean for the week ending September 12.	Above 42° for the Week.	Below 42° for the Week.	Above 42°, difference from Mean since December 29, 1895.	Below 42°, difference from Mean since December 29, 1895.	Rainfall. More (+) or less (−) than Mean for the Week.	No. of Rainy Days since Dec. 29, 1895.	Total Fall since Jan. 1, 1896.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Dec. 29, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	2 +	88	0	+ 263	− 319	8 −	169	36·0	20	24
1	1 +	89	0	+ 223	− 242	3 +	139	17·0	8	30
2	2 +	110	0	+ 286	− 222	1 +	118	12·6	10	29
3	3 +	125	0	+ 233	− 229	9 +	119	15·3	15	36
4	2 +	112	0	+ 248	− 247	8 +	114	14·5	9	32
5	2 +	130	0	+ 300	− 240	6 +	104	13·8	17	28
6	2 +	103	0	+ 292	− 228	3 −	145	28·5	9	32
7	2 +	113	0	+ 361	− 258	2 −	131	20·7	14	33
8	2 +	122	0	+ 403	− 206	5 +	110	16·2	24	42
9	2 +	106	0	+ 291	− 233	1 −	150	25·2	13	28
10	2 +	114	0	+ 380	− 210	12 +	127	22·3	24	33
*	3 +	112	0	+ 516	− 109	6 +	120	14·3	37	48

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending September 12, is furnished from the Meteorological Office:—

"The *weather* during this period continued in a very dull, unsettled, and rainy condition over the greater part of the kingdom, but was relatively fair and dry in the north and west of Scotland. Thunderstorms were experienced in various parts of England during the latter half of the week.

"The *temperature* was above the mean, the excess being 2° in nearly all districts. The highest of the maxima were recorded, as a rule, either on the 8th or 9th, and ranged from 72° in 'England, S.' and the 'Channel Islands,' and in 'Ireland, N.,' to 66° in 'Scotland, W.' The lowest of the minima, which were registered on rather irregular dates, varied from 36° in 'Scotland, E.,' and from 42° in 'England, S.W.' and 'Ireland, S.,' to 51° in 'England, E.,' and to 56° in the 'Channel Islands.'

"The *rainfall* was again greatly in excess of the mean over the southern half of the kingdom, and slightly in excess in 'England, N.E.' and 'Scotland, E.;' elsewhere, however, there was a deficit. The greater part of the fall was recorded during the later days of the week.

"The *bright sunshine* was again very deficient, the percentage of the possible duration ranging from 37 in the 'Channel Islands,' and from 24 in 'England, S.W.' and 'Ireland, S.,' and to 9 in the 'Midland Counties' and 'Scotland, W.,' and to only 8 in 'Scotland, E.'"

MARKETS.

COVENT GARDEN, SEPTEMBER 17.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arums, p. 12 blooms	3 0	- 6 0
Asters, English, doz. bunches	3 0	- 6 0
Bouvardias, per bn.	0 4	- 0 6
Carnations, 12 bun.	4 0	- 6 0
— 12 blooms	0 6	- 2 0
Chrysanthemums, doz. bun.	4 0	- 6 0
— doz. blooms	0 6	- 1 6
Eucharis, per dozen	1 6	- 2 6
Gardenias, per doz.	1 0	- 3 0
Gladiolus, coloured, per doz. sprays	1 0	- 1 6
Lilium Harrisi, per doz. blooms	3 0	- 6 0
— lancifolium, doz. blooms	0 9	- 2 0
Maidenhair Fern, per 12 bunches	4 0	- 8 0
Marguerites, per 12 bunches	1 0	- 2 0
Mignonette, per doz.	2 0	- 4 0
Orchids:—		
Cattleya, 12 blms.	6 0	-12 0
Odontoglossum crispum, 12 bm.	2 0	- 6 0
Pelargoniums, scarlet, per 12 bun.	2 0	- 4 0
— per 12 sprays	0 4	- 0 6
Pyrethrums, 12 bn.	2 0	- 4 0
Roses, Tea, per doz.	0 9	- 1 6
— coloured, doz.	0 9	- 1 6
— yellow (Maréchal), per doz.	2 0	- 4 0
— red, per dozen	0 6	- 1 0
— red, doz. bun.	4 0	- 6 0
— Gloire, doz. bn.	4 0	- 6 0
— Safrano, p. doz.	1 0	- 2 0
Stephanotis, 12 sps.	1 6	- 2 0
Stocks, p. doz. bun	2 0	- 4 0
Tuberoses, 12 blms.	0 2	- 0 4

ORCHID-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Adiantum, per doz.	4 0	-12 0
Aspidistra, per doz.	12 0	-30 0
— specimen, each	5 0	-15 0
Asters, doz. pots	3 0	- 5 0
Chrysanthemum, p. doz.	4 0	- 9 0
Coleus, per doz.	2 0	- 4 0
Dracæna, each	1 0	- 7 6
— various, p. doz.	12 0	-24 0
Erica, p. doz.	10 0	-12 0
Evergreen Shrubs, in variety, doz.	6 0	-24 0
Ferns, small, doz.	1 0	- 2 0
Ferns, various, doz.	5 0	-12 0
Ficus elastica, each	1 0	- 7 6
Foliage plants, doz.	12 0	-36 0
Heliotrope, per doz.	4 0	- 6 0
Lilium Lancefolium, p. doz. pots	9 0	-12 0
Marguerites, p. doz.	6 0	-10 0
Mignonette, p. doz.	4 0	- 6 0
Palms, various, ea.	2 0	-10 0
— specimens, ea.	10 6	-84 0
Pelargoniums, Scarlets, p. doz.	2 0	- 4 0
Solanum, p. doz.	12 0	-15 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Apples, cooking, in variety, per sieve	2 6	- 4 0
— dessert, in variety, per ½-sieve	2 6	- 4 0
Damsons, per half sieve	3 0	
Grapes, Alicante, 1st quality, per lb.	1 0	- 1 6
— Alicante, 2nd quality, per lb.	0 9	- 1 0
— Hamburgh, 1st quality, per lb.	1 0	- 1 6
— Hamburgh, 2nd quality, per lb.	0 6	- 0 9
— Gros Colmar, per lb.	1 0	- 1 6
— Muscats, English, 1st quality per lb.	1 9	- 2 0
2nd qual., per lb.	1 0	- 1 6
Grapes, Muscat, Channel Islands, per lb.		0 - 1 6
— Gros Maroc per lb.	1 0	- 1 6
Figs, per doz.	0 6	- 0 8
Melons, each	0 6	- 1 0
Nuts, Cob, per lb.	0 3½	- 0 4
Peaches, 1st size, per doz.	6 0	- 9 0
— 2nd do., per doz.	2 0	- 3 0
— 3rd do., per doz.	0 9	- 1 0
Pears, Williams, p. half-sieve	2 6	- 3 0
Pitmaston, p. half-sieve	3 0	- 4 0
Pine-apples, St. Michael, each	5 0	- 6 0
Plums, in variety, per ½ sieve	2 0	- 3 0
Prunes, p. ½-sieve	3 6	- 4 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Beans, Scarlet Runner, p. sieve	1 0	- 1 6
Cauliflowers, per 5 doz.	4 0	- 5 0
Cucumbers, home-grown, per dz.	1 0	- 2 0
— Ridge, per pad (about 10 doz.)	5 0	
— Dutch, per doz.	1 0	
Marrows, Vegetable, per 5 doz. tally	2 0	- 3 0
Mushrooms, (Indoor) per lb.	0 6	
— (Outdoor), per half-sieve	2 0	- 2 6
Tomatos, home-grown, smooth, per doz. lb.	2 6	- 3 0
— ord. kinds, do.	1 6	- 2 0

POTATOS.

Supplies exceed demand, large quantities diseased. Best, 60*s.* to 70*s.* per ton. *J. B. Thomas.*

SEEDS.

LONDON: *September* 16.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E, write that the sodden condition of the land naturally keeps back sowing orders. As regards Red Clover seed, the universally poor prospects for the new crop have considerably augmented the values of fine yearling samples. The trade for Trifolium seems nearly over. Mustard and Rapeseed are unchanged. For winter Tares, the demand for the moment is slow. Seed Rye, being scarce and wanted, is dearer. Canary seed keeps firm, the remarkable and continued absence of offers from Turkey of new seed inspires with confidence English

holders of last year's seed. For Wisconsin 2s. per qr. more money is asked. Haricot Beans are strong. The Board of Trade Returns give the imports of Clover and grass seeds into the United Kingdom for the first eight months of this year as 272,717 cwt., value £526,302, as against 261,964 cwt., value £609,657, for the corresponding period of 1895.

FRUIT AND VEGETABLES.

GLASGOW: *September* 16.—In the appended figures will be found the averages of the last week's prices:—*Fruit*:—Pears, 2*s.* 4*d.* per case; Apples, 6*s.* 6*d.* to 10*s.* do.; Green Gages, 5*d.* to 6*d.* per pound; Gooseberries, 1*s.* per cwt.; Tomatos, Jersey, 4*d.* to 5*d.* per pound; do., Scotch, 7*d.* to 9*d.* do.; Plums, 3½*d.* to 4*d.* per pound; Grapes, home, 2*s.* do.; Turnips, 2*s.* to 2*s.* 6*d.* per dozen bunches; Cabbages, 8*d.* to 9*d.* per dozen; do., Red, 2*s.* 6*d.* to 3*s.* do.; Cauliflowers, English, 2*s.* to 2*s.* 6*d.* per dozen; do., Edinburgh, 1*s.* to 1*s.* 3*d.* per bunch; Parsnips, 5*s.* 6*d.* to 6*s.* per cwt.; Herbs, assorted, 1*d.* to 2*d.* per bunch; Leeks, 2*s.* to 2*s.* 6*d.* per dozen bunches; Onions, Dutch, 3*s.* 6*d.* to to 4*s.* 6*d* per bag; do., Portugal, 10*d.* per stone; do., Globes, 3*s.* to 3*s.* 6*d.* per cwt.; Parsley, 8*s.* to 10*s.* do.; Onions (silverskin), 6*s.* to 7*s.* per dozen bunches; Celery, 2*s.* to 2*s.* 6*d.* per bundle; Potatos, 8*d.* per stone; Carrots, 4*s.* 6*d.* to 5*s.* per cwt.; do., new, 1*s.* to 1*s.* 6*d.* per dozen; Cucumbers, 4*s.* to 4*s.* 6*d.* per dozen; Lettuces, 6*d.* to 8*d.* per dozen; do., Cos, 9*d.* per dozen; Radishes, 9*d.* to 1*s.* per dozen bunches; Horseradish, 2*s.* 9*d.* to 3*s.* per bunch; Beans, broad, 1*s.* to 1*s.* 3*d.* per stone; do. French, 2*s.* to 2*s.* 6*d.* do.; Mushrooms, 1*s.* to 1*s.* 3*d.* per pound; Rhubarb, 2*s.* 5*d.* to 3*s.* per cwt.; Beetroot, 7*d.* per dozen; do., new, 3*s.* 6*d.* to 4*s.* per dozen bunches; Cress, 3*d.* per basket; Brussels Sprouts, 2*s.* 6*d.* per stone.

LIVERPOOL: *September* 16.—Potatos: Early Regents, 1*s.* 4*d.* to 1*s.* 8*d.* per cwt.; Sutton's Abundance, 1*s.* 6*d.* to 2*s.* do.; Maincrops, 1*s.* 10*d.* to 3*s.* 3*d.* do.; Bruce, 1*s.* 4*d.* to 1*s.* 8*d.* do.; P. E. Kemps, 1*s.* 6*d.* to 2*s.* 2*d.* do.; Turnips, 6*d.* to 9*d.* per doz. bunches; Carrots, 6*d.* to 8*d.* do; and 3*s.* per cwt.; Parsley, 4*d.* to 6*d.* per bunch; Cucumbers, 1*s.* to 2*s* 6*d.* per dozen; Onions, English, 6*s.* to 7*s.* per cwt.; do., foreign, 3*s.* 6*d.* do.; Lettuces, 6*d.* to 8*d.* per dozen; Cauliflowers, 6*d.* to 1*s.* 4*d.* do.; Cabbages, 6*d.* to 10*d.* do.; Celery, 1*s.* to 2*s.* per dozen heads. The prices in St. John's Market were as follows:—Potatos, 6*d.* to 8*d.* per peck; Grapes, 1*s.* to 2*s.* 6*d.* per pound; foreign, 4*d.* to 8*d.* do.; Pines, English, 4*s.* to 6*s.* each; Damsons, 1½*d.* per pound; Cucumbers, 3*d.* to 8*d.*; Mushrooms, 4*d.* per pound.

VARIORUM.

THE ALIMENTARY VALUE OF WHITE AND BROWN BREAD.—At the Paris Academy's meeting in June, M. A. GIRARD contended that white bread, made from pure flower, is quite as nourishing as brown bread containing all the bran of the Wheat. "I have already pointed out," he observed, "that an identical proportion of gluten is present in white bread made from flour that has been bolted, so as to leave 40 per cent. behind, and in brown bread made from flour, from which only 25 per cent. has been rejected." Another objection made to white bread is, that it does not furnish the human organism with sufficient phospheric acid; but M. GIRARD contends that the difference is unimportant in favour of brown bread. While, not even in the poorest countries, does bread now constitute the exclusive diet; eggs, milk, cheese, Chestnuts, Potatos, and other vegetables supplying a far more important contingent of phosphoric acid than the difference between the quantities contained in white and brown bread. While physiologists assert that the human organism requires 3·19 grains of phosphoric acid daily, M. GIRARD has weighed and analysed the daily food of labourers in the poorest districts, and found that it amounted to double the above quantity. He considers the normal bread to be that made from flour that has given up 30 per cent. of corticle, to serve as food for cattle to be given back to men in the form of meat. *Journal de Pharmacie.*

Answers to Correspondents

A BUSINESS AS FLORIST: *E. G. W.* Doubtless there are openings in London for pushing men in the florist trade, but we are unable to advise you in the matter.

ACCOUNT OF MOUNT HARRY IN LAST WEEK'S ISSUE.—By inadvertence, the name of the gardener was printed Mr. Jones instead of Mr. H. Garnett.

BOOKS: *W. E. Mushrooms for the Million*, by Mr. J. Wright; published at the *Journal of Horticulture* Office, 171, Fleet Street, E.C.

CHRYSANTHEMUM LEAVES: *Kill-m-right.* We can discover no trace of fungus upon the leaves, and the disfigurement is, we believe, due to another cause. It might be the result of excessive or inappropriate manures, or other cultural error.

CHRYSANTHEMUM SHOW-BOARDS: *E. C. L.* For twelve incurveds, 2 by 1⅛ feet, holes 6 inches apart from centre to centre, 6 inches high at the back, 3 inches in the front. Two "12 boards" make one for twenty-four blooms, and three of them will do for thirty-six blooms, and so on; or boards may be made on this pattern to suit a particular number. The stands for six blooms are 1⅛ feet long by 1 foot broad. For Japanese blooms of twelve the board should be 2⅛ feet long and 1⅜ feet broad, the holes 7 inches apart from centre to centre. Stands for six blooms 14 inches long and 21 inches wide, the height at the back 7 inches, and at the front 4 inches. All stands to be painted green, and to have the supports made secure. See the *National Chrysanthemum Society's Annual Report for* 1895, p. 56.

CINERARIA FUNGUS: *S. J. G.* The Cineraria rust is Coleosporium senecionis, P. The only remedy recommended hitherto is the spraying with Condy's Fluid—but your plants appear to be too far gone for any hope of success. *M. C. C.*

FRUITS FOR NAMING: *A. L. T.* Only send six kinds; and if you can spare them, two fruits of each. When sending Plums and stone-fruits generally, forward shoots with foliage, and send them before they are perfectly ripe.

GROWTH ON LEAVES OF GRASS: *J. D.* The organisms growing upon the dead-grass and leaves belong to Physarum cinereum, a group which is placed on the borders of the animal and vegetable kingdoms under the name of Mycetozoa. See *Guide to British Mycetozoa*, price 3*d.*, British Museum (Natural History), Cromwell Road, S.W. *W. G. S.*

INSECT: *Dendrobe.* It is a species of beetle, Diaxenes probably imported with some Orchids. As it is an insect which injures the leaves of Orchids and other plants, it should be hunted for and destroyed, although it is scarcely likely to become acclimatised. — *Enquirer.* Gryllus migratorius (Locust).

MANURE FROM TOWN: *W. E.* The manure containing a large quantity of spent Hops will not grow Mushrooms, although when thrown into a heap and allowed to ferment till partly decayed, it will make a good manure.

MELONS: *A. G. H.* The fruit and foliage sent showed no bacteriosis in the stems, or of any fungus disease in the fruit. The scorched spots on the leaves exhibited no trace of parasite, hence there appears to be no danger of infection, and we are disposed to attribute the condition of the plants to some error in culture rather than to inherent disease. *M. C. C.*

MONSTERA DELICIOSA: *Thos. Fletcher.* Not considered of sufficient interest to be figured. We believe that its receipt was acknowledged in due course. Many thanks.

*** *The application to name flowers, and especially fruits, are so numerous at this season, as severely to tax our resources. They entail an expenditure of time, labour, and money, of which our readers have little idea. We are willing to oblige our correspondents as far as we can, but we must request that they will observe the rule that* **not more than six varieties** *be sent at any one time. The specimens should be good ones, post approximate expenses, and to prevent disappointment, they should be properly numbered, and carefully packed. We do not undertake to send answers through the post. Please to address to the Editor.*

NAMES OF FRUITS: *G. D. Apples*: 1, Warner's King; 2, Frogmore Prolific; 3, Gravenstein. —*Pears*: 1, Beurré Sterckmanns; 2, Hessle; 3, Louis Bonne of Jersey. — *Carter, Page & Co.*—1, bad specimen; 2, Reinette du Canada; 3, New or Winter Hawthornden.—*A. S. B.* 13, Warner's King; 14, Margil; 15, Dumelow's Seedling; 17, Rosemary Russet; 18, Potts' Seedling. *J. Chadwick.* 1, Lord Lennox; 2, Blenheim Orange; 3, Cowarne's Queening; 5, New or Winter Hawthornden; 7, Belle de Bruxelles; 8, Pitmaston Duchess.—*G. A.* 1, Cox's Pomona; 2, Potts' Seedling; 4, Emperor Alexander; 5, Rosemary Russet; 6, Fearn's Pippin; 9, Lord Suffield. *Pear* Beurré de Capiaumont.—*W. G.* 1, Bramley Seedling; 2 and 6, Striped Beefing; 3, not recognised; 5, Hanwell Souring.—*Billingham. Pears*: 2, Beurré Sterckmanns; 3, Pitmaston Duchess; 5 and 13, Duchesse d'Angoulême; 6, Maréchal de la Cour; 7, Bergamotte d'Esperen; 9, Marie Louise; 12 and 18, Bergamotte d'Esperen; 14, Beurré Diel; 15, Glou Morçeau. *Apples*: 19, Lord Grosvenor; 22, Warner's King; 23, Duchess of Oldenburg; others not recognised.—*D. W. Apple*: Dutch Codlin.—*W. Austin. Pear*: Williams' Bon Chrétien. *Apples*: 1, Lincolnshire Holland Pippin; 2, Fearn's Pippin; 3, Worcester Pearmain; 4, Claygate Pearmain.—*F. G. D.* 1, Maréchal de la Cour; 2, Beurré Diel; 3 and 4, Williams' Bon Chrétien; 5, Not recognised; 6, Hessle.—*A. C. F.* 1 and 5, Not known; 2, New Hawthornden; 3, King of the Pippins; 4, Red Ingestre; 6, Beurré Diel.—*A. G. H.* 1, 3, 9, 10, 14, 21, 24, 23, are all Blenheim Orange; 2, Beauty of Kent; 13, Beauty of Kent; 6, The Queen; 8, Hollandbury; 16, Hollandbury; 11, Cox's Orange; 18, Old Pommeroy; 17, Prince Arthur; 4, Lane's Prince Albert; 20, Keswick Codlin; 22, Royal Russet; 15, Cellini. A few others not known.—*M. D. Pear*: Beurré Clairgeau—a fine specimen.—*Apple*: Not recognised—resembles Crimson Quoining, or Queening.—*F. A. T.* The Grape is Syrian, a variety of only third-rate quality.—*J. B. T.* Pears: 1, Gansell's Bergamot; 2, Beurré d'Amanlis. Apple, Cox's Orange Pippin.—*J. M.* The small Apple may be merely a local variety; we canot recognise it from such a specimen as that sent.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to be so good as to consult the following number.*—*A. B. L.* Tropæolum speciosum. —*Phono.* Paliurus australis.—*L. B. G.* 1, Epidendrum species, send when in flower; 2, Epidendrum purum; 3, Cypripedium Eismannianum (Boxalli × Harrisianum).—*F. M.* Vanda tricolor formosa, a very pretty variety.—*F. Br.* 1, Polypodium aureum; 2, Adiantum cuneatum Phillipsii; 3, Gymnogramma ochracea; 4, Pteris tremula; 5, Denstædtia davallioides; 6, Doodia caudata; 7, Begonia incarnata, commonly called B. metallica in gardens; 8, Hedychium Gardnerianum.—*G. B.* 8, Ginkgo biloba (Maiden-hair tree); 9, Ptelia trifoliata (Hop-tree); 10, Bignonia radicans; fruits next week.—*E. C. L.* Kindly send a shoot.—*Kent & Brydon.* Datura Stramonium.—*M.* 1, Pteris argyrea; 2, Woodwardia radicans; 3, Asplenium præmorsum; 4, Todea pellucida; 5, Asplenium bulbiferum; 6, Adiantum speciosum; fruits next week.—*S. L.* Epidendrum alatum. It is a very pretty and fragrant species. — *J. W.* Hæmanthus nataleusis.—*S. J. G.* 1, Dracæna rubra; 2, Dracæna terminalis; 3, Croton Johannis; 4, Croton chrysophyllum; 5, appears to be the same as 3; 6, Croton longifolium; 7, Croton irregulare; 8, Croton interruptum; 9, Croton nigrescens. — *W. M. B.* Onopordon acanthium (Cotton Thistle).—*J. M. P.* Clerodendron fallax. The species Quercus next week, if they can be identified without fruits.—*T. W.* 1, Statice Halfordi; 2, Statice sinuata; 3, Statice floribunda; 4, Statice macrophylla; 5, Statice profusa.—*H. H. W.* The crested Fern is Pteris cretica albo-lineata aristata; the other, Adiantum concinnum.—*S. Dixon.* The leaf is Pulmonaria officinalis (Lungwort), and the labiate plant probably a species of Dracocephalum. *O. B.* 1, Ophiopogon Jaburan; 2, Anthericum variegatum, probably; send when in flower.—*W. H. Divers.* 1, Physostegia imbricata; 2, Chrysanthemum balsamita; 3, Sedum populifolium; 4, Erica stricta; 5, Caluna vulgaris; 6, Acrostichum scandens.—*G. Abbey.* 1, Sedum sarmentosum; 2, Cuphea cyanea; 3, C. Llavea (C. miniata); 4, Maurandia erubescens.

NARCISSUS BULBS: *C. D., Rosemorran.* Most of the bulbs are badly decayed, and contain numbers of the "bulb mite," as well as the larvæ of a weevil. You should carefully examine the whole of the consignment, and reject all bulbs that are not perfectly sound. Burn these, as there would be nothing gained did you use them. If you have already planted some such bulbs, we should be disinclined to use the ground next year for any kind of bulbs. Plant it with other crops, and give it dressings with quick-lime and soot during winter.

PEACH HOUSE: *T. B.* If you want early fruit, choose a lean-to with a southern aspect, otherwise a span-roofed house is best. The pots to be plunged in the soil of the border, if large, should have three holes just above the bottom of the pot, and one large one or three middling-sized ones in the bottom.

RED CURRANTS AND GOOSEBERRIES FOR A NORTH WALL: *J. A.* Of the first, choose Raby Castle, Red Dutch, Long-bunched Red, and Knight's Large Red. Of the second, choose the red-skinned varieties Rifleman, Ironmonger, Keen's Seedling, Warrington Small Rough Red, and Slaughterman. Yellow: Leveller and Yellow Champagne. Green: Hepburn's Prolific and Pitmaston Green-Gage. Gooseberries may be trained fan-shaped, or as single and double-stemmed cordons; and Currants as U-shaped cordons on short stems, or as oblique cordons with two or four stems. The stems of cordons of either fruit should stand not nearer together than 14 inches; and having decided on the form the plants are to take, it is an easy matter to calculate the distance apart at which to plant.

RED-SPIDER ON CARNATION SOUVENIR DE LA MALMAISON: *J. A. C.* Repeated vaporising with Richard's XL All should rid the plants of red-spider without injuring the former, but as it has not done so, you might try a solution of soft soap, 4 oz., flowers-of-sulphur 2 oz. to the gallon, the sulphur mixed like mustard is made, that is with a small quantityof water, and then added to the water in bulk. By making 30 to 40 gallons of this mixture, and one man holding the plants over the edge of the tub containing it, they can be conveniently syringed by another operator on the upper and lower sides of the leaves. Two or three applications at intervals of three days should clear the plants of the plague. Preferably the mixture should be used in a warm state.

RED SPIDER ON VIOLETS: *Jops.* and *E. C. L.* If the soil and air be kept moist, and the under-sides of the leaves well syringed when the weather is dry and warm, the red spider will disappear. Use Richard's XL All Vaporiser, twice or thrice.

ROSES: *H. M. E.* We know of no Rose named La Belle Lyonnaise; but there is Belle Lyonnaise of Levet, sent out in 1867, with canary-yellow-coloured blooms, changing to whitish salmon-red; it is a seedling of Gloire de Dijon. Lacharme, in 1854, also named one of his Roses Belle Lyonnaise, but it is flesh-coloured. Gloire Lyonnaise is one of Guillot's raising, and came into commerce in 1884. It is a very vigorous grower, and on that account might be called a climbing variety; its flower has petals of chrome-yellow at the centre, changing to glistening white in those towards the margin of the flower.

RUST ON GRAPES: *J. A.* See answers to correspondents, under heading "Injury to Grapes," in our issue for September 5 last.

STRAWBERRIES: *G. B.* The first runner coming from the mother plant will in all probability produce the stronger plant in a given time than one that is produced further away, owing to the great length of time which it has for development before it is detached.

TWIN CUCUMBER: *G. D.* A good specimen of a very frequent phenomena.

WALL PLATES OF GLASSHOUSES: *R. P.* Red, or pitch Pine. It should overlap the brick-work on either side, and the overlapping parts channelled or ploughed to prevent the ingress of water.

COMMUNICATION RECEIVED.—Rev. G. H.—W. G. S.—E. J. L.—Hackle & Sons.—T. Nash.—C. Dawson.—J. F. Lambert.—R. D.—A. F.—I. T.—J. H.—H. A.—J. W. M.—G. E.—W. T. (thanks for 2s. sent for Gardeners' Orphan Fund).—A. & McA.—J. D.—J. M.—W. L. Yates.—T. W. R.—T. G.—Gardener.—W. E. Gumbleton.—T. J. C.—C. Beck.—Bourgy & Co.—A. H.—E. C.—R. I.—W. G. W.—J. A. T. Honey.—J. McIntyre.—F. K.—J. B.—D. W. Gardener.—H. W.—J. W.—D. T. Fish.—M.—R. D.—H. S.—N. E. B.

PHOTOGRAPHS, SPECIMENS, &c., RECEIVED WITH THANKS.—H. Low & Co.—Lambert's Chapel Hill [illegible].

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

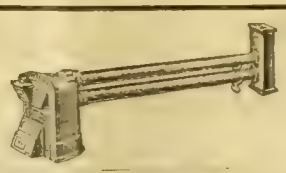
IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper*

Increased to the extent of more than 90 per cent., and that it continues to increase weekly

Advertisers are therefore advised that the "Chronicle" circulates amongst COUNTRY GENTLEMEN, AND ALL CLASSES OF GARDENERS AND GARDEN LOVERS at home, that it has a specially large FOREIGN AND COLONIAL CIRCULATION, and that it is interleaved for reference in all the principal Libraries.

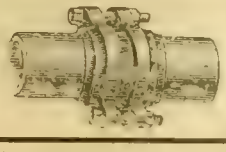
The "DENNIS" HEATING APPARATUS.

Complete, 50s.



1896. NEW CATALOGUE GRATIS. 1896.

HOT-WATER PIPES, BOILERS, SPOUTING, PUMPS, &c.

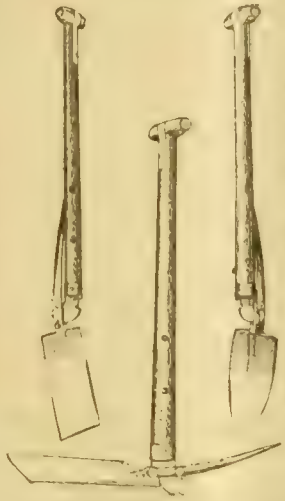


THOS. W. ROBINSON, DENNIS FOUNDRY, STOURBRIDGE.

SHARPINGTON (PATENT)

COMBINED PICK AND SHOVEL

SYNDICATE (Limited).



These tools are now being made in all shapes, sizes, and weights, suitable for Gardening, Sporting, and all purposes where the Pick, Shovel, or Hoe is required.

PRICES, CARRIAGE PAID:—

Black ... ... 5s. 6d.
Half Bright ... 6s. 6d.
All Bright ... 7s. 6d.

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SPECIAL TERMS FOR QUANTITIES.

25, AUCKLAND ST., VAUXHALL, LONDON, S.E.

Telegrams:—"Pikeman, London."

HILL & SMITH, BRIERLEY HILL near DUDLEY;

And at LONDON & DUBLIN.

IRON BAR FENCING,
IRON ENTRANCE PARK & FIELD GATES.
STRAINED WIRE FENCING.
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BLACK VARNISH.



Made 6 feet high by 12 in. square, in halves. Price, 9s. and 10s. 6d. each.

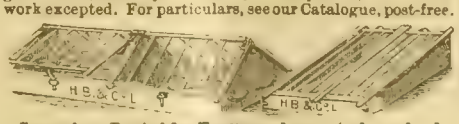


The Famous PORCUPINE TREE GUARD. As above.

Price Lists Free on Application.



THIS GREENHOUSE erected and heated complete, in any part of the country, best materials only, workmanship guaranteed, 25 ft. by 12 ft., £50; 30 ft. by 15 ft., £70. Brick-work excepted. For particulars, see our Catalogue, post-free.



Superior Portable Frames, large stock ready for immediate use, well made, painted four coats, glazed with 21-oz. glass, carriage paid:—1-light frame, 4 × 6, 30s. 6d.; 2-light frame, 6 × 8, 58s.; 3-light frame, 12 × 6, 85s. 6d.

Span-roof Frames, 6 × 4, £2 5s.; 9 × 5, £3 15s.

HARDY BRUIN & CO., LEICESTER.

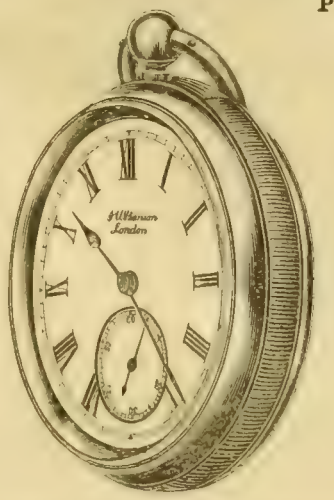
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£5. 5s.

"LUDGATE" WATCH

BEATS ALL OTHERS FOR ACCURACY, DURABILITY, and PRICE.

FOR GARDENERS.



FOR GARDENERS.

Send for Book of Illustrations and Prices, post-free.

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J. W. BENSON, THE STEAM FACTORY, 62 and 64, LUDGATE HILL, E.C., And at 28, ROYAL EXCHANGE, E.C.



ESTABLISHED 1851.

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SOUTHAMPTON BUILDINGS, CHANCERY LANE, W.C.

TWO AND-A-HALF per Cent. INTEREST allowed on DEPOSITS, repayable on demand.

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For the encouragement of Thrift the Bank receives small sums on deposit, and allows interest at the rate of TWO-AND-A-HALF PER CENT. per annum on each completed £1.

BIRKBECK BUILDING SOCIETY.

HOW TO PURCHASE A HOUSE FOR TWO GUINEAS PER MONTH.

BIRKBECK FREEHOLD LAND SOCIETY.

HOW TO PURCHASE A PLOT OF GROUND FOR FIVE SHILLINGS PER MONTH.

The BIRKBECK ALMANACK, with full particulars, post-free. FRANCIS RAVENSCROFT, Manager

THE GARDENERS' CHRONICLE

PUBLISHER'S NOTICES.

GARDENERS' CHRONICLE TELEGRAMS.—*The Registered Address for Foreign and Inland Telegrams is "Gardchron, London."*

ADVERTISEMENTS.

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HEAD LINE CHARGED AS TWO.

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8	„ ..	0	5	0	19	„ ..	0	10	6
9	„ ..	0	5	6	20	„ ..	0	11	0
10	„ ..	0	6	0	21	„ ..	0	11	6
11	„ ..	0	6	6	22	„ ..	0	12	0
12	„ ..	0	7	0	23	„ ..	0	12	6
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Page, £8; Half Page, £4 10*s.*; Column, £3.

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N.B.—The best and safest means of Remitting is by POST-OFFICE MONEY ORDER.

Advertisements for the current week MUST *reach the Office by first post, Thursday morning.*

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements,
41, WELLINGTON STREET, STRAND, W.C.

SUBSCRIPTIONS.

All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months. Post-office Orders to be made payable at the Post-office, Great Queen Street, London, W.C., to H. G. COVE.

Subscribers who experience any difficulty in obtaining their copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint).

THE SYDNEY MAIL,
AND
NEW SOUTH WALES ADVERTISER.

CONTENTS:—

INTERCOLONIAL and GENERAL NEWS.
SPORTING and the FIELD, in which is incorporated BELL'S LIFE in SYDNEY.
RECORD of RACES and NOTES on the TURF.
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AGRICULTURE, PASTORAL, HORTICULTURE.
GOLD FIELDS and MINING generally.
STOCK and SHARE REPORTS.
ORIGINAL and SCIENTIFIC ARTICLES.
TALES by POPULAR ENGLISH and AUSTRALIAN AUTHORS.
THE FASHIONS. DOMESTIC ECONOMY.
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COMMERCIAL NEWS.
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The SYDNEY MAIL has a wide circulation throughout the Australian Colonies, New Zealand, Polynesia, &c. It contains a large amount of information on a great variety of subjects.

Subscription in Advance, £1 6s. per Annum.
Single Copies, 6*d.*; Stamped, 7*d.*

Publishing Office—Hunter Street, Sydney, New South Wales.

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The undermentioned Newspaper and Advertising Agents are authorised to receive ADVERTISEMENTS for the SYDNEY MORNING HERALD and SYDNEY MAIL:—

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Mr. F. Algar, 8, Clement's Lane, Lombard Street, E.C.
Messrs. Gordon & Gotch, St. Bride Street, Fleet Street, E.C.
Messrs. W. H. Smith & Son, 186, Strand.
BRISTOL ..... James and Henry Grace, Royal Insurance Buildings.
MANCHESTER... James and Henry Grace, 73, Market Street.
EDINBURGH ... Robertson & Scott, 13, Hanover Street.
GLASGOW ..... W. Porteous & Co., 15, Royal Exchange Place.

☞ *Copies of each Journal are filed at the above Offices for the use of Advertisers.*

FARMS, ESTATES, RESIDENCES.

Any one desirous of
Renting a Farm or Residence, or Purchasing an Estate, can have copies of the

MIDLAND COUNTIES HERALD

SUPPLIED FREE FOR SIX WEEKS,

on stating the purpose for which the paper is required, forwarding Name and Address, and six halfpenny stamps for postage, addressed, "*Midland Counties Herald* Office, Birmingham." The *Midland Counties Herald* always contains large numbers of advertisements relating to Farms, Estates, and Residences for Sale and to be Let.

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The Best County Medium for Advertising Sales of Estates.

THE "WORCESTER HERALD,"

ESTABLISHED 1794.

The Leading County Paper. Extensive circulation among the upper and middle classes in Worcestershire and adjoining counties. Advertisers would do well to forward for reference and distribution plans and particulars of Estates, Catalogues of Machinery, Furniture, Books, and other property advertised in the columns of the "HERALD."

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The "WORCESTER HERALD" is the most effective organ for giving publicity to announcements of this class. It is the leading Agricultural Paper in the County, and Circulates most extensively among Agriculturists in and around Worcestershire.

Farms to Let.

Land Agents, Estate Managers, and all having Farms to Let, would do well to advertise in the "WORCESTER HERALD," the leading County Paper. Specially adapted for bringing such notices before Tenant Farmers. Large circulation. Moderate charge.

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For producing results the "WORCESTER HERALD" is recognised as a specially good medium. Cheap Rates.

Apply for Terms
SPECIMEN FREE. Price 2d.
Published Friday for Saturday.

OFFICES:—72, HIGH STREET, WORCESTER.

THOMSON'S VINE AND PLANT MANURE.

The very best for all purposes.

The result of many years' experience. Largely used both at home and abroad.

Agent for London:—J. GEORGE, 14, Redgrave Road, Putney, S.W.
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Price Lists and Testimonials on application.
Analysis sent with orders of ½-cwt. and upwards.

SOLD BY ALL SEEDSMEN.

GISHURST COMPOUND, used since 1859 for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water; 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in lather from cake, for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes, 1*s.*, 3*s.*, and 10*s.* 6*d.*

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes, 6*d.* and 1*s.*, from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

Fir Tree Oil INSECTICIDE

For destroying Insects on Plants.
Used by every Orchid Grower of any note all over the World.
The CHEAPEST and BEST.
Half-pints 1/4, pints 2/6, quarts 4/6, half gallons 7/6, gallons 12/6, 5-gallon Drums 10/6 per gallon.
Carriage Paid.
E. G. HUGHES, Victoria Street, MANCHESTER.
Sold by all Seedsmen. *Pamphlets free on application.*

EPPS'S A1 PEAT

(SELECTED specially for ORCHIDS),

Also for Stove & Greenhouse Plants, Hardwood Ferns and Rhododendron do. (Trade supplied).
LOAM, SAND, LEAF MOULD, C. N. FIBRE, CHARCOAL, SPHAGNUM MOSS, &c. PEAT sent to all parts of the world at Special Through Rates. Large or small quantities.
EPPS & CO., F.R.H.S., Peat Depôt, Ringwood.

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(Trade supplied on best terms).

A large stock of the finest quality ORCHID PEAT. Also for Stove and Greenhouse Plants, Ferns, Rhododendrons, &c. By the sack, cubic yard, ton, or truck-load. Can be seen in bulk at London Wharf. Immediate despatch either from London or Grounds. By Rail or Steamer. Prompt and Special Quotations for delivery to any Station or Port.
G. H. RICHARDS, Old Shot Tower Wharf, Lambeth, London, S.E.; Peat Grounds and Depôts, Ringwood, Hamworthy, and Wareham. Address all letters to London Wharf.

GLASS! GLASS! CHEAP GLASS!
4ths, 15 oz., in 50-feet boxes,
Sizes from 10×8 up to 14×10, at 4*s.* 6*d* per box.
4ths, 21 oz., in 100-feet boxes,
Sizes, 10×8 and 12×8, at 8*s.* per box.
3rds, 21 oz., in 200-feet boxes,
Sizes, 9×7 up to 14×10, at 18*s.* per box.
Ex wharf, London. All other sizes equally cheap.
Full detailed list of stock sizes sent free on application to
THE CHEAP WOOD COMPANY,
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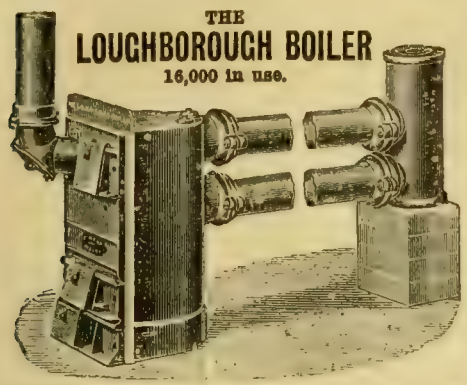
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ACCIDENTS,

RIDING, DRIVING, SHOOTING, CYCLING, FISHING, SKATING, &c.

ACCIDENTS OF ALL KINDS
INSURED AGAINST BY THE
RAILWAY PASSENGERS' ASSURANCE CO.,
64, CORNHILL, LONDON.
A. VIAN, *Secretary.*

THE
LOUGHBOROUGH BOILER
16,000 in use.



☞ *The Pioneer of cheap, simple, and effective heating for small Greenhouses.*

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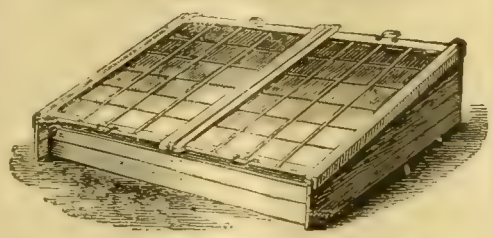
Owing to improved facilities for the manufacture of these Boilers, and a consequent cheapening in the cost of production, we are enabled to reduce the prices as follows:—
No. 1, £2 12*s.*; No. 2, £3 15*s*; No. 3, £5; also larger sizes. Complete Apparatus from £1 8*s*. Lists and Estimates on application.

MESSENGER & CO., Loughborough, Leicestershire.
London Office: 96A, VICTORIA STREET, WESTMINSTER, S.W.

ORCHID BASKETS, RAFTS,
BOATS, and CYLINDERS,
AND ALL GARDEN SUNDRIES.

SEND FOR A PRICE LIST
From the Largest Manufacturer in the Trade,
H. G. SMYTH,
21, GOLDSMITH ST., DRURY LANE, W.C.

GREAT REDUCTION IN FRAMES
OUR WELL-KNOWN MAKE.



PORTABLE CUCUMBER FRAMES.

These Frames are made of the Best Materials, and can be put together and taken apart in a few minutes by any one.

Sizes and Prices, Glazed and Painted.		£	s.	d.
1-light, 4 ft. by 6 ft...	CASH PRICES, CARRIAGE PAID.	2	0	0
2 „ 8 ft. by 6 ft...		3	0	0
3 „ 12 ft. by 6 ft...		4	2	6
4 „ 16 ft. by 6 ft...		5	5	0
5 „ 20 ft. by 6 ft...		6	7	6
6 „ 24 ft. by 6 ft...		7	10	0

Larger sizes at proportionate prices.

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ROYAL HORTICULTURAL WORKS,
MIDDLETON, MANCHESTER.
London Agent, Mr. H. SKELTON Seedsman &c. 2 Holloway Rd. N.

The Best Present for a Gardener.
VINES AND VINE CULTURE.
The most complete and exhaustive Treatise on Grapes and their Culture ever published.
Third Edition just out.
Price 5*s.*; post free, 5*s.* 6*d.*
A. F. BARRON, 13, Sutton Court Road, Chiswick.

HORTICULTURAL G. S. SHEET F. S. GLASS.

STOCK SIZES—in inches.

12×10	14×12	18×12	16×14	20×14	20×16	24×16	22×18
4×10	16×12	20×12	18×14	20×15	22×16	20×18	24×18

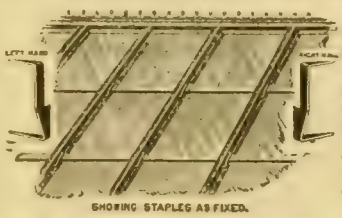
21-oz. Foreign, of above sizes, in 200-feet boxes, 3rds and 4ths qualities.

English Glass, cut to buyer's sizes at lowest prices, *delivered free and sound* in the country in quantity.

PUTTY, WHITE LEAD, PAINTS, OILS, BRUSHES, &c.

GEORGE FARMILOE & SONS,
34, St. John Street, West Smithfield, London, E.C.
Stock Lists and Prices on application. Please quote *Gard. Chron.*

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SHOWING STAPLES AS FIXED.

USE
Thorpe's Patent Glazing Staples.
Broken panes replaced instantly, and without top putty. Will not rust. Practically everlasting. Sample gross assorted right and left hand, sent post-free, 1/9.

The Marriott Cycle Co., Ltd., 71, Queen Street, E.C.,
Manufacturers of the High Grade "Marriott" Bicycles and Tricycles. CATALOGUE on application.

Crompton and Fawkes, Chelmsford.



HORTICULTURAL BUILDERS AND HOT-WATER ENGINEERS.

Designers and Manufacturers of Ranges, Conservatories, Vineries, Forcing-houses, Greenhouses, and every description of Glasshouse. Best work. Lowest Prices. Every modern appliance. Surveys made in any part of the Kingdom. Estimates free. Large New Illustrated Catalogue post-free on application.

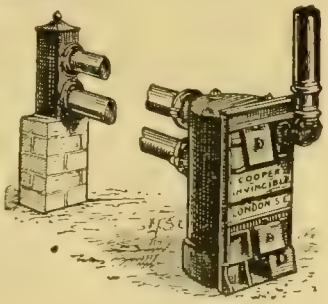
CROMPTON & FAWKES, CHELMSFORD.

W. COOPER, LTD. { HORTICULTURAL PROVIDERS, (The Original Inventors of Cheap Greenhouses), } 755, OLD KENT ROAD, LONDON, S.E.



AMATEUR FORCING HOUSE.
For Cucumbers, Tomatos, Melons, etc.
Everything complete, from 50*s.*

INVINCIBLE HOT-WATER APPARATUS.
Boiler only, price £2 0 0, capable of heating 75-feet of 4-inch pipe.
Lowest estimates for complete apparatus for any sized house on application.





AMATEUR SPAN-ROOF GREENHOUSE.
Everything complete, ready for erecting,
From £2 16*s.*
SEE LIST.

HORTICULTURAL GLASS—Best 15 oz., in 50 feet boxes, 10 by 8, 12 by 8, 12 by 9, 13 by 9, 14 by 9, 14 by 10, at 4*s.* 6*d.* per box 4ths, 15 oz., in 100ft. and 200ft. boxes, 12 by 12, 12 by 14, 12 by 16, 12 by 18, 12 by 20, 12 by 24, 14 by 16, 14 by 18, 14 by 20, 14 by 24, 16 by 18, 16 by 20, 16 by 24, 18 by 20, 18 by 24, 100ft. 8*s.*, 200ft 15*s.* per box. 21 oz., in 100ft. and 200ft. boxes: 4ths, 21oz., 9 by 7, 10 by 8, 12 by 10, 14 by 10, 12 by 14, 12 by 16, 12 by 18, 12 by 20, 12 by 24, 14 by 16, 14 by 18, 14 by 20, 14 by 24, 16 by 18, 16 by 20, 16 by 24, 18 by 20, 18 by 24, 100ft. 11*s.*, 200ft., 21*s.* per box.
NOTE.—Delivered free on rail, London, by our own vans (not ex-wharf, which means a cost of 1*s.* 6*d.* per box for collection).

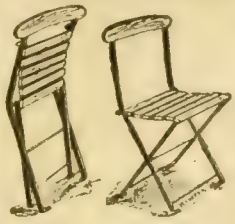
COOPER'S "BEAT ALL" LAWN MOWER. THE WORLD'S BEST.

10-in. ...	18/6	14-in. ...	24/-
12-in. ...	19/6	16-in. ...	27/6
18-in. ...	32/-		

Grass Catcher, to fit any Machine, 5/- each.



PACKED F.O.R. LONDON.



FOLDING GARDEN CHAIRS.
WELL MADE.
Having bought up the whole of a Manufacturer's Stock of 5000, we are enabled to sell these at a ridiculously low figure.
Special Job Line, 3*s.* each; 33*s.* per dozen.

ROYAL HORTICULTURAL SOCIETY'S
EXAMINATIONS IN GARDENING.

"Coaching" by Correspondence arranged for intending Candidates unaccustomed to write papers. Fees moderate, to suit Practical Gardeners.

COLVILE BROWNE, F.R.H.S., Hextable, Kent.

GARDENING APPOINTMENTS.

MR. JOHN BRAITHWAITE, for the past four and a half years Plant Foreman at Earnock, Hamilton, as Gardener to T. W. WATSON, Esq., Midstone Hall, Hamilton, N.B.

Mr. JNO. JULIAN, as Head Gardener to C. H. WILLIAMS, Esq., Roath Court, Cardiff.

Mr. J. BURKE, late Head Gardener at Mark Hall, Harlow, Essex, as Gardener and Bailiff to STANLEY LEIGHTON, Esq., M.P., Sweeney Hall, Oswestry, Shropshire.

Mr. MCQUAKER, Foreman under Mr. ALEX. MCGREGOR, at Brettargh, Holt Kendal, succeeds the latter as Gardener to CHARLES WALKER, Esq., at that place.

Mr. PETER WILLIAMS, after two years' service at Oakfield Gardens, near Nantwich, as Head Gardener to — RANSTEAD, Esq., of Inveresk, Tilston, near Malpas.

Mr. DAVID GIBSON, late of Falkland Park Gardens, South Norwood Hill, as Head Gardener to J. B. JOHNSTONE, Esq., Coombe Cottage, Kingston-on-Thames.

Mr. GEO. NICHOLS, formerly Foreman at Quex Park Gardens, Birchington, Kent, as Head Gardener to F. BARING GOULD, Esq., Merrow Grange, Guildford.

CATALOGUES RECEIVED.

HOOPER & Co., Central Avenue, Covent Garden—Bulbs.

B. R. CANT, Colchester—Roses.

W. B. HARTLAND, 24, Patrick Street, Cork, (1), Daffodils, (2), Bulbs, (3), Irish grown Tulips.

W. ATLEE, BURPEE & CO., Philadelphia, U.S.A.—Sweet Peas.

R. VEITCH & SONS, Exeter—Bulbs.

THOS. IMRIE & SONS, 124, High Street, Ayr—Bulbs.

H. CANNELL & SONS, Swanley, Kent—Bulbs, Primulas, Perennials, Roses, Fruits, Cactaceous Plants, &c.

DOBBIE & Co., Rothesay—Descriptive List of Potatos.

THOS. S. WARE, Hale Farm Nurseries, Tottenham—(1), Dahlias and Begonias, Perennial Herbaceous and other Plants, (2), Lilies, Iris and Narcissus, (3), Carnations, Roses, Clematis, Climbing Plants, and other Hardy Perennial Species, (4), Bulbs.

PARTNER WANTED, in an old-established NURSERY, in the Midlands. A practical man preferred. Only small capital required.—ABIES, 41, Wellington Street, Strand, W.C.

WANTED, GARDENER (Scotch preferred), for Isle of Wight. Must be capable of Growing any kind of Early Vegetables, Tomatos, Vines, Melons, and every description of Flower Gardening. Age about 40, married, not more than one child. Gardeners' cottage in grounds. Young under-gardener kept.—K., 41, Wellington St., Strand, W.C.

WANTED, HEAD WORKING GARDENER.—Must understand Glass, and have unexceptionable references.—Apply by letter, to W. C. BOYD, Esq., The Grange, Waltham Cross.

WANTED, an active intelligent MAN, to act as a FOREMAN JOBBING GARDENER, and solicit orders for Contract Gardening and General Nursery Stock, in a new neighbourhood, N.W. Moderate salary and commission.—State experience, wages expected, &c., to Z, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

Market Gardener.

WANTED, at Michaelmas, practical WORKING MAN, to take charge of 6 acres.—Must understand quick rotational cropping, also to do daily round in adjoining town. No glass; good house; liberal wages, and commission on goods sold.—Apply, by letter, to W. W. BEDDOME, Manor Farm, Bix, Henley-on-Thames.

WANTED, FOREMAN, for a Scotch Nursery, with a thorough knowledge of Forest and Ornamental Trees, Shrubs, Fruit Trees, and Roses. Good salary, and permanent situation to a competent man.—P. R., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

Rose Grower Wanted.

WANTED, a steady MAN, as ROSE GROWER.—One who has been accustomed to grow in quantity, exhibit, and competent to execute orders.—Apply, stating where last employed, wages expected, age, &c., to JNO. JEFFERIES AND SON, Royal Nurseries, Cirencester.

WANTED, a first-class GROWER of cut flowers and pot-stuff, for the Midlands.—He must be an energetic, reliable, and competent man, and quick at his work; preference to a married man, and an abstainer.—State age, wages, and experience, to MIDLANDS, 41, Wellington Street, Strand, W.C.

WANTED, an experienced MAN for growing and Forcing Bulbs in quantities, including Liliums, Lily of the Valley, Tulips, Narcissi, &c.—Apply, stating age, wages required, with references, to C. E. & F. W. LILLEY, St. Peter's-in-the-Wood, Guernsey.

WANTED, for a Small Nursery, a steady young MAN, experienced in General Market-stuff, and attend to Horse. To live in.—Apply, stating age, salary required, with references, to C. TAYLOR, Peddar Road, South Shore, Blackpool.

WANTED.—Young Man for the Houses, wages 11s. per week; bothy, &c.—Apply with references to C. H. PERKINS, The Gardens, Milton Abbey, Blandford.

WANTED, TWO TRAVELLERS (Cyclists), under 30, unmarried; proved ability as Salesmen essential. Knowledge of Agriculture and Horticulture desirable. Remuneration partly by salary (small), and partly by commission. Travelling expenses paid. Private security for £500 required. May be sent abroad if proved competent.—Apply by letter to JOSEPH FISON AND CO., Ltd., Ipswich, stating age, whether possessing knowledge of French and Spanish, and full particulars of experience. All applicants complying with these conditions will receive an answer within fourteen days.

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WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

Advertisers are cautioned against having Letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

THOMAS BUTCHER can recommend several HEAD and UNDER GARDENERS of first-rate character and proved ability. Gentlemen seeking such may have particulars free.—Apply to THOMAS BUTCHER, Seed Merchant and Nurseryman, Croydon.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

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Telegraphic and Postal Address—"DICKSONS, CHESTER."

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GARDENER (HEAD).—Age 35, married; requires situation where three or more are kept. Fruit and flowers Indoors and Out. Orchids, &c. Of strictest integrity; good health, and active habits. Can be highly recommended by present employer.—Apply to GARDENER, Daniels Brothers, Nurserymen, Norwich.

GARDENER (HEAD).—A Gentleman wishes to recommend his Head Gardener.—Age 36, married, two children; has been with him five and a half years as a first-class all-round man. Well up in all the leading branches of Gardening. Can furnish the highest references from other first-class places.—S. SMITH, 11, Sumpten's Pathway, Hoole, Chester.

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GARDENER (HEAD).—Age 36; good general knowledge "Spécialité Orchids." Eight years present situation, four and a half years previous in the Downside Collection, Leatherhead; twenty-two years' practical experience. Good references; married.—RYDER, Thorn's Gardens, Sevenoaks, Kent.

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GARDENER (HEAD).—Age 40, married; conversant with every department of Gardening life. Thorough practical experience in Fruit, Flowers, Vegetables, &c. Can be thoroughly recommended by present and previous employers.—G. NEWTON, 189, Cornwall Road, Notting Hill, London, W.

GARDENER (HEAD).—Age 34, married, one child. Mr. SUTTON, Gardener, Silverlands, Chertsey, can with confidence recommend his General Foreman, H. Higgs, to any Lady or Gentleman requiring the services of a first-class man.

GARDENER (HEAD).—Industrious, sober, reliable; first-class Fruit, Flower, and Orchid grower. Twenty-five years' experience in all branches of Gardening. Highly recommended.—R. H., 88, Beulah Rd., Thornton Heath.

GARDENER (HEAD).—T. MILES seeks situation as above. Seventeen years' experience, three as General Foreman in present situation. Thoroughly experienced in Houses, Kitchen Garden and Pleasure-ground. Age 34. Good character from present and previous employers.—Sutton Park, Stoke, Slough.

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GARDENER (HEAD), age 30.—Mr. BOWMAN, late of Hylands Park, Chelmsford, can highly recommend a man as above. Thorough practical experience in all branches, Inside and Out.—Mr. BOWMAN, Royal Floral Depôt, London Road, Tunbridge Wells.

GARDENER (HEAD).—Age 34; thoroughly experienced with Grapes, Peaches, Melons, Cucumbers, Tomatos, Orchids, Chrysanthemums, Stove and Greenhouse Plants, Kitchen and Flower Garden.—J. NESLING, Wyastone Leys, Monmouth.

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TONMAN MOSLEY, Esq. strongly recommends, as HEAD WORKING GARDENER (where two or three are kept), with good all round knowledge; life experience; well up in Tree Planting and Laying out. Total abstainer; age 36. Eleven years in present service.—W. BUTLER, Bangor's Park, Uxbridge.

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GARDENER (HEAD WORKING, or otherwise).—Age 33, no encumbrances; sixteen years' good practical experience in early and late Grapes, Peaches, Pines, Melons, Cucumbers, Tomatos, Mushrooms, Stove and Greenhouse Plants, Orchids, Chrysanthemums, Flower and Kitchen Gardens. First-class reference from present employer as to ability; total abstainer; private place preferred; state wages. Can enter immediately.—HORTUS, 41, Wellington Street, Strand, W.C.

GARDENER (HEAD WORKING), Scotch.—Age 45; is open to engage with any Lady or Gentleman requiring the services of a first-class man. Excellent Fruit, Flower, and Vegetable Grower. Twenty-two years' good character from present and previous employers.—J. M., 2, Harding Road, Eastfield, Ryde, I.W.

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GARDENER (HEAD WORKING).—Age 33, married, no family. Eighteen years' experience in all branches of Gardening; good references; disengaged.—GARDENER, 58, Abbey Lane, Belgrave, Leicester.

GARDENER (HEAD WORKING).—Age 28; sixteen years' experience. Mr. G. GURNEY, Maesgwynne, Whitland, Carmarthenshire, would be pleased to recommend L. Nicholas as above.

GARDENER (HEAD WORKING, or SINGLE-HANDED).—Age 35; understands Inside and Out. Experience in Early and Late Forcing. Head Gardener four and a half years, Chadshunt Hall, Kineton, Warwick.—W. STONE, Warkworth Gardens, Banbury, Oxon.

GARDENER (HEAD WORKING); age 29.—A Lady wishes to recommend her Gardener, where one or two are kept. Good practical experience in all branches. Married, no family.—B. BALL, Elm Lodge, Winkfield, Windsor.

GARDENER (HEAD WORKING), where four or five are kept.—Age 30; fourteen years' practical experience in all branches of the profession. Two years' excellent character from present employer.—W. HILL, Gardens, Godinton Park, Ashford, Kent.

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GARDENER (HEAD or good SECOND), where several are kept, married; fourteen years' good practical experience in all branches. Excellent testimonials.—ARTHUR READ, Old Catton, Norwich.

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GARDENER (SINGLE-HANDED, or where help is given).—Age 26, single. Good references.—A. J. W., Sunnymede Cottages, Maidenhead, Berks.

GARDENER (age 25) wants situation as SECOND of three or four. Would take any subordinate place in good garden. Ten years' experience. Excellent references.—J. GREEN, Upper Longdon, Rugeley, Staffs.

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GARDENER (SECOND, or otherwise).—Age 27, single; eleven years' practical experience in the general routine of Gardening, including two years as First Journeyman, Inside. Well recommended. Abstainer. No Circulars.—BEESON, 87, High Street, Notting Hill Gate, London, W.

GARDENER (SECOND) of four or five.—Age 25, married, no family; good experience. Well recommended.—V., 41, Wellington Street, Strand, W.C.

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GARDENER (UNDER).—Age 22; five years' experience. Can have good character. Used to Inside and Out. Disengaged.—F. KNIGHT, Waterford, Lymington, Hants.

GARDENER (UNDER, Inside and Out, where three or four are kept).—A Gentleman can strongly recommend a young man (age 22) as above.—GEORGE THOMAS, Condover Hall Gardens, Shrewsbury.

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GARDENER (UNDER).—Age 21; five years' experience Inside and Out. Good references; abstainer. —H. HOLBROOK, 54, Cobden Road, Sevenoaks, Kent.

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GARDENER (UNDER).—G. GODDARD, The Gardens, Bishopsgate, Englefield Green, will be pleased to recommend a young Man, age 22, in Private Establishment. Eight years' experience, Inside and Out.

GROWER.—Age 27; life experience in Ferns and Soft-wooded Stuff. Good references.—E. HOWLETT, 6, Cook's Cottages, Albury Road, Merstham, Surrey.

GROWER.—Age 28; life experience in all classes of Market, Pot, and Cut Stuff (first-class), Tomatos, Bulbs, &c.—C., Hope Cottage, Ballard's Lane, Church End, Finchley.

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PROPAGATOR (GENERAL), and FOREMAN (WORKING). — Thirty years' practical experience in leading Nurseries. Roses, Clematis, Rhododendrons Coniferæ, Hardy Ornamental Trees and Shrubs, &c. General knowledge of the Trade. Good reference.—T. C., Rose Cottages, Ottershaw, Chertsey.

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FOREMAN, or Manage a small Nursery, experienced in General Market Stuff.—Age 32, married; can be well recommended. Abstainer. Disengaged.—W., 45, Grecian Street, Maidstone.

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To Nurserymen.

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NURSERY FOREMAN and PROPAGATOR, thirty years' experience, Hard, Soft-wooded, and general Market Plants, Tea Roses, Clematis, Cyclamen, Cut Flowers, &c.—W. GOULD, The Nurseries, Glencarse, Perth.

£1 BONUS.—FOREMAN (Inside), age 26; twelve and a half years' practical experience in good establishments. Excellent testimonials.—B. F. T., 29, Stamford Road, Fulham, S.W.

FOREMAN (GENERAL, or Inside).—Age 27; eleven years' good experience; two years and four months as Foreman; and can be highly recommended.—A. BARNES, Lordswood, Shirley, near Southampton.

DECORATOR or FOREMAN, in good establishment.—Age 25; ten years' experience in good places. Excellent testimonials. Disengaged.—A. GOODMAN, Cobham, Surrey.

JOURNEYMAN (FIRST). — Age 23; ten years' experience. Excellent character.—W. THORNTON, The Gardens, Nymans, Crawley, Sussex.

JOURNEYMAN (Inside, or Inside and Out). —Age 22; three years in present place, five previous. Good character.—J. BEAUCHAMP, Cowesfield Gardens, Salisbury.

JOURNEYMAN (Inside), in a good establishment.—Age 21; four years' experience. Good reference. Bothy preferred.—E. WISE, The Gardens, Oak Hill, East Barnet, Herts.

JOURNEYMAN, in the Houses, or Inside and Out.—Age 25; ten and a half years' experience. Good reference.—E. SMITH, The Gardens, Playden, Berkhamsted, Herts.

JOURNEYMAN, Inside, or Inside and Out.—Age 24; six years' experience, three in present place as Second. Good character. Leaving for improvement. — GEO. ADAMS, Hilton Park, Wolverhampton.

To Gardeners and Nurserymen.

JOURNEYMAN, Inside, or Inside and Out.—Age 24; six years' experience in Tomatos and Cucumbers, and General House Work. Good references.—W. WILKINSON, care of H. Gray, The Mount, Royston, Herts.

JOURNEYMAN (UNDER), in the Houses, in a good Establishment.—MR. GLEN, Brambletye Gardens, East Grinstead, would be pleased to recommend a young man as above to any Gardener requiring a steady, trustworthy, and energetic assistant.

To Nurserymen and Others.

JOURNEYMAN (FIRST).—Age 25; eleven years' experience in all branches, including Orchids, Wreaths, and Cro ses; good at Propagating. Good references. —F. B., 114, Hackney Road, London.

JOURNEYMAN (FIRST); age 23.—Mr. DIX, Head Gardener, Freeford Hall, Lichfield, Staffs, can thoroughly recommend F. EALING as above. Good character. Bothy preferred.

JOURNEYMAN (Inside). — Age 21; eight years' experience; not afraid of work; excellent references from present and previous employers. Abstainer.—JAMES HOLLIS, Chapel Oak, Harvington, Evesham.

JOURNEYMAN, Inside, or Inside and Out.—Age 20; four and a half years' experience in a good garden; good reference; bothy preferred.—H. D. PROSSER, Maesllwych Gardens, Glasbury-on-Wye.

JOURNEYMAN (Inside, or Inside and Out). —Age 24. Good references. — PIKE, Whitestaunton Manor, Chard, Somerset.

JOURNEYMAN, under Foreman, in the Houses.—Age 22; seven years' experience in private establishments. Excellent references.—G. U., Ivy House, Ham Common, Surrey.

JOURNEYMAN.—FRANK WATMOUGH, age 21, seeks situation as above. Excellent references. Four years' experience from Coleshill and Maristow Gardens. —4, Singapore Terrace, Ealing Dean.

YOUNG MAN seeks situation in Garden, Nursery, or any capacity. Knowledge of General Nursery, and Jobbing Gardening Work.—C. J., 41, Wellington Street, Strand, W.C.

YOUNG MAN, age 24, quick at Potting, Tying, and Watering. Good Budder and Grafter. Ten years' experience. Good reference. — G. ASTLEY, North Feltham, Middlesex.

SITUATION in Nursery, or Private.—Age 27, single; life experience in Fruit and Flowers; highly recommended.—J. CLEMENT, Barcombe, near Lewes, Sussex.

IMPROVER, in Houses and Out, under good Gardener. Can be highly recommended. Age 20; accustomed to Glass. — ROBERT LAWRENCE, The Royal Nurseries, Merriott, Somerset.

IMPROVER seeks situation under Head Gardener, Inside and Out. — Age 19; bothy preferred. Three and a half years' good character. Disengaged. — WALTER DEAN, Kingston Road, Heckford Park, Poole.

IMPROVER.—Situation wanted by a young Man, age 17, Inside and Out; bothy preferred; two and half years at Farnham Castle.—R. HOLE, South View, Farnham, Surrey.

IMPROVER, Inside, in private establishment. —A Gardener wishes to recommend his son, age 19, as above. Three years' good character from last situation. Would pay £8.—A. STEPHENSON, The Gardens, Westfield, Highgate, N.

IMPROVER.—Young Man (19), who has had four years' experience in the Seed department of a Nursery, desires a situation as Improver.—H. C. THORNTON, Clappers, Crawley, Sussex.

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TO NURSERYMEN.—IMPROVER, age 20½; three and a half years in Market Nurseries, seeks situation in Nursery (Inside).—B., 2, Hornlean Villas, Hatfield Road, St. Albans.

TO GARDENERS, &c.—A young Man, abstainer and of good character, seeks situation. Disengaged.—W. F., 2, Sherwood Villas, Roxeth, Harrow, Middlesex.

TO GARDENERS.—Situation required by a young Man, age 20; life experience Inside and Out; good references.—G. KIMBER, 6, Cook's Cottages, Albury Road, Merstham, Surrey.

TO NURSERYMEN and FLORISTS. — Situation wanted by a young man, age 26; ten years' experience in good London Nurseries. Good references and character.—H., 3, Stanborough, Lancaster Road, New Barnet.

TO SEEDSMEN.—Situation wanted as ASSISTANT SHOPMAN, five years' experience with Scotch and English Firms; have good references. Apply— S. MCLELLAN, Queensberry Street, Dumfries, N.B.

SEED TRADE.—Situation wanted as SHOPMAN or TRAVELLER, age 28; twelve years' experience, English and Irish Trade.—SEEDSMAN, 31, Upper Grand Canal Street, Dublin.

SEED TRADE.—Situation wanted as ASSISTANT. Age 18 years. Excellent references and character.—ALPHA, Hurst & Sons, 152, Houndsditch, London.

A YOUNG DUTCHMAN, 22, well acquainted with the culture of Bulbs, packing, and dealing, desires situation in England by the end of September or October, with a view to further improve in the above.—Please address, W. A. E., care of Nygh & Van Ditmarts, General Advertising Offices, Rotterdam.

SEED TRADE.—Advertiser seeks engagement as MANAGER or TRAVELLER. Sixteen years' experience; good references from present employers.—A. H. C., Hurst & Sons, Houndsditch, London, E.

SHOPMAN. — Age 25; ten years' practical experience in all branches. Good references.—C. R., 41, Wellington Street, Strand, W.C.

TO NURSERYMEN, SEEDSMEN, and FLORISTS. — Situation wanted by energetic young man. Sixteen years' practical experience in Seeds, Bulbs, Florist, and general Nursery Work; quick and active Salesman, understanding general routine of the trade all throughout. Highest references as to abilities and qualifications — J. H. B., Tintern Cottages, Ordnance Road, Hounslow, W.

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CLERK.—Young Man, with seven years' experience in Seed and Nursery Trade, seeks engagement. Highest references.—B. A., 41, Wellington Street, Strand, W.C.

JAMES SENDALL & CO., Ltd., CAMBRIDGE.

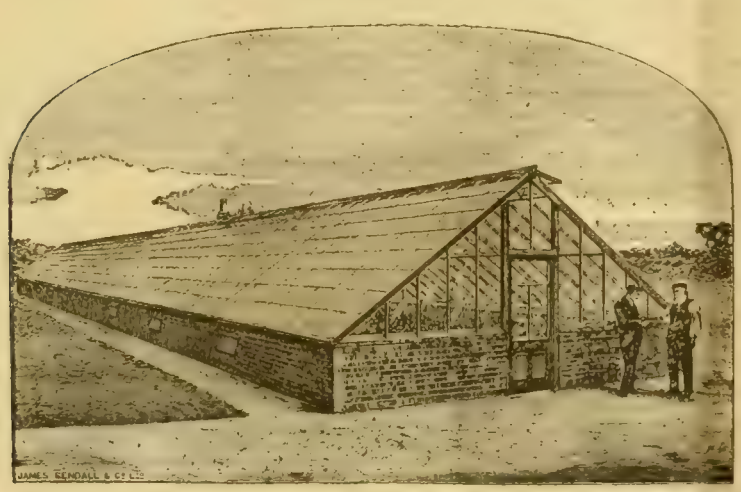
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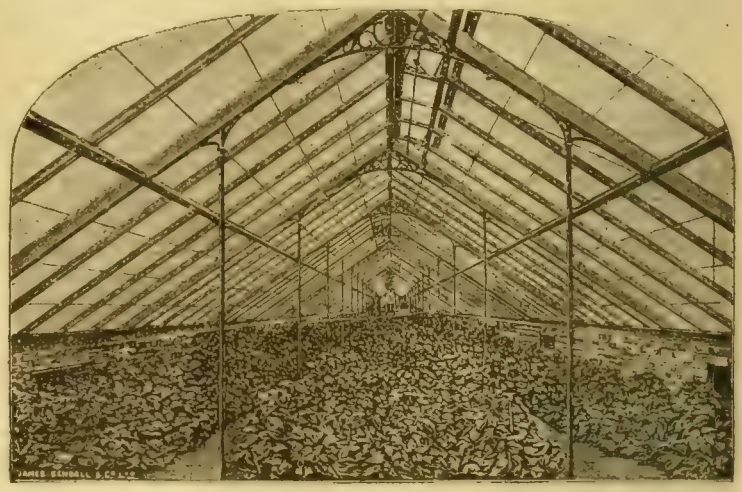


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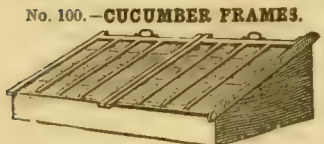
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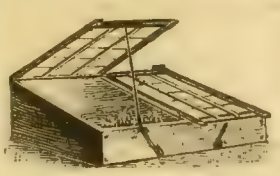
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8 ft. by 5 ft.	...	...	2 12 6
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16 ft. by 6 ft.	...	...	4 15 0

No. 101.—GARDEN FRAMES.



With sliding lights.

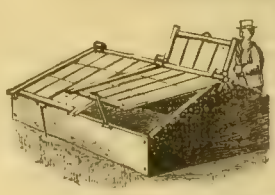
6 ft. by 4 ft. ...	£1 15 0
8 ft. by 4 ft. ...	2 2 6
9 ft. by 4 ft. ...	2 7 6
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With hinged lights.

6 ft. by 4 ft. ...	£2 0 0
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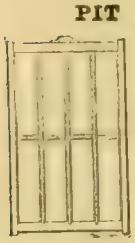
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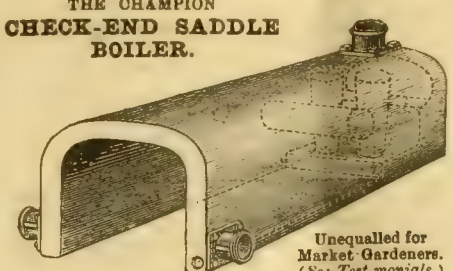
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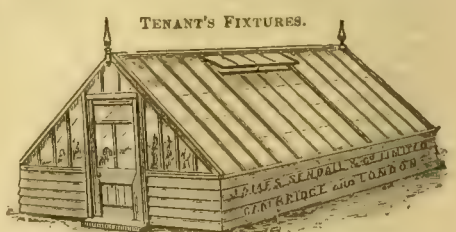
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The Gardeners' Chronicle

ESTABLISHED 1841. No. 2909.

No. 509.—Vol. XX. { Third Series. } SATURDAY, SEPTEMBER 26, 1896. [Regt. as a Newspaper. { PRICE 3d. Post-free, 3½d.

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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

H. CANNELL AND SONS' AUTUMN CATALOGUE of BULBS, TREES, SEEDS—in fact, it contains prices and particulars of nearly everything choicest and cheapest at all likely to be required for the best-kept garden during the season. We should be pleased to send it, post-free, to all coming customers.
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Catalogues may be had of the person in charge of the Gardens; of JOHN HOLMES, Esq., Solicitor, 31, Clement's Lane, E.C.; of Messrs. EDWARD MOORE & SONS, Chartered Accountants, 3, Crosby Square, London, E.C.; and of Messrs. PROTHEROE and MORRIS, Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Lilium longiflorum.

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MESSRS. PROTHEROE AND MORRIS beg to announce that they have received advice of the shipment of the above 300 CASES, and as soon as they arrive in this country the date of Sale will be announced.
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OCTOBER 15.—At the NURSERY, AMPTHILL, Beds, by order of Mr. I. Crick (one day).
OCTOBER 19 to 24.—At the NURSERIES, BAGSHOT, by order of Mr. Chas. Noble (six days).
OCTOBER 21.—At the NURSERIES, CLIFFE, Kent, by order of Mr. W. Horne.
OCTOBER 27, 28, and 29.—At the HALE FARM NURSERIES, TOTTENHAM, by order of Mr. T. S. Ware (three days).
OCTOBER 29 and 30.—At HOLLAMBY'S NURSERIES, GROOMBRIDGE, Tunbridge Wells, by order of the Exors. of the late Mr. Edwin Hollamby (two days).
NOVEMBER 6.—At the NURSERIES, COOKSBRIDGE, Lewes, by order of the Exors. of the late Mr. F. Woollard.
NOVEMBER 18.—At the NURSERIES, CLIFFE, Kent, by order of Mr. W. Horne. Second Sale.
NOVEMBER 3, 4, and 5.—At the ALMA NURSERIES, FARNHAM, by order of Mr. S. Bide (three days).

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Farnham, Surrey.
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FROM LEADING GROWERS,
in the finest possible order, and specially lotted to suit both large and small buyers. A large quantity of

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On view mornings of Sale, and Catalogues had.

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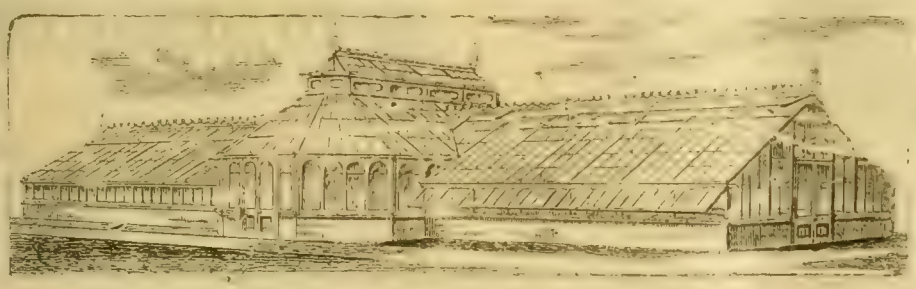
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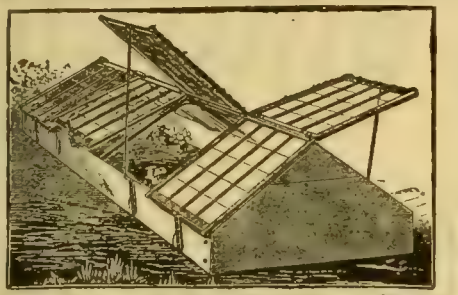
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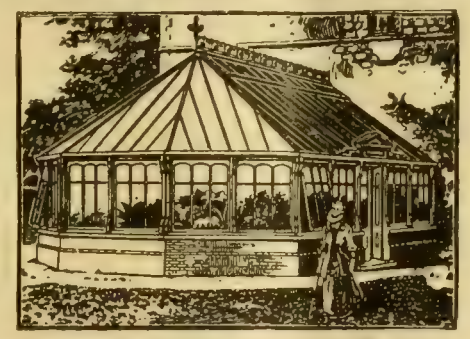
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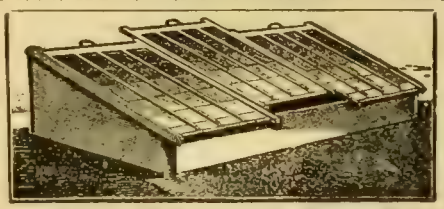
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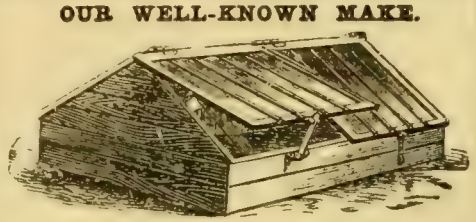
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THE

Gardeners' Chronicle.

SATURDAY, SEPTEMBER 26, 1896.

THE ROSE SEASON OF 1896.

IT is very difficult, nay, impossible, when writing about the Rose season, to dissociate our ideas of it from the various exhibitions which have been held during the season, nor perhaps is it quite necessary to do so. Some people are very fond of railing at fat Roses as if they were monsters of iniquity, and as much to be avoided as a stout lady in an omnibus—but after all, where would the Rose have been at the present day if growers had not expended their energies on the beauty of such flowers. "Oh!" it would be said, "we should have had the dear old Roses of our early days;" but these were only summer Roses. They were pretty enough, and sweet enough, but you might have gone out into acres of them from the month of July onwards, and not a ghost of a bloom could you find; but now with our hybrid perpetuals, Teas, and Noisettes, and that anomalous section, hybrid Teas, we can go on gathering Roses until frost interferes. Yes, truly, we had the monthly China, pleasant and sweet enough, but not to be compared with the other sections to which I have alluded.

Garden Roses have, I think, obtained a very fair share of attention during the past few years, and it is just possible that people may go to the other extreme—as they did, for example, with single Dahlias. I suppose that of ten persons that used to grow them some years ago, only one does so now. Thus, though I greatly admire single and garden Roses, I am not prepared to disparage all others, those especially which have benefited by the skill and attention of the hybridiser. The National Rose Society has, I think, been not slow to recognise their value and importance, although, at the same time, it does favour the exhibition varieties.

THE CHARACTER OF THE SEASON.

In estimating the character of the past season, we must bear in mind the great difference there is in the various localities where Roses are grown. Between the south of England and the northern counties there is a fortnight's difference in the time of blooming; and when the season is abnormal, that is, when it is especially early or especially late, it may tell injuriously on the Rose-garden, more particularly when the owner is an exhibitor. And so it is again in the matter of climatic influence; in an especially droughty season like that which we have just passed through, it has not affected all districts alike—for example, here, in East Kent, it has not been anything like so severe as in the western counties, and not to be compared with the drought of 1893. We had a splendid twenty-four hours' rain at the end of June, in which many other districts do not seem to have shared. I have a letter before me from a well-known amateur

in Somersetshire, in which he says: "We have had the worst drought here ever known, my Roses were all out of bloom by the first week in June; and although the second bloom gave me some good flowers, they were very irregular, and our time was so occupied with watering and keeping things alive, that we could not attend to the special requirements of our beauties." And this had held all through the season, not only with the Rose, but with other flowers; and, therefore, anyone living in a more backward situation would be in a much more favourable position, either for enjoying his Roses at home, or for exhibiting. Effects of the drought must not be so much looked for among the large growers, who have acres of Roses, as amongst amateurs whose culture is confined to a few hundreds or thousands. There are other points which have an amount of influence on such questions which are not always taken into account: in a soil which is light and friable, the Roses will come much more rapidly into bloom than they will in a heavy and tenacious loam; also it makes a considerable difference whether a grower has all cut-backs or whether he has a quantity of maiden plants, the latter are always later than the former, and I do not think that any exhibitor can continue showing all through the season unless he have a good number of these. From these and other circumstances it generally happens that the opinions of growers as to the character of the season will vary much, and will be coloured by their own personal surroundings; but this has not been the case with the past season, an unanimous opinion from all parts of the kingdom being that it is the worst season that Rose-growers have experienced since 1879. Those who recollect that terrible year, will remember the incessant rain which ruined all their hopes, and made them almost ashamed of the Roses they had to exhibit; this year, although the Roses were very inferior, it was from a very different reason. The long-continued drought at a time when they are generally in the habit of receiving a plentiful supply of moisture, and the hot sun which accompanied the drought, rushed the flowers prematurely into bloom, and where the locality was an early one this was the more keenly felt, as I have already noticed with regard to Somersetshire. Owing to the same cause we missed the stands of Lord Penzance's beautiful Sweet Briars; and little was seen of any of the earlier-blooming Roses.

Insects and Drought.

It was somewhat remarkable that in a season when insect-pests were so abundant, when our Oaks were half denuded of their leaves, and our seedling crops eaten off by ground caterpillars, that we did not suffer more from insects on our Roses. I do not think that the maggot was more than usually abundant—in fact, not so much so, and there were no such wholesale attacks of aphides as we have witnessed in some dry years. As far as my own culture is concerned, I have had no occasion to use a syringe to rid the plants of them. After the first flowering-time was over, we looked with some degree of doubt to the condition of our plants. I am speaking only of dwarfs, as most amateurs now grow them; there seemed to be little of that pushing out from the base on which we depend for next year's shoots. But when the rains came, it was marvellous what a difference soon showed itself, and how rapidly the plants became filled with vigorous and healthy shoots. This has gone on, and along with it we have been able to gather excellent blooms, especially of Teas. Thus, one grower writes to me:—"I have cut to-day a dozen blooms of Souvenir d'Elise Vardon, which I should not be ashamed to put up in the height of the Rose season."

The Exhibitions.

Turning now aside from the general condition of Roses in our gardens to the exhibitions which have been held, specially those of the National Rose Society, it was seen how largely the character of the season influenced them. There was no standing in rapt astonishment before stand after stand of blooms of unparalleled excellence, for such were not to be seen; nor, indeed, were there many individual blooms of surpassing merit. The great Rose tournament, held by the National at the Crystal Palace, is that which excites the keenest interest, and most clearly shows the character of the season; and here one heard on every side complaints, both of the number and the quality of the blooms exhibited, and the general verdict was unfavourable—and this, although exhibitors came forward from all parts of the country, and England, Scotland, and Ireland, were well represented. As might have been expected, the north had a good time of it, especially amongst the nurserymen; but as far as amateurs were concerned, the advantage did not lay so much with the northerners. The record of one southern grower, the Rev. Joseph H. Pemberton of Havering, near Romford, being very remarkable: he began with Colchester in June, and ended with Leicester on August 4, during this time attending at a dozen shows, he carried off most of the principal prizes for amateurs, among them being the two challenge trophies of the National Rose Society, the Mayor's Cup at Colchester, the Sutton Cup at Reading, the Challenge Cup at Croydon (finally won), and Challenge Cup at Woodbridge, beside two Gold Medals and four Silver, the Gold Medals accompanying the challenge trophies. Messrs. Harkness & Sons amongst nurserymen have made a remarkable record also, having won the two challenge trophies.

New Varieties.

Of new Roses there has been a scarcity, especially as regards those raised abroad; in fact, I do not recollect one for the present season that has made any impression as a Rose likely to be a great favourite in future years. The Gold Medal of the National Rose Society was awarded to a sport, not a seedling, exhibited by Messrs. Alexander Dickson & Sons. There are still some Roses much to be desired to which we seem to be no nearer. We should like to see a white A. K. Williams or Charles Lefebvre; and a yellow hybrid perpetual with more claim to that title than Gloire Lyonnaise, which was sent out under that misleading name. There does not seem to be any diminution of the interest in Rose growing or Rose exhibiting. Societies rise and fall. Exhibitors pass away or grow tired of it, but still the interest in the flower does not seem to flag. There is but one other flower which exceeds it in these respects, that is the Chrysanthemum; but beautiful, varied and valuable as this is, especially owing to the time of year at which it is in full beauty, it can bear no comparison with the Rose—moreover, it must be flowered to get it in perfection under glass, which is not the case with the Rose.

The Rose and Floral Decoration.

I do not think that the attempts to make use of the Rose for decorative purposes have been very successful at our exhibitions. It may be, and I think probably is, that the time is too limited to enable exhibitors in other classes to pay as much attention as they might do to this matter; or is it that the Rose is hardly adapted for grouping? It may be heresy to write this, but I think most ladies feel it a difficulty when Roses are brought for indoor decoration. The bouquetists of Paris are supposed to excel all others in the elegance of their arrangements, but I well remember many years ago when the directors of the Crystal Palace Company were anxious to procure some of the best examples from Paris, the woeful disappointment experienced at the lumpy, mop-like character of the arrangements sent by some of the leading houses who were in the habit of supplying the ladies who frequented the brilliant court of Napoleon III.

Such then is the record of what has probably been the most disappointing season ever experienced by Rose-growers; after a mild winter, in which no losses were experienced, and Roses broke well with the promise of great excellence, our variable climate exerted its power, and failure was announced on every side. Let us hope that better times are in store for us, and that while the energies of our Rose-growers continue undiminished, their efforts may be rewarded in 1897 by a more congenial season. *Wild Rose.*

New or Noteworthy Plants.

LÆLIO-CATTLEYA × VELUTINO-ELEGANS (*Cattleya velutina* ♀, *L.-C.* × *elegans* ♂), *new gard. hyb.*

This pretty hybrid, which recently received a First-class Certificate of Merit at Paris, is the latest novelty produced by that indefatigable Orchid hybridist M. Chas. Maron, Orchid grower to M. Fournier of Marseilles. The plant, so far as it has yet developed, resembles in growth a stout form of Cattleya velutina, and the pretty and fragrant flowers, which are produced several together on upright spikes, bear a striking resemblance to those of a good form of Cattleya Schilleriana. The sepals and petals are of a creamy-white tinged with nankeen-yellow, and veined with rose; the showy labellum, which is blush-white at the base, has the side lobes folded over the column; the broad front lobe is of rich crimson purple veined with white, and having an orange-blotch at its base, and a toothed and crimped margin. *James O'Brien.*

A Wild Banana of New Guinea.

In the tenth volume of the *Proceedings of the Linnean Society of New South Wales*, p. 348 (1885), the late Mr. N. de Miklouho-Maclay alluded to a Musa from New Guinea "with fruits containing very large, irregularly-shaped seeds (about 10 mm. long and 11 mm. in diameter), which, when ripe, are of a brilliant black colour, and are greatly used by the natives as ornaments." In the same volume, p. 356, the writer of these remarks offered from personal inspection fuller notes on these seeds, and gave then to this species the name of M. calosperma, and an account of the Papuan M. Maclayi was also given. In a letter written in Sydney on September 4, 1885, the distinguished Russian naturalist mentioned (here translated), "Musa calosperma seems to occur only sparingly on the Maclay coast, that part of the north coast which stretches from Cape Croisilles to Cape King William), but is said to be very frequent near the south-eastern point of New Guinea and on the Louisiade Archipelago." Towards the end of last year Sir William Macgregor saw, 35 miles up the Mambare river, this same Musa. In reference to this His Excellency writes me under date, December 15, 1895:—"I had a specimen brought on board the *Merrie England*, where I invited Mr. W. Fitzgerald to study it. He undertook to send you his description of it. I enclose a sketch of the fruit by Mr. Winter. The bunch of fruits would have weighed nearly 1 cwt. It is not edible; the



Fig. 64.—Erythronium Hartwegi: colour of the flowers white and yellow.
(see p. 362.)

seeds are used for making beads. It is a fine handsome plant."

From Mr. Fitzgerald's notes, forwarded by him from Cooktown on February 7, 1896, and now given with some alterations in the organographic words, I extract as essential the following :—"I did not collect the specimens of the Banana, which grows on the Mambare river. Mr. Butterworth, on the request of Sir William Macgregor, brought a spike on board. Height 15 to 25 feet ; stem stout ; leaves 8 to 10 feet in length, 2 to 3 feet across ; spike (thyrsoid raceme) pendulous, 3½ feet long by the same (in largest) circumference (as regards the fruit masses seen) ; bracts broadly ovate (very acute, according to Mr. Winter's delineation), 9 to 12 inches long, bright green.

Flowers numerous, ¾ to 1 inch in length, white, the lobes of the calyx firm, linear, with sharply-recurved margins ; corolla-lobes small, membranous ; stigma trifid ; fruit about 3 inches long by 1½ inch in diameter, outside pale yellow ; pulp whitish, streaked with purple. Seeds 24 to 28 ; testa bony, black. Albumen mealy, bitter. The fruit is not eaten by the natives, and is known to them by the name of Tubi.

From a necklace made of these seeds, and transmitted by the Lieutenant-Governor, it may be added, that the seeds attain the length of half an inch, and are often semi-ovate in form. The necklaces are called by the natives Gudugudu. Mr. Winter's drawing (of much reduced size) indicates the flowers and fruits forming a total mass of ovate-conic form with crowded bracts.

Musa Fitzalani, as here recognized, differs from M. calosperma in the comparative paucity of its flowers, at least within some of the bracts, and in pulpless fruits with much smaller seeds. M. Hilli, which through Mr. Berthoud is now known also from the Johnstone River, is more widely separated by still more gigantic size, by a raceme erect, at least, during flowering time, as well illustrated by Sir Joseph Hooker, in *Botanical Magazine*, t. 7,401 (1895), by its longer and less acute bracts, by yellowish flowers, by proportionately broader fruits with yellow pulp and smaller seeds.

M. Seemanni (*Gardeners' Chronicle*, third series, vol. viii., p. 182 [1890], with a woodcut from a photograph by his Excellency Sir John Thurston) belongs also to the series of species with erect inflorescence, but may perhaps be identical with M. Fehi of Tahiti and New Caledonia, as suggested in the *Kew Index*. I have not succeeded in identifying M. calosperma with any of the thirty-five congeners recorded by Mr. Baker in the *Annals of Botany* vol. vii., and in Mr. Dyer's *Kew Bulletin* for 1894. Should this Musa on further access to ampler material prove specifically distinct from Mr. Maclay's plant, then it should bear the name of Sir William Macgregor.

Attention may here be drawn at this apt opportunity to a Musa of extraordinary ornamental value, to which Dr. Warburg refers (in Professor Engler's *Jahr-Bücher*, xiii., 274), with totally red leaves, cultivated by aborigines in New Britain, but indigenous to the Solomon Islands. It may only be a variety of some well-known species, but is not to be found in Australian gardens. *Ferd. von Mueller K.C.M.G., M. & Ph.D., LL.D., F.R.S.*

THE GENUS ERYTHRONIUM.

This genus of liliaceous plants is chiefly known perhaps from its only representative on this side of the Atlantic Ocean, viz :—E. Dens-canis, commonly known as the Dog's-tooth Violet. There are at present not more than a dozen species altogether known to botanists, and with the exception of E. dens-canis, these are natives of the United States and Canada. Small though the genus be, it has not failed to give a certain amount of trouble to botanists so far as identification and nomenclature are concerned. Dr. Sereno Watson in the *Proceedings of the American Academy of Arts and Sciences* (vol. xiv., 1878, p. 260, vol. xxii., 1886, p. 479), and Mr. J. G. Baker of Kew in the *Journal of the Linnean Society* (vol. xiv., 1875, p. 296), and in the columns of the *Gardeners' Chronicle* have both grappled with the genus, but nowhere I believe has a complete monograph been published

at one time. An attempt to do this has been made in the following notes, in the hope that such will be of interest to readers of the *Gardeners' Chronicle*. As the species do not appear to admit very readily of a natural classification (except perhaps by means of the stigmas), they have been described in alphabetical order for the sake of convenience.

1. *E. albidum*, Nutt.—This species is a native of the wet pastures of New York and Pennsylvania, extending to Minnesota and Texas, and flowers during April and May. The corms are ovoid and stoloniferous. The leaves are oblong-lanceolate, slightly or not all mottled. The peduncle bears a solitary white or bluish-white flower, the lanceolate reflexed segments of which are 1 to 1½ inch long, without auricles at the base. Style slender, stigmas somewhat spreading.

E. bracteatum, Bigelow, is considered to be a closely related form. It has somewhat larger leaves, and differs, moreover, in having yellow flowers, and being a native of the mountainous regions.

2. *E. americanum*, Smith.—This species extends from Canada to Florida and Texas, inhabits wet meadows, and produces its flowers in April and May, like E. albidum. It was introduced early in the present century to England, and in 1808 was figured in the *Botanical Magazine*, t. 1113, where it is stated to have flowered with Messrs. Loddiges, of Hackney. The corms are ovoid and stoloniferous as in E. albidum, but the leaves are usually not only larger than those of that species, but they are also mottled with greenish-purple. The solitary flowers are clear yellow, the segments often having reddish-brown dots at the base, while the stigmas are undivided.

3. *E. citrinum*, S. Watson.—This is a comparatively new species, having been discovered in 1887 by Mr. T. Howell in the Deerbreek Mountains, Oregon. As indicated by the specific name, the colour of the flowers—three of which are usually borne on the peduncle—is lemon-yellow. There is, however, a broad orange-coloured blotch near the auricled base of the segments, while the tips are often suffused with a tinge of pink.

4. *E. Dens-canis*, Linn.—This is the only species native of the Eastern Hemisphere, and is, of course, well known to almost everyone as the common Dog's-tooth Violet. It is found wild chiefly in Central and Southern Europe, although forms of it extend across Asia to Japan. The corms are ovoid, cylindrical, and furnished with a more or less membranous tunic. The ovate or oblong-lanceolate leaves are glaucous-green, marbled with dull purple. The peduncle bears a solitary flower, rose or violet-purple (rarely white), with brown dots at the base of the recurved segments, the inner whorl of which is provided with basal auricles. Stigma trifid. This species has been in cultivation for more than a century, and was figured in the *Botanical Magazine* in 1790, t. 5. Two very distinct forms are figured in *Sweet's British Flower Garden*, 2 ser., tt. 71 and 76.

Besides the white form, there are two other varieties of E. Dens-canis, viz., (*a*) sibiricum, a more robust form, from the Altai Mountains; and (*b*) japonicum (Baker), a Japanese form with violet-purple flowers, having a distinct blackish spot at the base of the petals.

5. *E. grandiflorum*, Pursh.—This was figured in the *Gardeners' Chronicle*, in June, 1874, p. 831, in connection with some interesting remarks from the pen of the late Mr. Andrew Murray. E. grandiflorum is a native of Oregon and Washington Territory. About 1827 or 1828 it was discovered by David Douglas (who was despatched to that region by the Royal Horticultural Society), and it seems to have flowered at Chiswick for the first time in cultivation about 1835 or 1836. The corms are elongate-ovoid, bearing oblong-lanceolate unmottled leaves, 4 or 5 inches in length. From one to six flowers are borne on the peduncle; they are white or cream-coloured, with a more or less orange zone at the base. Stigma trifid.

There are apparently many forms of E. grandiflorum, and so far as published particulars go, not a little confusion seems to exist as to their identity. The form figured in *Botanical Magazine* in 1868, t. 5714, as E. giganteum, and in *Gartenflora*, 1873, t. 767, seems to be the same as the variety known as albiflorum. It was collected originally by Douglas, in California, at an altitude of 6000 to 10,000 feet, and its large white flowers, with yellow base, seem to be the largest and handsomest of the genus. The leaves—unlike those of the species proper—are mottled with dull purple. The variety minor is indigenous to Utah and Colorado, and is distinguished by its smaller yellow flowers and crimson stamens. It is figured (as E. grandiflorum) in the *Bot. Reg.*, t. 1786, and *Belg. Hort.*, xxvi., 109, t. 6.

6. *E. Hartwegi*, S. Watson.—This species is named in honour of another of the Royal Horticultural Society's collectors—Theodor Hartweg. He collected it on the mountains near Sacramento about 1836. The late Mr. Bentham, however, in his *Plantæ Hartwegianæ*, published in 1839, simply refers to it as E. grandiflorum, Pursh.; but Dr. Sereno Watson, in the *Proceedings of the American Academy of Arts and Sciences*, xiv., 261, describes it as a new species. Several specimens of it were shown at the Royal Horticultural Society's meeting on March 25 last by Messrs. Wallace & Co., of Colchester. The illustration (fig. 64), which was made from one of them, will give an idea of the habit of growth and size of the flowers. The upper surface of the green leaves is marbled with dull purple. The flowers are, as a rule, solitary, but two or even three may be produced on the same peduncle. They remain in good condition for three or four weeks. The segments are cream-coloured, with a more or less orange zone at the base.

7. *E. Hendersoni*, S. Watson.—This distinct species was discovered in 1887 by Messrs. L. F. Henderson and T. Howell in Oregon, and is named in compliment to the former. It has oblong tunicated corms, and oblong dull green leaves faintly mottled with purple-brown. One or two flowers are produced on the peduncle; the reflexed segments are pale purple with a very dark purple base surrounded by a tinge of pale yellow, the inner segments being shortly clawed and auricled, and the filaments are coloured light purple. Figured in the *Bot. Mag.*, 1888, t. 7017.

8. *E. Howelli*, S. Watson.—This species was discovered about the same time and place as E. citrinum and E. Hendersonii, by Mr. Howell, whose name it bears. It is said to bear a resemblance to E. Hendersoni, and there seems to be a doubt as to whether the surface of the leaves is plain or mottled. The petals are more or less of a pale pink tint, with a deep orange-coloured spot near the base. The inner petals have scales or auricles, and the stamens are white.

9. *E. propullans*, A. Gray.—This species is a native of Minnesota, where it was collected by Mrs. Hedges and Miss Darlington. The corms are small, ovoid, and stoloniferous, and the oblong lanceolate leaves are slightly mottled. The one-flowered peduncle is only 2 or 3 inches long, and the flowers are rose-purple, with a yellow base; stigma undivided.

10. *E. purpurascens*, S. Watson.—This species differs from all the others (except, perhaps, E. grandiflorum) in that its peduncles carry from four to a dozen flowers in a sub-umbellate raceme, instead of the normal one or two. They are in colour pale yellow, tinged with purple, and have a deep orange base. The corms are 1 to 2 inches long, producing somewhat large undulate leaves.

E. revolutum, described by Mr. Baker in the *Gard. Chron.*, Jan. 1876, p. 138, is probably the same as the E. revolutum, Sm., and E. grandiflorum Smithi, Hook., and seems to be a slender one-flowered form of E. purpurascens. Specimens were collected in Nootka Sound by Menzies, and the flowers are said to be large, tinged with purple or rose.

E. multiflorum, Torrey, seems also to be referred to E. grandiflorum and E. purpurascens, but it is probably a variety of the latter, on account of its undivided stigma. It has mottled leaves, and the penduncles are said to bear as many as fifteen flowers at a time, these being in colour bright lilac with a yellow base.

A plant named E. Johnsoni was shown at one of the Royal Horticultural Society's meetings early this year (1896) by Messrs. Wallace & Co. It has rose-coloured flowers, but does not seem to have yet been determined as a distinct species.

Growers of these pretty border-plants may be interested to know that most of the species described above will probably be in cultivation very shortly, as I believe Messrs. Wallace have received consignments of them from their collector in the United States. For the sake of arriving at a correct nomenclature, let us hope that it is so. *John Weathers, Asst.-Sec., R.H.S., London.*

KEW NOTES.

BUDDLEIA VARIABILIS.—Information is asked with regard to a plant under this name in the collection of Mr. Gumbleton at Belgrove, Queenstown (see *Gardeners' Chronicle*, p. 301). The true plant of that name is a Chinese species, described by Mr. Hemsley in the *Linnæan Society's Journal*, vol. xxvi., p. 120, from specimens collected in China by Dr. Henry, and is a large shrub with quadrangular branchlets, narrow, lanceolate, toothed leaves, from 2 to 12 inches long, and rose or yellow-coloured flowers in cymes. So far as I know this plant is not in cultivation. But this name has also been erroneously given to an African species, introduced from Natal to Kew in 1894, and described in the *Kew Bulletin*, 1894, p. 389, under the name of B. pulchella, by Mr. Brown, who says it is very distinct, and unlike any other species in the genus, its leaves being small, very variable in shape, but mostly hastate, glaucous green, the flowers in branched panicles, small, white with a yellow eye, and strongly scented. It forms a somewhat straggling shrub at Kew, where it is grown in a pot in the open air in summer, and wintered in a cold frame. It flowers freely in October.

POLYGONUM BALDSCHUANICUM.

This is an elegant free-flowering climber, which we owe to Dr. Regel, who introduced it from Bokhara, in Turkestan, in 1884, when it was described and figured in *Act. Hort. Petrop.*, viii., p. 684. A plant of it was sent to Kew last year by Professor Max Cornu from the Jardin des Plantes, Paris, and it is now to be seen in the collection in the herbaceous ground, where it has scrambled over a cluster of pea-sticks, forming a Bindweed-like mass of long, thin stems, clothed with cordate leaves, 2 to 4 inches long, and terminating in long branching, elegant panicles of pink-tinted white flowers. It stood the cold of last winter without protection. As a trailer, it promises to be a plant of considerable usefulness. The Polygonums are particularly attractive at this time of year, and some of them form such grand specimens if planted on lawns, one wonders that they are not more often thus employed in gardens.

HELIOPHILA SCANDENS.

An example of this pretty greenhouse creeper may now be seen flowering freely in the succulent-house at Kew, where it is trained along a rafter at the cool end of the house, the shoots hanging loosely and bearing narrow lanceolate leaves 2 inches long, with numerous terminal racemes of white flowers, something like those of Erysimum, to which the genus is related. H. scandens is a native of Natal, whence it was introduced to Kew about ten years ago, but it has never been so decidedly attractive as this year. About sixty species of Heliophila have been described, all of which are natives of South Africa.

DIMORPHOTHECA ECHLONIS.

This plant is now flowering freely in the open air at Kew. It has grown vigorously throughout the summer, but has flowered somewhat shyly until lately. It may be called a sub-shrubby form of D. annua, with flowers nearly twice as large. Whether it is really perennial, as stated by Cape botanists, remains to be proved; in any case, it is worth growing as an autumn-flowering Composite. The flowers are not unlike those of a Paris Daisy, but the disc is purplish, as also is the lower side of the ray florets.

BRUNSVIGIAS.

Two species of this genus of South African bulbous plants are now in flower in the Cape-house at Kew,

viz., B. Josephinæ and B. gigantea. There is not much difference between them, the former being, however, larger in all its parts, the umbel of flowers twice as large, and the colour deeper. These plants flower rarely in this country, but the excessive amount of sunshine of the past summer appears to have favoured them, as I have heard of several others flowering lately beside those at Kew. They are very attractive, glorified Nerines one might call them. B. Josephinæ has a scape 18 inches high, bearing an umbel of about fifty flowers, each of which has a stiff pedicel one foot long; the flowers are 3 inches long, the segments of which are reflexed, and coloured bright red. Eight other species have been described, but so far as I know none of these is in cultivation. The genus has been crossed with Amaryllis, and there are good reasons for believing that it would cross with Nerine.



Fig. 65.—Ceanothus thyrsiflorus: colour of the flowers delicate blue.

Crinum yuccæflorum.

Plants of this Crinum from Sierra Leone are now flowering in the stove at Kew. It is said to be the original Amaryllis ornata of Aiton, and to have been cultivated at Kew over one hundred years ago. It has small, globose, purplish, short-necked bulbs, thin leaves about 1 foot long and 1 inch wide, a slender peduncle of the same length, bearing several flowers with a slender curved tube 5 inches long, and a limb 4 inches wide, consisting of oblong-acute segments, white faintly tinged with red along the mid-rib at the back. It comes very near C. Sanderianum, a native of the same region, but the latter has wider leaves, and is a sturdier and more ornamental plant. Examples of it are also in flower at Kew, as also of C. angustum, C. asiaticum, C. Hildebrandti, C. giganteum, and C. Mooreanum. *W. W.*

NOTES ON CEANOTHUS.

Ceanothus thyrsiflorus, *Eschscholtz.*—The illustration (fig. 65) is reproduced from a photograph taken April 11, 1896, in the Botanic Garden of the University of California, at Berkeley, California. The tree from which the branch was cut is five years old, is about 12 feet high, with a spread of 10 feet, and has a stem 3 inches in diameter; the thyrses range from 2½ to 5 inches in length. This species is figured in the *Botanical Register*, xxx., t. 38, from a specimen in the Royal Horticultural Society's garden, raised from seed sent from California by Hinds while on the *Sulphur* voyage; the thyrses as there figured are much less densely flowered than is usual with us. The plant seems to have gone out of cultivation in England, as there is no mention of it in Nicholson's *Dictionary of Gardening;* it is, however, certainly well worthy of re-introduction, for no flowering shrub can be more effective when well grown. The colour is unique, a delicate blue, only very indifferently represented in the *Botanical Register*, fig. xxx. In its native wilds it grows best on northern slopes or in cool ravines.

Another handsome species now flowering with us is C. foliosus, Parry, of a more northerly range than the last, with smaller inflorescence, and of a much deeper blue colour. This shrub has a low, spreading habit, the more erect stems being rarely over 3 feet high, but producing many long spreading branches from the base; these sometimes covering an area 15 feet in diameter. When completely covered with blossoms, this plant is very effective on a northerly bank. It does not appear to be known in England.

C. lævigatus, Hook., now just coming into blossom here, is a species from yet farther north, and is remarkable for its large leaves, dark green above, pale beneath, with a heavy cinnamon odour; these sometimes attain a breadth of 2¾ inches, and a length of 3½ inches. The thyrses are large and showy, of a yellowish-white colour. I have not seen it in its native wilds, but in the garden it maintains a bushy habit.

As an ornamental species, my preference is for Ceanothus Parryi, a beautifully-flowered shrub from 6 to 10 feet high, with a more bushy habit and smaller leaves than has C. thyrsiflorus, and deep blue-coloured flowers. This species is closely allied to papillosus, but was described as distinct by Professor Trelease in 1888. *J. Burtt Davy, University of California.*

TREES AND SHRUBS AT FOTA.

A ride of a few minutes' duration by railway from either Cork or Queenstown brings the traveller to the private station of Fota, and a word or two explaining the object of the visit to the station-master secures the traveller admission to this jealously-guarded and secluded domain.

The island forms only a small portion of the landed possessions of the Hon. A. H. Smith-Barry, M.P., a descendant of the ancient house of the Barons of Barriemore. The Castle of Barriemore has long been in ruins. The residence at Fota is a rambling sort of mansion, with few, if any, architectural pretensions; but the island on which it stands has much to recommend it in the eyes of some persons, in its utter quietude and retirement from the press and stress of the world outside, for being cut off from the mainland by water, visitors are few.

The climate, like that of the whole district, is mild and humid, and to many persons decidedly relaxing in its effects; and if it does not form an ideal abode for man, vegetation from milder climes than our own succeeds admirably. The plants of the warm temperate parts of the world, as Australia, Japan, the northern island of New Zealand, Chili, and Peru find here a congenial home, growing with vigour to a large size. A gardener seldom finds any difficulty in getting access to a brother of the craft, and a few words of introduction sufficed to put us and Mr. Osborne, the head gardener, on an amicable footing, and we were soon engaged in the agreeable occupation of examining the beauty of tree and shrub in the extensive pleasure-grounds. It may be here stated, that there is an outer belt of plantations near the shores of the island, and an inner one surrounding the pleasure-grounds and gardens, both of these belts, which are of considerable depth, and con-

sist of common species of timber-trees and evergreens, serving as windbreaks and screens. The island is almost flat, and but little elevated above high-water mark; indeed, on one occasion, a good many years ago, the sea broke through, causing consider, able damage among the trees and shrubs.

Our way led by a straight walk, bounded on either hand by tall Portugal Laurels, Quercus Ilex, and other trees; and here on the broad margin of turf were noted plants of Azara microphylla, 24 feet in height, and as much in diameter. It is here a most desirable evergreen shrub; the flowers are green and fragrant, and numerously produced in the spring. Eugenia apiculata, a once common greenhouse shrub in English gardens, and still largely grown on the Continent, and which might well take the place of the common large-leaved Myrtle in large greenhouses, being a faster grower, and bearing cutting better, was flourishing in this part of the grounds; one example measuring 8 feet in height, and almost as much in diameter, was noted. A specimen of another inmate of the greenhouse, and one not often seen nowadays, even there, Fabiana imbricata, formed a large bush, and near by it was a very fine example of Chamærops excelsa, planted twenty-seven years ago, which was quite uninjured by the frosts of 1894-95; it is about 15 feet high. Veronica Traversii robusta formed a splendid bush, which, in its season, is covered with a profusion of blue flowers. It is one of the handsomest of the genus, and may safely be trusted out in the neighbourhood of London.

A tree of Benthamia fragifera measured 40 feet in diameter, and was laden with fruits at present unripe; not far distant from this handsome and rare object was remarked a fine half-tree of Embothrium coccinea, and one of Cornus (Viburnum) brachypoda, syn. C. macrophyllum, a pretty Japanese species, succeeding only in the warmer parts of Britain. The tips of the shoots were just putting on their autumnal colouring of rosy-red, giving the plant a very attractive appearance. It is as remarkable a shrub, but in a different way, as are Colletia cruciata and C. spinosa. The first-named Colletia was a plant forty years old, and 10 feet high and broad. Leptospermum grandiflorum is a strong-growing white-flowering bush, although it was killed to the ground in 1894, as was also a bush of L. lanigera. Close by these shrubs there is growing the largest specimen of Ilex cornuta in Britain; it measures 7 feet in height by 7 feet in breadth. Another fine thing was Glyptostrobus sinensis pendula. In this part of the grounds most of the Japanese Conifers are represented.

The pond with an island, planted with gigantic Thamnocalamus 18 and 20 feet high, and several other species of Bamboos; on the margin of the lake several varieties of New Zealand Flax and Gunnera manicata; and the surface of the water all a-flower with Nymphæas, including M. Marliac's handsome hybrids, and N. Leydeckeri, and others, is a feature that imprints itself on the memory. Chamærops excelsa, Eulalai japonica, Arundo Donax, and giant grasses, form some of the surrounding vegetation of the lake, and the whole, not being in the least bit trim or too gardenesque, had a remarkably natural tropical look. The handsome large-leaved Berberis nepalensis grows into a big bush, as do Salvia leonuroides (formosa), of which a vigorous plant was remarked with scarlet calyces to the flowers, of which many remained; and Tracheleosporum Jasminiflorum. A bush of a species of Edwardsia grows and flowers well in the open. Many species of Pittosporum in variety are planted about the grounds in sheltered spots; and one of the pretty P. undulatum, forming a perfect columnar example, has grown to 20 feet in height. It flowers freely in the spring, but the flowers drop without setting, as we observed no seed-vessels on the plant. A comparatively immense tree of Arbutus Andrachne, with the peculiar flattened and channelled limbs, and stem of a reddish colour, was remarked. So large a tree as this one must, we should imagine, be extremely rare in British gardens.

Conifers are, however, the chief glory of Fota, so many fine specimens of the tenderer species, as well as those capable of enduring the hardest frosts experienced in these islands, abounding. The beautiful trees, which stand in a kind of orderly confusion, and at, in almost every case, sufficiently wide distances apart as to secure perfect development, with the softest and greenest turf below them as a fitting setting, could not fail to please the most exacting critic. Here there are no cruel frosts to kill and maim, and the only danger to be feared is snow. And we all know how carefully-tended garden trees with their long and wide-spreading branches, collect the snow when it falls heavily and without wind, until its weight is too much for the branches to carry.

An example of Thuia borealis (Nutkaensis) compacta, a lovely variety with finely cut foliage, and having a height of 40 feet, and a Sequoia sempervirens, 60 feet high, with a stem 9 feet in circumference, have few equals.

Abies Albertiana is a fine large tree, beautifully proportioned; a good example of A. brachyphylla, and one of the rare A. Pinsapo var. glauca, with blue-green needles, were noted. A still more rare tree was a splendid Pinus Devoniensis (Montezumæ), 40 feet high and broad. The grey-green colour of the long needles, and the peculiar growth so different from other Pines, stamp this a first-class tree for planting in mild parts of the country—in all others it is always unsatisfactory.

Of Cryptomerias there are several species and varieties, and all of them do well. A fine large specimen of C. japonica spiralis, in which the needles coil tightly round the young shoots; C. j. Sandersii, which originated in Cork, and has pretty foliage and a dense habit of growth; beside the type C. japonica and C. elegans, were remarked. Abies Webbiana has grown into a beautiful specimen of large size, and it bears cones freely. A tree of Cedrus atlantica glauca, a seminal variety, has reached a height of 60 feet, and proportionate breadth.

Of Picea religiosa there are two trees near to each other, and 70 feet in height, perfect specimens; the one with glaucous green foliage, the other of the normal green tint. In the cones no difference can be detected. Splendid examples of Abies grandis and A. Nordmanniana were noted. The reputedly tender and rare Cupressus Lindleyana formed a well-furnished tree, 45 feet in height. Another "biggest tree of its kind in Britain," is a Cupressus macrocarpa—a faultless example.

Of miscellaneous species of trees, mention may be made of a form of Liriodendron tulipiferum contortum, 20 feet high; of a large example of Pterocarya caucasica, of Eucalyptus coriaceus (E. amygdalina of some botanists), whose stem at the base measures 7 feet in girth, and whose total height is 50 feet. The tree was once somewhat injured by the removal of some trees which sheltered it, but it has now quite recovered its health.

A large hardy Fernery exists in the garden, and is very well furnished with choice species. We observed Lomaria chilensis, a fine evergreen species; Balantium culcitum, also evergreen; Cyrtomium falcatum, Woodwardia radicans, the latter with fronds 8 feet in length, and which propagates itself freely on the rockery from bulbils; and Dicksonia antarctica, many fine specimens, from 5 to 15 feet high, with a spread of fronds of 14 feet.

Fota is furnished with extensive kitchen-gardens, excellent fruit-walls, on which very excellent fruits were noticed; numerous modern-built glasshouses, which are well filled with useful kinds of plants; and everything in and about the gardens bears the stamp of the master cultivator, and man of taste and liberal ideas. Mr. Osborne has, we believe, held the post of head-gardener to Mr. Smith-Barry for the lengthened period of twenty-nine years, and he has therefore had the satisfaction, rare in these days of change, of tending to the needs of the rare species of tree and shrub from the time most of them were planted, and seeing them arrive at their present size.

THE SEED TRADE.

THE GRASS AND CLOVER CROPS.—Our customary advices from Germany in reference to the actual and anticipated crops of Grass and Clover seeds show that the yield of the former has been, on the whole, smaller than that of last year, and some kinds have disappointed the expectations of the early summer. The two leading kinds of Agrostis—the fine and the Marsh Bent-grasses, promise exceedingly small yields in the United States, as well as in Germany; and as dealers sold out pretty closely last season, prices are likely to be high. Aira flexuosa (Hair-grass) has been harvested in small quantities, all of which are more or less discoloured by rain. Alopecurus pratensis (Meadow Foxtail) has given a satisfactory yield, but as the stocks on hand were largely exhausted early in the year, prices will rule as high as last season. The quality of the seed is exceptionally fine, and it is of a high degree of purity, and the growth is expected to be in every respect satisfactory. Anthoxanthum odoratum (Sweet Vernal-grass), and the form of it known as Pueli, show a yield considerably less than that of last year, but the sample is fine. Avena elatior (Oat-grass), is good in crop and quality. Dactylis glomerata (Rough Cock's foot-grass) is said to have proved a complete failure in the United States, and it would seem no imports can be looked for from thence. The New Zealand crop is medium, the seed heavy and promising. Prices are advancing owing to a large demand. France reports a good crop, but it is complained of the bulk that other grasses are mixed with it. Cynosurus cristatus (Dog's-tail-grass) is almost a failure, and prices are sure to be high.

The Sheeps and other hard Fescue-grasses have greatly disappointed the expectations entertained during the earlier part of the season; but the weather became bad, and continuous rains spoiled much of the seed. A small yield is inevitable, and as considerable expense will be incurred in cleaning the seed, prices are certain to be high. The fine-leaved form (Festuca tenuifolia) grew badly in consequence of the autumn of 1895 being so dry, and this followed by the equally unfavourable spring of the present year, the yield is light, and has had to be thoroughly cleaned, thus raising its value in the market. F. pratentis (Meadow Fescue) shows a crop less abundant than last year, but in consequence of good stocks having been held over in some quarters, prices are likely to be lower than those of last year; the quality of the seed is excellent, though a little discoloured by rain. Tall Fescue-grass (F. elatior) saved in southern Germany is about one-half the crop of last year, and will not cover the expected demand.

Holcus lanatus (Creeping Soft-grass) has given a good crop of satisfactory quality and high purity. Lolium perenne (Rye-grass), and L. italicum (Italian Rye-grass), have both been harvested in abundance, and prices are lower than those of last season. Phleum pratense (Cat's-tail or Timothy-grass) has proved an excellent crop in the United States, and prices there are lower than for several years past; nothing appears to be known at present of the German crop. Of the meadow grasses, Poa nemoralis has yielded a fair average crop, rain having affected it but little. Poa trivialis has a smaller crop than during the past two years, and the price has advanced. P. pratensis is a failure, and the present high prices are likely to advance. Phalaris arundinacea (Reed Canary-grass) is scarce, the dry spring having affected its growth.

All Clovers are expected to yield less seed than last year, though it is too early in the season to report with anything like accuracy. Sainfoin has produced an abundance of seed, but the samples are stained by rain. Trefoil has been harvested in small quantities only, and prices are likely to rise. White Clover gave a medium crop, but no fine samples have put in appearance in the market as yet. A large crop of Alsike has been secured in America; there the seed is very cheap. Trifolium incarnatum has quite failed in Italy, and a small crop only has been obtained in France. German and Austrian crops are good, and though the seeds are discoloured by rains, the seed grows remarkably well. In reference to red Clover and Lucerne, it is as yet too early to form a definite opinion, but unless the weather changes for the better, the crop is likely to be an indifferent one. *Pisum.*

Foreign Correspondence.

LATE TULIPS.

We greatly approve of the editorial remarks (in your recent issue of September 19) on the practice of giving Latin names to garden varieties. We have for many years protested against it, and those who were present at the first Daffodil Conferences will remember Mr. Krelage's, and others efforts in this respect. Especially the nomenclature of Tulips would become very annoying and confusing if this regrettable practice became universal. The origin of most garden Tulips is absolutely unknown, and it is very difficult to state whether Tulips generally known under well-registered botanical names are really the species described by their authorities. Many Tulips which first were described as original species have afterwards proved to be old garden Tulips, escaped from gardens long ago, and found again growing wild. It is, therefore, of no use to give botanical names to any old garden Tulips which may have been re-discovered of late; appropriate fancy names are to be preferred, and will doubtless be approved both by nurserymen and amateurs.

The second point, referred to in *The Field*, and reprinted in your columns without any mark of approval or disapproval, should not be confounded with the condemned practice described above. The classification of rectified amateur Tulips has nothing to do with the giving of Latin names to garden Tulips. We are very proud to state that the catalogue to which reference is made in *The Field* is ours, and we are glad to have an occasion of defending our system of classification, which we shall certainly not abandon.

Late rectified amateur Tulips have for a very long period of time been a special feature in Holland, in French Flanders, and in England. The Dutch collections are the oldest; those in England were especially renowned in the first part of the present century, and the Flemish collectors went their own way, and raised their best varieties about the same time. The development of Tulip culture in each of the three countries has its own story, and as, of course, no regular communication between the Tulip lovers of these countries existed to any extent, the result was the formation of three well-distinguished strains of rectified amateur Tulips.

The Dutch strain, which was already renowned in the last part of the eighteenth century, did not improve very much in later years, but has always been kept by some of the Dutch nurserymen, who can still supply these varieties true to name.

The Flemish strain is distinguished by flowers which are very effective and beautifully coloured, but they do not exactly answer to the English Tulip rules. These flowers, which only include Violettes and Roses, but no Bizarres, are irregularly flamed and blotched, have not always a white base, and are as a rule, of longer shape than English Tulips. The English strain, which has of late revived to a great extent, thanks principally to the indefatigable zeal of Messrs. Barr and others, does not need further description in this paper. Each of these strains consists of different varieties, and there are only a very few which are to be found as well in the English as in the Flemish or the Dutch collections. The English Tulip collections contain the Dutch Rose Tulip, Heroine, and others; the Dutch strain includes the Flemish Violet Tulip, Louis XVI., and so on. We have intentionally catalogued the three strains separately, in consequence of their distinct characters. English Tulip collectors, of course, only allow the perfect English varieties in their gardens, but other plant-lovers, who do not grow these Tulips from the standpoint of the Tulip-fancier, but rather to enjoy their beauty, may prefer the Dutch and Flemish strains. This is, of course, a matter of personal taste only, but we, as growers, are obliged—so as to enable our customers to choose what they exactly want—to classify late Tulips in a convenient and practical manner.

The third remark, which in the *Field* is somewhat mixed up with the former, refers to the new strain of late self-coloured Tulips, which we have named in honour of the late Charles Darwin. This question may be considered as settled already, since the distinctness of this strain is so generally admitted, that the demand for "Darwin" Tulips now far surpasses the production. We do not like to be our own laudators in this question, but we kindly beg to allow to reproduce what your esteemed contributor, Mr. W. Watson, of Kew, said on the matter two years ago, when the same question arose in the English horticultural press. This is what Mr. Watson then wrote in a London letter to *Garden and Forest*:—(February 21, 1894)—"English horticultural papers are actively discussing these plants just now, some of them holding that the "race" recently named in compliment to the great naturalist, and offered by Messrs. Krelage & Son, of Haarlem, is not in any way distinct from the old "Breeder" Tulips, which are forms of T. Gesneriana. In my opinion, there is a difference, the plants offered by Messrs. Krelage being much superior in colour attractions to the Breeders of English gardens. The former have been grown at Kew several years now, and their extraordinary colours attract considerable attention. No less an authority than Sir Frederick Leighton, on seeing them at Kew two years ago, expressed himself delighted with them, because they were so different from and so much more artistic in colour than the Tulips usually grown in gardens. If the quibbling over the name only leads to the general cultivation of these Darwin Tulips, it will have been productive of some good. I would rather call them Darwin than Breeder Tulips, even if they were identical, the latter name suggesting something unfinished or imperfect, whereas the flowers themselves are beautiful in their colours, kaleidoscopic, never harsh or disagreeable to the eye, and often showing the most subtle blending of browns, and purples, and greens—in short, all colours. Breeder Tulips have never held a very prominent place in English horticulture—not within the last twenty years, at any rate; but, unless I am much mistaken, these Darwin Tulips of Messrs. Krelage are certain to become favourite with all who love true beauty of colours in a flower."

We may add, that the enormous demand for Darwin Tulips has proved the truth of Mr. Watson's prophecy. *E. H. Krelage & Son, Haarlem, Holland, September*, 1896.

FORMALDEHYDE.

Referring to the use of formaldehyde for preserving vegetable tissues, a subject which has been ventilated in the *Gardeners' Chronicle* during the past month, I may now, perhaps, be allowed to give a few more details than I was able to do in my last communication. This substance is now known in commerce under the name of formalin, and appears as a water-white solution. In a small pamphlet on formalin issued by Schering, of Berlin, the following description of the substance is given.

Formalin is the name of a saturated aqueous solution of 40 per cent. of formic aldehyde (CH_2O). Formic aldehyde is a gas prepared from wood-spirit and other alcoholic liquids by oxidation. It dissolves easily in water, and is called in commerce formalin. It can be readily employed in any strength. For most purposes a solution of formalin, consisting of one teaspoonful of the fluid to one quart of water suffices. In many cases, however, a much more dilute solution is sufficient. It is an excellent disinfectant and antiseptic, and is perfectly harmless. All kinds of food, such as meat, poultry, game, fish, fruit, &c., can be preserved by it. Fruit should be dipped in the formalin solution for about a minute, or wiped with a cloth moistened with it, in order to prevent external decomposition. As a preservative in which to keep fruits for museum purposes, a formalin solution of the strength here stated has, so far, been successful in preserving their substance and shape for a period of about two years, for it must be remembered that the substance is a comparatively new introduction. For preserving colours, however, the results are not in all cases equally satisfactory; greens become changed to a yellowish tint, while yellows and reds are the most successful, especially the latter. The splendid bright crimson of the fruit of Momordica cochinchinensis, after immersion for about two years, show but very slight change, the fluid itself being only slightly tinged with yellow. In alcohol the bright-coloured, fleshy fruits, quickly lose their colour, and become bleached; while in a saturated solution of salt-and-water the colours are fairly well retained for a year or two, after which the fruits themselves become soft and pulpy, and the colours, whether reds, greens, or yellows, have a faded appearance. The results then, so far as time will yet allow us to speak, are in favour of formalin. *John R. Jackson.*

DUDLEY LODGE, HARROW-ON-THE-HILL.

This is a garden which owes much to the artistic tastes of the owner, H. W. Bryans, Esq., who, during the few years he has resided there, has greatly altered it from the common type of lawn and border garden, usually bare of everything in the winter, and filled with "bedding plants" in the summer; to a pretty garden containing much variety, and one in which the botanist, florist, or the mere lover of flowers would be able to find much to interest and please. The alterations entailed much hard work, and a considerable amount of money. Numerous fine shrubs and herbaceous perennials were planted, which will, in the course of time, fully compensate the proprietor. At a short distance from the boundaries of the garden, raised banks have been thrown up, and planted at the top, and in places, on both sides, with flowering deciduous and evergreen shrubs. The outer side of these banks is skirted by a pleasant tree-shaded walk, and in various parts, spring and summer-flowering plants, such as Primrose Polyanthus, Forget-me-nots, Foxgloves, Saxifrages, &c., are planted so as to obtain some flowers both early and late. In the shade, clumps of Hypericum, Vincas, Ivies, and other suitable things, find a home; and the small-leaved Ivy is made use of sometimes to trail over spots where Lily of the Valley, Daffodils, and other bulbs are planted, which has, when these are in flower, a pleasing effect, and when the bulbs have died down, there is still a bright green carpet of Ivy instead of the bare soil.

Looking over the garden from beneath a rustic arch, and across the expansive lawn, Mr. Bryans' dwelling, climber-clad, comes into view; on one side a view over the surrounding charming landscape has been opened up, unobstructed by a light iron screen, to which are looped varieties of Clematis.

On another side of the house the front portion of the garden is shut off by a light wrought-iron screen, made from Mr. Bryans' design, and which a thin covering of Ampelopsis and other creepers decorate without quite concealing it. Beside it is a rosary, planted with a good selection of Roses, and around the entire garden runs a broad herbaceous border, varied in height, and undulating in outline.

When planting on so large a scale, the larger-growing species have to be planted in clumps, otherwise the effect produced is poor, especially when observed at a distance, hence the clumps of Hollyhocks, Phlox, Iris, Anemone japonica, both white and pink; Delphinium, Gladiolus, Eryngium, and other showy border-plants, afford a constantly changing show of flowers. The brightest colours at present are obtained from varieties of Helianthus, Œnotheras, Lobelia cardinalis, Pyrethrum, and Potentilla, with here and there glowing Gladiolus, Tritoma Uvaria, &c. In planting the borders, the use of foliage for contrast in colour and form has been well considered, and clumps of Bocconia cordata, Eryngiums, &c., have been well and effectively placed. As an aid to the floral display, annual and biennial species are used whenever they do not interfere with the perennial plants.

In one of the recesses was observed a pleasing group of thinly-planted shrubs, filled in with large specimens of Abutilons, which are still covered with bloom, the bed being finished with a broad edge of Calceolaria amplexicaule.

The group is as pretty as any in the garden ; and we were told that this sort of planting for summer effect will be carried out on a larger scale another season.

The Salvias have been very bright, and are so still. We remarked here Salvia patens whose flowers are of a handsome shade of blue, the neat S. Horminum with heads of floral bracts varying from pink to rich purple; a patch of hardy Heaths, and Menziesia polifolia in flower, and at other points some interesting objects. Here, as in other gardens, zonal Pelargoniums are being crowded out by hardier plants. Here some fine beds of Begonias put the Pelargonium to shame, at this end of the season. *J. O'B.*

PLANT NOTE.

CHRYSOGONUM VIRGINIANUM.

In the new gardens of Aldenham House, Elstree, Mr. E. Beckett cultivates this plant in patches, which are very effective and charming at this season of the year. The generic name, Chrysogonum, is given, according to the *Dictionary of Gardening*, as being derived from two words—chrysos, gold ; and gonu, a knee or joint ; in allusion to that peculiarity of the plant of mostly flowering at the joints of the stem. It is of a somewhat dwarf and bushy growth, producing rather freely yellow composite flowers of a showy character. It seems to do well at Aldenham House, both in the heavy soil of the new shrubbery beds, and in the lighter soil of the garden attached to Mr. Beckett's residence. It is a hardy herbaceous perennial, and makes a pleasing display when in full bloom. It is propagated by division of the roots in spring. The genus is said to include others, but the above appears to be the only one in cultivation, and is very seldom met with. *R. D.*

FLORISTS' FLOWERS.

THE AURICULA.

Auriculas in pots appear to have stood the hot, dry weather without injury. I have seen several collections in different parts of the country, which are satisfactory in their present appearance. Probably the fears of cultivators caused more than usual attention to be paid to their wants. My own plants acquired a generous leafage during the fine weather, and they have not stopped growing yet, though the decay of the outer leaves shows that the resting season draws nigh. With cooler weather there has come less need for water, and as November approaches it should be sparingly afforded, and then only to prevent the soil becoming so dry as to cause drooping of the leaves. If this should happen, place the pot in water to ensure the ball being thoroughly moistened, and return it to the stage. If a plant be allowed to get dust-dry, the younger root-fibres perish, and of course an injury is done to the plants. I prefer to keep the soil fairly moist all through the winter, and then if the drainage be good and the soil sweet, no harm ensues ; whereas, stagnant moisture is always hurtful, and I quite understand why it was that the growers of a past generation, who had to winter their plants in a cold frame, used to insist upon the importance of having the drainage of the pots in good condition in the autumn. Some plants will, of course, die in the best-managed collections ; "cracks" go down before the deathly visitant as well as the inferior types. Rarity affords no immunity.

Amateurs who possess only an elementary knowledge of Auriculas sometimes write in fear to inquire if the natural decay of the older leaves means coming death to the plant? Certainly not, if the plant is healthy and doing well ; but if otherwise, if in harmful soil, then there is reason to fear further injury. An unhealthy plant manifests itself in the leaves looking weakly, curling at the sides or ends, and in a stoppage of its growth. Such plants need immediate attention, and the soil shaken quite away from the roots, which if examined will be found in most cases to show signs of decay, or it will be found at the neck of the plant. It is often difficult to save a plant when decay is deep seated, and that is one of the reasons for having the plants at all seasons in places where easy inspection of them is possible. No plant suffers more from neglect than the Auricula, but on the other hand, it repays careful culture.

During the months of October and November the plants will gradually lose most of their leaves, leaving a filbert-shaped bud or crown. If the heart be plump, and the root-stem stout, then the spring may be looked forward to with hope, for the chances are all in favour of good growth and fine bloom. The Auricula is never without interest, even when at rest. It is well, however, to be as attentive to the plants in winter as in spring and summer, and no grower should grudge his plants this much. *R. D.*

TREES AND SHRUBS.

CORNUS SANGUINEA VARIEGATA.

Under this name we have growing here an ornamental variegated-leaved Dogwood 5 to 6 feet in height, which is very effective when seen in company of evergreen and deciduous shrubs. It succeeds in rather moist situations ; and in winter, when the leaves—which have a silvery-white variegation—have fallen, the red colour of the stems and shoots is a pleasing feature.

SPIRÆA ARIÆFOLIA.

This pendulous white-flowered shrubby Spiræa is one of the most attractive of the species flowering at midsummer ; and as the planting season is now at hand, it is worth noting as being a valuable plant for the shrubbery border, or for planting as a specimen on the lawn or in the semi-wild garden, in either position it being a most telling object when in flower. The flowers are freely produced even on partially shaded plants, and when so grown the flowers are of a purer white than when growing on bushes fully exposed to the sun. It grows from 12 to 15 or more feet in height, and appears to flourish in almost any kind of soil. *C. Herrin, Dropmore.*

THE WEEK'S WORK.

THE KITCHEN GARDEN.

By Charles Herrin, Gardener, Dropmore, Maidenhead.

Lettuce. — Plants from sowings made about the end of July will now be sufficiently advanced for tying up when dry. At this season of the year, Lettuces which in early summer fold-in and blanch without trouble, need to be tied up so as to obtain the desirable blanched heart. The seedlings from the sowings of Brown Bath Cos and other varieties which were made about the middle of August will now be large enough for transplanting to vacant spaces at the foot of south walls, after due preparation of the soil ; and a larger batch be planted out in a part of the garden well exposed to the sun, which is moderately rich. After making the soil firm, proceed to plant the Lettuces in lines at 12 inches apart, and 9 inches in the row. If a garden-frame can be spared, place it on a hard bottom, and after spreading over the surface soil to the depth of 3 inches, make it firm, and plant Lettuces therein at 3 inches apart, to serve as a reserve stock of plants. The lights should be kept off the plants, except in excessively wet or frosty weather.

Endive.—Where sufficiently advanced in growth, the best may be blanched as required, by placing an inverted flower-pot over the heads, or tying them up with matting when dry.

Herbs.—Sweet and bush Basils and Sweet Marjoram may now be pulled up by the roots and dried in the shade. Where green Basil is required, some of the smaller plants may be potted-up. Seeds should also be sown thinly in boxes forthwith, and placed in a warm house, where, when germination has taken place, the foliage should be kept dry to prevent "fogging" off. During the late drought Tarragon made but little growth, but since the rains set in has grown freely, and where it is much in request, a portion of the growths may be cut and dried for future use.

Miscellaneous Work.—Capsicums and Chilis, which have been growing in pots placed in cold frames up to the present time, should now be removed to a warm house to ripen their fruits. And if planted out in frames, the plants may be pulled up with the fruits attached, and hung up in a warm house to finish off. Dwarf early Peas are now podding, but the rainy weather has caused mildew to become troublesome, rendering it very necessary to syringe the haulm with soft-soap and sulphur in water, so as to check the spread of mildew. The hoeing of the soil has not been possible for some two or three weeks, and the growth of weeds has been rapid ; and should the soil not be in a fit state for the hoe to be used, hand-weeding must be resorted to, otherwise beds of newly-raised Onions, Cauliflowers, Spinach, &c. will become greatly drawn or smothered with them. Weather permitting, Broccoli, Coleworts, &c. should be partially earthed up before the leaves cover the ground. Where Potatos that were interlined with these crops are still unlifted, they should be dug up as soon as possible. Slight frosts may now occur at nights, and the materials for protecting rows of dwarf and runner Beans should be got in readiness. For this purpose, canvas or mats fixed to short stakes driven into the ground on either side, just level with the tops, answer well. Vegetable Marrows are fruiting freely now, and should be protected in some kind of way. Where Tomatos are standing in pots outside, remove them to a warm, airy house. Gather the fruits from those planted out-of-doors as soon as they begin to colour, and place them in a warm, dry place to ripen.

PLANTS UNDER GLASS.

By Jno. McIntyre, Gardener, Woodside, Darlington.

Bulbs and Plants for Forcing. — Make preparations for the forcing of bulbs and plants to provide flowers during winter. If a large quantity of flowers for cutting be required, pot-up 200 or 300 bulbs of the common yellow Daffodil, as these generally give a better return than almost anything else. If the bulbs be potted now, and for the next two months plunged in ashes, they may then be placed in a brisk heat, and will flower about the end of December. Eight or ten bulbs may be put into each 5-inch pot, and the compost in which they are planted may consist of good sandy loam and river-sand. If the plants of Azalea mollis are planted out subsequently to the flowering season each year, the plants that have been two years in the open and have set a considerable number of flower-buds should now be potted up. If the plants be lifted early, it tends to the maturing of the wood and the buds, and they become better prepared for early forcing. A compost of peat and leaf-mould is the best in which to pot them ; and for the present keep the plants in the open air. Richardias which were planted out in the spring should also be potted-up. Lift them carefully, and preserve the soil about the roots as much as possible. Some old potting-soil of a rich and light nature will suffice for them, and pots varying from 5 inches to 8 inches in diameter will be necessary for the different-sized plants. When the plants have been potted, place them in a cool pit, which should be kept close for a fortnight ; but afterwards expose the plants fully on all favourable occasions, and when growth has commenced, afford them an abundance of water. The most sappy growths upon Deutzia plants should be removed, and if any of the plants require to be repotted, this may be done at the present time. When lifting Deutzias, it is well to reduce the ball as far as practicable, and make use of pots a very little larger. Use good, rich loam, inclining to clay.

Dwarf growing Stove Plants.—The present time is a suitable one for the propagation of most dwarf-growing stove plants, the stock of which requires to be constantly renewed, in order to have nice fresh young plants. Panicum (Oplismenus Burmanni), Pellionias, and Fittonias, may be put into 3-inch pots, placing four or five cuttings in each pot. They will soon take root if placed in the propagating-case, and become useful directly afterwards, when the old stock may be thrown away.

Allamandas, &c.—Specimen plants in flower should be moved into a house of intermediate temperature, and if afforded weak liquid-manure occasionally they will continue to give a supply of flowers for some time to come. The same remarks apply equally to Dipladenias, Bougainvilleas, and Clerodendrons.

General Work.—All shading may now be removed from the plant houses, and air should be admitted upon all suitable occasions. During the next month a little extra fire-heat should be given in the day-time, par-

ticularly if the weather be sunless. The watering of plants should now be effected before noon each day, so that the excess of moisture may evaporate during the afternoon. The conditions should be made as far as possible conducive to the ripening and hardening of the wood in the plants. Re-arrange the plants in the stove, and remove all bulbous and tuberous plants, such as Achimenes, Caladiums, Gloxinias, &c., that have become unsightly. This will provide room for the earliest plants of Poinsettias, which may be thinly distributed on the side-stages. All hard-wooded greenhouse plants now out-of-doors will need to be removed to the houses shortly. Carefully examine all of them, and if thrip or red-spider be found, syringe them with strong soapsuds from the laundry twice or three times in succession; this should rid them of all insect pests, and give a glossy, healthy appearance to the foliage.

FRUITS UNDER GLASS.

By W. Pope, Gardener, Highclere Castle, Newbury.

Strawberry-plants in Pots.—The runners made by the plants since the latter were potted should be removed as soon as observed, and the soil kept free from weeds. When heavy rains fall, the plants are usually moistened sufficiently at the roots; but when the rainfall is slight, the surface of the soil may be wet, while below it is too dry, and this is a matter that should be carefully looked to. If grown in small pots, afford weak manure-water once or twice a week. Do not let them crowd each other, or their development will not be satisfactory. See that no worms get into the pots, and if any have done so, afford lime-water to the soil, which will have the effect of causing them to come to the surface.

Cucumbers.—They may be well gathered up. The top heat in pits, &c., should be kept at 70° by night, and 80° by day; lower temperatures than these may cause mildew to appear. Plants for fruiting soon will require supplies of liquid-manure when moisture is needed at the root. Do not over-crop nor allow fruits to hang too long on the bines, but cut and store them in a cool place. All male blossoms and tendrils should now be taken off as fast as they appear, and no more foliage retained than can be fully exposed to sunlight. The syringe should now be used only at closing time on bright days, using water for this purpose as well as for root watering at a warmth of 80°. Top-dress with rich, moderately light, turfy loam, made warm, as the plants advance, and apply as much as will cover the young roots which show through the surface. Young seedlings or rooted cuttings intended for fruiting in the winter may be planted out, and afforded plenty of air on every favourable occasion, and a temperature of 70° by night and 75° by day, with an increase of 10° or 15° from sun-heat. Should thrips or green-fly appear, lightly fumigate the plants. Plants still in bearing on hot-beds must have the proper degree of heat maintained by a frequent renewal of the linings; keep the shoots thinly disposed, and regularly stopped at one joint beyond the fruit, and cover the lights at night with mats.

Early Vineries.—Vines with which a start will be made in November should now be pruned, and the wounds dressed with styptic or patent knotting. Remove the looser portions of the bark, and wash the rods with a weak mixture of soft-soap and water, using a rather stiff brush in doing so, and working it well into all crevices. The outside border, if any, should be covered with shutters, or something that will throw off rain, a thick covering of dry leaves being placed on the border as soon as these are procurable. Keep the Vines cool by throwng open the ventilators to their full extent.

THE ORCHID HOUSES.

By W. H. White, Burford, Dorking.

Moisture in the Houses.—Owing to the rainy weather which appears to prevail everywhere, the management of Orchids, where they exist in quantity, should be modified as regards atmospheric moisture, it being a mistake to maintain, in the present state of the atmosphere, a standard of moisture suitable enough in warm dry weather. And more especially should atmospheric moisture be reduced in the intermediate and cool-houses; whilst as regards the warm-houses, a certain degree of moisture should be maintained in order to counteract the drying effects of artificial heat necessary in keeping up a proper temperature, but even here damping down should not be frequently performed. Till there is a need of more artificial heat, the East Indian, Cattleya, and Mexican divisions may be damped to a moderate extent morning and evening; the intermediate and Odontoglossum-houses will have the requirements of the plants met by one thorough damping done in the morning if it be dull, sprinkling the paths again in the evening only if the day has been sunny. Beginners in Orchid culture keep on syringing and damping-down each time the air in the houses gets in the least degree dry, but experience teaches us that this practice is a bad one for the plants, especially in the autumn, when most of the plants are finishing up or have completed their growth for the season. To enable new growths to mature, prevent or check the development of spot, to which all species of Orchids are liable, each division should be allowed to get comparatively dry for a few hours during the middle of the day. It is also important that the house or division be well ventilated, as much air as possible being admitted to every part, when it can be done without causing any great fluctuation in the temperature of the house or division. In the absence of sunshine, the plants do not dry up so quickly as was the case a month ago, and a good deal of judgment is required in affording water, and the grower will have to be guided by the state of each plant, whether in active growth, at rest, or approaching the flowering stage. The present is a critical season for a few of the Cattleyas that are finishing up their growth, viz., for C. Trianæi, C. Mendeli, C. labiata, C. Eldorado, C. Dowiana, C. D. aurea. It may happen that in damp weather the sheath which encircles the new pseudo-bulbs becomes soft, and of a dark colour, which, if it be not quickly slit, may cause decay in the pseudo-bulbs. The plants, therefore, should be carefully examined every day, slitting the sheaths from top to bottom when these signs of imminent injury are noticed, and keeping the plants drier at the root for a few days afterwards, and the air drier.

Repotting.—Plants of Cattleya Trianæi, C. Mendeli, and C. Mossiæ which have grown too large for their pan or pot, are liable to suffer from lack of rooting materials; and as at this season, on the completion of growth, the leading pseudo-bulbs make many new roots, more rooting-space may be safely afforded them. Some Orchid cultivators object to a re-potting at this season, for fear of injuring the plants; these fears are needless if the right time be chosen, and due care taken in doing it. As soon as growth in the new pseudo-bulb is finished, and young roots become visible at the base, the pot or pan should be broken, and as much of it taken away as may be without disturbing the drainage or roots, and the whole be placed in a suitable-sized pot, filling in around the plant and nearly up to the rim of the pot with crocks, and surfacing with the ordinary Orchid-compost. After such repotting, afford water very sparingly, merely letting it run over the edge of the compost.

THE HARDY FRUIT GARDEN.

By J. Woodgate, Gardener, Rolleston Hall, Burton-on-Trent.

Fruit-gathering.—The fruit of late varieties of Apples and Pears should be examined from time to time, taking only those which part readily from the shoots. The heavy rains have been of much benefit to orchard trees, and garden trees not artificially watered, swelling up the fruits of late varieties. Do not gather any fruit before it is fully ready, or it will shrivel, and be of little use. Fruit which has to be kept in good condition till the spring requires much care in gathering and the handling afterwards. When putting fruit into the fruit-room, keep the sound and best to themselves; and those which are deformed, or which show signs of insect attack, in some other place apart from them, so as to avert any chances of infection by spores of moulds—they will do well enough for present culinary purposes. Fruits that are badly bruised, also very small fruit, unless they are intended for cider making, should be given to the pigs or got rid of forthwith. No rotting fruit should be allowed to remain in the fruit-room.

Plums, &c.—Fruits of late varieties may be gathered as they acquire a desirable stage of maturity, and laid thinly on the fruit-room shelves for a week or ten days; and if required to be kept for some time longer, they should be wrapped in soft tissue paper and put into shallow drawers or boxes in a cool place till wanted. It is good practice to gather late Peaches and Nectarines as soon as they will part readily from the stalk, many being thus saved from wasps and flies. Gather them when quite dry, and place on some soft kind of material in the fruit-room to ripen. They will remain good for a week or ten days. Where the walls have fixed copings, red spider is apt to establish itself on the foliage at the tops of Peach and Nectarine trees at this season, but it may be dislodged by using a suitable insecticide syringed on to it with the wall-tree engine or hand-pump, the foliage being afterwards kept clean by forcibly syringing it with clean soft water every day as early in the afternoon as possible.

THE FLOWER GARDEN.

By Hedley Warren, Gardener, Aston Clinton, Tring.

Roses are flowering profusely, the Teas especially, and unless damaged by frost, there is the promise of a quantity of Roses for some time to come. The demand for Roses increases annually, if one may judge from the output of some of the large Rose nurseries; and as the season for making Rose-beds or filling up of gaps in old ones approaches, the present affords a favourable time for making notes of varieties which are found to succeed in a particular garden, district, or soil, Roses varying much in this respect. Where but little care can be bestowed upon the plants, Gloire de Dijon is one of the best to plant, as it will afford plenty of flowers with a minimum of good culture. In preparing a Rose-bed or border, the soil should be well manured and trenched, and if it is very heavy soil, road-scrapings should be largely added to the staple in process of trenching; but shallow or poor soils should be dressed with marl that has been exposed to the air, or even clay may be beneficial. Old beds may have any of those ingredients added to the soil, so as to impart new vigour to the plants. Burnt garden-refuse and wood-ashes are seldom misplaced in a Rose-bed, as they are substances which help to keep the soil sweet. If a number of plants of a certain variety is required, the order should be given to a nurseryman at an early date, so as to ensure their early despatch if planting is to be carried out during November, which is generally considered to be the best planting month.

Herbaceous Borders.—New borders may be similarly treated to those for Roses, and the work begun at an early date, which in the majority of cases is preferable to spring planting, except in the case of weak but valuable plants, or such as do not withstand severe winters very well; and these should be wintered in cold frames, or a sheltered place outdoors, to be planted out early in the spring when the plants are starting into growth. The arrangement of a herbaceous border depends greatly upon its position and width. The latter may not be less than 10 feet, if a fine effect is desired. It may have a background of flowering shrubs, and if these be placed at intervals they add to the effectiveness of the whole. As back-row plants, Hollyhocks, Sunflowers, Delphiniums, Tritomas, Pæonies, tall-flowering Asters, Galtonia candicans, Echinops in variety, Lathyrus atifolius and rotundifolius, Lilies of various species, Papaver orientale, &c., do very well. As second-row plants, use may be made of Harpalium rigidum, shrubby Phloxes, Anemone japonica and its several varieties, Solidagos, Coreopsis lanceolata, Aconitum autumnale, Statice latifolia, Pyrethrums in variety, Irises of a great number of species, and Eryngium amethysticum. As third-row plants the following are excellent, Gaillardias, Antirrhinums, Pentstemons in variety, Potentillas, Aquilegias, Matricaria, Rudbeckia Newmani, Scabiosa caucasica, Achilleas, Carnations, Brodiæa congesta, Chelone barbata, Erigeron Geum, Helleborus niger and other dwarf forms, Heuchera sanguinea, Montbretias, &c. The front of the border may be filled with dwarfer-growing plants, as Sweet Williams, Pinks, Carnations, Picotees, Polyanthus, Violas, Aubrietias, Alyssums, Œnotheras, Convallaria, Iris cristata, Ranunculus, Erica carnea, Helianthemums in variety, Aster sibirica, and many others. Although it is not desirable to plant in straight lines, the foregoing list will afford an idea as to the arrangement of the various plants named.

General Work.—Sweeping and rolling will be very necessary after the rain that has fallen, and the edgings of the turf require cutting to preserve a tidy appearance. Mowing will still require to be followed up, but where the lawn has suffered much from lack of rain, mowing should not be carried on very late in the season, it being preferable to roll the turf on every favourable occasion. Walks should be freed from weeds, which abound at the present time, and if this work be well done at this season, the walks will keep clean till the spring, at which season it is advisable to destroy the weeds with "weed-killer."

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the PUBLISHER.

Letters for Publication, *as well as specimens and plants for naming, should be addressed to the* **EDITOR, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

APPOINTMENTS FOR THE ENSUING WEEK.

THURSDAY,	Oct. 1	Royal Horticultural Society's Show of Fruits at the Crystal Palace (3 days).

SALES.

MONDAY,	Sept. 28	Dutch Bulbs, at Protheroe & Morris' Rooms. Bulbs, at Stevens' Rooms.
TUESDAY,	Sept. 29	Dutch Bulbs, at Protheroe & Morris' Rooms. Bulbs, at Stevens' Rooms.
WEDNESDAY,	Sept. 30	Dutch Bulbs, at Protheroe & Morris' Rooms. Clearance Sale of Specimen Palms and other Plants, at Olympia, Addison Road, W., by order of the Receiver for the Debenture Holders, by Protheroe & Morris. Bulbs, Palms, &c., at Stevens' Rooms.
THURSDAY,	Oct. 1	Dutch Bulbs, at Protheroe & Morris' Rooms. Bulbs, at Stevens' Rooms.
FRIDAY,	Oct. 2	Dutch Bulbs, at Protheroe & Morris' Rooms. Imported and Established Orchids, at Protheroe & Morris' Rooms. Miscellaneous Property, at Stevens' Rooms.
SATURDAY,	Oct. 3	Bulbs, at Stevens' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—55°.

The Cultivation of Fruit in California.

THE advantages accruing to settlers in California who carry on the industry of fruit culture in an intelligent manner and according to modern methods, have frequently been expatiated upon in these and the columns of numerous journals in this country; and on the strength of the statements thus given currency to, doubtless many emigrants have invested much money in the business. It is conceivable, too, that many of these persons have met with but a very mediocre amount of success, owing partly to the usual great abundance of the crops of various kinds of fruit, the lack of consumers, and of means of rapid communication. As showing the present unfavourable aspect of the fruit-growing industry in that country, we publish the following letter from Mr. WM. KETTLEWELL, gr. to Mrs. A. J. POPE, St. Helena, Napa, formerly of Steventon Manor, Hampshire, together with a cutting from *The Examiner* of San Francisco of August 16:—

"During the past eight years I have resided here I have often seen bright reports of the fruit-growing business, and the fortunes to be made at it, published in the columns of the *Gardeners' Chronicle* and other English newspapers. I herewith send you a newspaper report, which exhibits the true condition of the fruit-growing business as it now stands. The same thing occurs every year. This season being the worst fruit season on record in California, I think intending emigrants should not waste valuable time, and very often their hard-earned savings, in fruit-culture here. California produces fruit in enormous quantities, but the great difficulty is to turn it into money at any price. During the time of my residence here, fruit has not averaged 1 cent (½*d.*) per pound. I remember my father turning the pigs into our orchard when Apples were fetching only 1*s.* per stone in Yorkshire some years ago."

The statement in *The Examiner*, which we have not abbreviated, is as follows:—

"Nearly every inch of available space on Jackson Street wharf was occupied yesterday by crates of fruit and vegetables, which anybody could have had for the asking. MCDONOGH and RUNYON, to whom most of the fruit was consigned, found that the market was glutted, and offered it to the orphan asylum and other public institutions. The result was that commerce in the vicinity of the wharf was blocked for several hours by the teams that came to cart the fruit away. There were five hundred boxes of Pears, five hundred boxes of Peaches, and about two hundred and fifty boxes of Tomatos to be distributed.

"The attention of Health Inspector JORDAN was called to the condition of the fruit, and he telephoned to the Board of Health. Inspectors BROWN and DAVIS went done to the wharf, and they came to the conclusion that the fruit was not fit to eat. No objection was made to this judgment. The fruit, it was said, was intended for preserves or jellies. For this use it was agreed that the fruit was all right, but the wharf was still in a crowded condition when the teams had packed away all they could carry, and hundreds of tons were thrown overboard.

"The California Transportation Company has been carrying the fruit from the Sacramento River, but the shipments have been so heavy that the steamship people have been obliged to give way to the Southern Pacific Company. The present outlook is that there will be another glut in the market next week.

"The steamer *Alvira* of the California Transportation Company was due yesterday morning with a cargo of Pears, but up to last evening she had not put in an appearance. She had too large a cargo on board, and got stuck in the mud in the Sacramento River. Most of the fruit on board will probably be consigned to the bay."

This statement seems to show that some, at least, of the Californian fruit-growers are as negligent in the matter of fruit preservation by drying, bottling, and canning as those of this country.

American Vines.

THE use of American Vines whereon to graft the finer European varieties, has, as is known to most of our readers, proved the salvation of the vineyards in many parts of France. It is not that the American Vines are exempt from Phylloxera, but when attacked they do not fall so ready a prey to it as do the European kinds.

But the number of American Vines is large, and their individual peculiarities correspondingly diverse; some thrive on some descriptions of soil, others on land of a different description.

All this has to be found out by experience, and put on record by competent observers. On clay soils, where there is little or no lime, all the American kinds can be grown more or less successfully, but where the soil is of a calcareous nature, it is only certain of the varieties that succeed. Thus, Vitis Berlandieri is the best stock on limestone. On other soils it does even better, but on these it is surpassed by Vitis rupestris, which will not grow at all on the limestone. Such is the nature of the facts collected in a little work by MM. VIALA and L. RAVAZ, and which may be commended to the notice of those of our colonial friends who cultivate vineyards, and which is not without interest to our home growers.

A description is given of the more important species and varieties, accompanied by illustrations. The powers of adaptation to particular soil, and the degree of resistance offered to the Phylloxera is also noted, according to observations made in the Agricultural School at Montpellier. A number of hybrids are also described, and of some of them the interesting observation is made (p. 227), that the powers of adaptation are greater than in the case of the parent species. They are more vigorous, as hybrids are apt to be, and they have at least equal powers of resistance. Hybrids between our European Vines (all forms of V. vinifera) and various American species have also been raised in great numbers. The hybrids, speaking generally, have a better power of adaptation than the pure American species, but their powers of resistance to the Phylloxera are not to be depended upon.

Taking the number 20 as representing absolute immunity, the authors of the book before us give the following comparative table:—

20.—Absolute immunity.
19.—V. rotundifolia.
18.—V. riparia, V. rupestris—V. cordifolia, riparia—rupestris, cordifolia — riparia, cordifolia — rupestris . . . .
17.—V. Berlandieri, V. monticola (?), riparia—Berlandieri, riparia — monticola, rupestris — Berlandieri.
16.—Rupestris du Lot, rupestris de Léziguan, cinerea—rupestris, riparia—æstivalis.
15.—V. cinerea, V. æstivalis, V. candicans.
14.—Vialla, Solonis, Novo-Mexicana, Noah . . . .
13.—Taylor, Michigan . . . .
12.—Jacquez, Herbemont . . . .
11.—York, Madeira . . . .
10.—Elvira . . . .
9, below 10.—Othello, Autuchon, Concord, V. Labrusca, Senasqua, Black Defiance, Croton, Duchess, &c.

The groups numbered 16 to 20 have sufficient resistance in all soils; groups 14 and 15 include Vines with resistance only sufficient in sandy and damp soils where the Phylloxera does but little harm; the Vines classed under 13 and under should be absolutely eliminated from vineyards.

A table in the Appendix shows the number of hectares in France treated with various insecticides, as compared to the number of hectares on which American Vines are cultivated. The figures are very interesting, but we can only find room for the entries relating to the years 1880 and 1894, and we give round numbers only. In 1880, 6000 hectares (a hectare = 2½ acres) were devoted to the growth of Vines grafted on American stocks; 5000 hectares were treated with bisulphide of carbon, 1000 with sulpho-carbonate of potassium, 8000 hectares were treated by submersion, a process which can, of course, be carried out in certain localities only.

In 1894 the number of hectares variously treated was—American grafts, 663,214; bisulphide of carbon, 50,452; sulpho-carbonate of potassium, 8,744; submersion, 35,325.

Chapters on cultivation and on the methods of grafting are given, and the work ends with a bibliography, a classified table of contents, and an index. We need not say how much these add to the value of the book, whose full title we append in a footnote.*

CALCEOLARIAS AT THE GRANGE, BOOKHAM.—The residence of ARTHUR BIRD, Esq., is about a mile and a half from Great Bookham railway-station, and from Mr. DOUGLAS' Edenside Nursery. The whole area represents 80 acres, and a large part of this is occupied by the garden and pleasure-grounds. The usual features of a garden are all represented. There are fruit and plant-houses, in some of which we noticed during the summer very fine crops of Cucumbers and Tomatos. The vegetable garden is rather small, being little more than one acre in extent. The pleasure-grounds are distinctly pretty, and there are

* *Les Vignes Américaines, Adaptation, Culture, Greffage pépinières, par* P. VIALA *et* L. RAVAZ (Paris: FIRMIN-DIDOT).

some old chalk-pits now clothed with under-shrubs and Ferns, which afford an excellent opportunity for creating a very picturesque feature. They are very pretty even now, for some work has already been done in them. Mr. A. W. Smith, the gardener, has had charge only for a comparatively short time, and one of the first floral effects he produced was by a group of well-grown plants of herbaceous Calceolarias in the spring of the present year (see fig. 66). In cases where a gardener may move to a place possessing few plants in the houses suitable for furnishing a quantity of bloom, it is worth while to remember



Fig. 65.—A group of Calceolarias at "The Grange," Bookham, Surrey, in 1896. (See p. 368.)

that there are plants of such a character, which may be raised from seeds, and in a few months be available for the purpose. The herbaceous Calceolarias are just such plants, and though they are less cultivated than formerly, we think many gardeners have very insufficient reasons for banishing them from their houses.

Royal Horticultural Society.—A fifth meeting of the members of the Fruit and Vegetable Committee was held at Chiswick, on Thursday, September 17. Present: Mr. P. Crowley, chairman: and Messrs. J. Smith, A. F. Barron, G. Wythes. W. Bates, J. Wright, G. W. Cummins, W. Farr, R. Fife, G. H. Miles, and A. Dean, thus making a full quorum. The attention of the committee was first drawn by the Superintendent, Mr. S. T. Wright, to a large collection of Potatos, chiefly late varieties. These had all been well cultivated, and for the season had done very well. On lifting a few roots of each, however, some were found to be too small or indifferent croppers, some had supertuberated considerably, especially the long kidney varieties. A few gross growers were all root-fibre, and had few or no tubers: and some others gave very fair results, though in no case equal to what other varieties have yielded in previous better seasons. The committee selected nine varieties for cooking, and samples having been so prepared, were submitted to the members at the close of their labours, when the following received awards:—Sutton's Triumph, a fine well known white round, and Syon House Prolific, had their previous awards confirmed; Saxon, white round (Kent & Brydon), and Early White Kidney (R. Dean), each had three marks given. Some trials of Cabbages, spring grown, were next inspected, but whilst there were amongst each, especially those of Early York, many good, true heads, far too many were not true. In one instance a large, thickly-veined Drumhead, the stock was excellent, but the variety is totally unfitted for garden culture. It is a pity that large Cabbages should be sent to Chiswick for trial that have not been previously found quite true to character. The committee then visited the quarter devoted to an extensive trial of Beets. Whether due to the season, which led to irregular germination, or to bad stocks, very few of these were really true to character. Many, fully one-half, were of very coarse growth, more like Mangold Wurzels, the roots being also coarse. A few roots of each row were pulled, and sliced longitudinally, so as to show the colour and texture of the flesh. Many were too light in colour or had coarse flesh. One or two had a dark colour that was very objectionable. Some, however, had tops and roots that gave great satisfaction. The following were selected for three marks each: Nutting's Dwarf Red, from J. Veitch & Sons, Nutting & Sons, and Heinemann; Cheltenham Green Top, from J. Veitch & Sons, Watkins & Simpson, Nutting & Sons, and Yates; Dell's Crimson, also from J. Veitch & Sons, and Dobbie & Co.; Perfection Dwarf Red, from Hurst & Co.; and Egyptian Turnip-rooted, from Vilmorin & Co., and Watkins & Simpson. Some varieties and stocks of known good reputations had either suffered from the season, or else were represented by inferior strains. As Beets do not increase rapidly in variety, and we can hardly expect to greatly excel the best of what we now have, it seems very advisable that the trial be repeated next year, but to the exclusion of every

coarse, worthless variety that is unfit for garden culture. Chiswick merits better treatment than to be made the dumping-ground of any kind of rubbish: we have a right to expect that only the very best will be sent there for trial.

The Orchid Houses at Kew, like similar structures in most gardens, are less gay just now than they have been during the greater part of the year, but a week ago we noticed there a very fine spike of flowers upon a plant of Vanda coerulea. It contained seventeen expanded blossoms of large size and good colour, and they exhibited that delicate mottled appearance that is observable in some flowers of this species. It is grown in an intermediate-house, with a temperature such as is afforded Cattleyas. Where so many species have to be grown under one roof as at Kew, successful culture becomes the more difficult.

A Muscat Grape Sport at Chiswick.—A correspondent remarks on what is an undoubted Muscat Grape sport, which might have been seen recently in the great vinery at Chiswick. Just within the west entrance, and on the right hand side, is a strong Muscat of Alexandria vine. This season one of the laterals, about 8 feet from the floor, threw a bunch the berries of which exhibited almost precocious size from the first; and when shown the other day to the Fruit Committee, not only were the berries fully one-third larger than were those on any of the other bunches, but the skin was firmer, as also was the flesh, and the flavour was of the finest. It was generally agreed that the bunch and berry were exact counterparts of the Cannon Hall Muscat, and Mr. J. T. Wright will propagate the sport from the lateral by means of eyes next year. It would be doubly interesting if eyes from the true Cannon Hall Muscat were struck at the same time, so that young Vines from the two could be planted and fruited simultaneously. Also eyes from other laterals of the original Muscat variety should be grown on. The sport leads naturally to the inference that Cannon Hall Muscat may have originated in the same way. It is believed, judging by the excellent set on the sport bunch, that the flowers, if the sport be perpetuated, will set freely: and if that should be so, it might greatly enhance the value of the variety.

The Devon and Exeter Gardeners' Association.—The annual business meeting of the Association will be held in the Council Chamber of the Guildhall, on Wednesday evening next, Sept. 30, at eight o'clock prompt. The President of the association will take the chair. Business: to receive the secretary's and treasurer's report for the past year; to elect a president, vice-presidents, secretary, treasurer, and committee for 1896-97; and to transact any other competent business that may be brought forward. The following programme for the session 1896-97 has been adopted.—Wednesday, Oct. 7, Mr. W. Charley, gardener at Wonford House, will read a paper on Soils: on Wednesday, Oct. 21, Mr J. W. Moorman, superintendent, Victoria Park, London (formerly in the gardens at Poltimore Park), will read one on Violas for Bedding Purposes. On Wednesday, Nov. 4, there will be no meeting, owing to the Devon and Exeter Horticultural Society holding their Chrysanthemum and Fruit Show on November 5 and 6. Wednesday, Nov. 18, Mr. G. Foster, gardener to H. Hammond Spencer, Esq., Glendarragh, Teignmouth, will read a paper on Chrysanthemums and their Culture; on Wednesday, Dec. 2 Mr. F. W. Meyer, Royal Nurseries, Exeter, will [illegible] on Flowers Gardens at Home and Abroad illustrated by lime-light views; on Wednesday, Dec. 16, Mrs. Macalister, Hamslade, Bampton (an honorary member of the Association), will lecture on [illegible] for Decorative Purposes.

New Roses.—It is more than a week ago that the first [illegible] of Chrysanthemums of the season reached us, yet we have now to acknowledge a number of [illegible] of Rose blooms, as fresh as pretty, and as sweet as if the summer was still with us rather than the closing days of September. Madame Abel Chatenay is a hybrid Tea variety. The flowers are of moderate size, full, and very sweet. In the bud the colour is rich rosy pink, bordering upon cerise, the petals close, and the bud shapely, and as the flowers become developed, a lighter tint is assumed; it appears to be very free flowering in habit. Queen Mab belongs to the pleasing group of China Roses, and is one of the newest varieties in that free-blooming section. The buds are very pretty, and resemble those of W. A. Richardson in their adaptability for use in buttonhole and other small bouquets. The flowers are more full than the usual type of China Rose; they are produced in very great profusion, and the colour is more or less salmon-pink, the base of each petal being pale canary-yellow. The growths appear robust, and are exceedingly well armed with formidable spines. Both varieties are sent us by Messrs. W. Paul & Sons, Waltham Cross Nurseries, Herts.

The Royal Gardeners' Orphan Fund.—We are glad to learn that a concert in aid of this fund has been arranged to take place under the auspices of the Shirley and District Gardeners' and Amateurs' Mutual Improvement Association on Wednesday, the 30th inst. The secretary is Mr. H. J. Hobby, 41, Padwell Road, Southampton.

Berlin Imperial Garden.—The *Sheffield Independent* of September 21 says that Mr. Owen Thomas, of the Royal Gardens at Frogmore, was recently asked to select one of his young men to proceed to Berlin, in order to develop the vineries in the gardens attached to the Imperial Palace. The selection has now been made, and the viticulturist will shortly leave Windsor for his new appointment.

Mr. W. G. Head.—We regret to learn that the popular superintendent of the gardens at the Crystal Palace was the subject of a critical operation for an internal complaint on the 21st inst. It is, however, satisfactory that the operation has been successfully performed, and that there is every hope of a speedy recovery.

Shirley Gardeners' and Amateurs' Mutual Improvement Association.—At a monthly meeting held on the 21st inst. in the Parish Room, Shirley, Southampton, Mr. T. Lowns, honorary secretary of the Winchester Gardeners' Mutual Improvement Association, gave a lecture on "The Cultivation of Roots Crops in Gardens." The lecturer referred chiefly to Potatos, Carrots, Onions, and Beet; and there was a very interesting discussion on the relative value of Potato sets. There was also an exhibition of vegetables, &c., and C. G. Stuart Menteth, Esq., J.P. (gr., Mr. W. Risbridger), was awarded a certificate for a collection of six kinds.

Esparto Grass in Tunis.—It is officially reported from Tunis that the quantity of Esparto Grass (Stipa tenacissima) continues to decrease, the value shipped from the various ports in the south amounting only to £43,652, which showed a decrease of £14,769, as compared with the previous year. This is accounted for by the continued increase of wood-pulp for paper-making. Paper of the best class is, however, still extensively made from Esparto, and there is consequently a considerable demand for this article. Unfortunately for Tunis, Algiers and Tripoli likewise produce an abundance, and offer a serious rivalry to the Tunisian production. Independently of this, the Tunisian merchant suffers from a more severe [illegible] in his transactions. There exists a vicious system of taxation, which, taken with the great falling off in the value of his merchandise, reduces to almost a minimum the possibility of gain on the side of the exporter. A reduction of this taxation is much to be desired, as it would not only improve the prospects of an important branch of trade, but would, at the same time, by so doing, give employment and support to a large number of natives, who in years of bad harvest are dependent on the Esparto gathering as a means of livelihood.

Artificial Coffee-beans.—Artificial whole Coffee has long been known as a commercial commodity, but we were scarcely prepared for the statement recently made by the *West Indian and Commercial Advertiser*, that it is now manufactured to an alarming extent, consisting of the roasted meal of different cereals worked up with dextrin. Two different factories, it is stated, have been established at Cologne, which undertake to furnish the requisite machinery and plant, with directions for making the false Coffee-beans. The apparatus supplied by these wholesale swindlers is capable of turning out more than half-a-ton daily, at a cost of about £1 per cwt., good Coffee having nearly five times this value in the market. The fictitious Coffee is difficult of detection by ordinary examination, especially when a proportion of genuine Coffee is mixed with it.

Wheat Acreage of Great Britain.—From the last issued number of the *Journal of the Board of Agriculture* we take the following few, but suggestive, figures contained in a brief tabular statement, entitled "Preliminary statement for 1896, compiled from the returns collected on the 4th of June, and comparisons with previous years." From this we learn that the acreage in Wheat in 1896 was 1,693,957; in 1895, 1,417,483; in 1894, 1,927,962; in 1893 the acreage was 1,897,524. Passing on to the details we find that the increase of 1896 over 1895 was spread over England, Wales, and Scotland—the counties in which less Wheat was sown this year than last were London and Cumberland—those which have the smallest acreage. In the county of London only 181 acres of Wheat were sown and reaped. The reader will readily notice the disparity between the present year's acreage and that recorded for 1894 and 1893; but just a line to note that there are now 231,005 acres less in Wheat than two years since.

The Bushel-basket Case.—Gardeners will feel interested to know that the decision of the Brentford Justices, that all bushel baskets used for measuring must be stamped, is not to go unchallenged. On Saturday Mr. Bell, on behalf of Mr. A. Reffell, applied to the Justices to state a case for the consideration of the Court of Queen's Bench. The Chairman stated that he and his brother magistrates had duly received the notices served upon them, and had carefully perused them. The case was of very far-reaching importance, and was one that should be known throughout the country. This being so, they were willing to aid in a final decision being come to; but otherwise they did not consider the points raised in the notice would have been sufficient for them to state a case upon. They had promised to aid in a full and final decision being obtained; and, therefore, they would raise no objections to stating a case when the legal formalities had been complied with.

Cryptogamic Society of Scotland.—The members of this society held their twenty-second annual conference on Monday, September 13, and three following days, in the beautiful village of Fochabers, some nine miles from Elgin, N.B., and within a few minutes walk of Gordon Castle. The members present, all of whom stayed at the Gordon Arms Hotel during the week, were:—Rev. Dr. Stevenson, Glamis, President and Hon. Secretary; Professor James J. F. King, Glasgow [since dead]; Professor J. W. H. Trail, Aberdeen University; Rev. Dr. Keith, Forres; Dr. Watson, Slateford, Midlothian; Rev. D. Paul, Roxburgh; Mr., Mrs. and Miss Crawford, Slateford, Midlothian; Mr. Angus Grant, Drumnadrochit, Inverness; Dr. Gage, Aberdeen; Mr. Rennison, Paisley; Mr. McKenzie, Glasgow, &c. On Monday, Tuesday, Wednesday, and Thursday, the party visited the Castle grounds, deer park, Speyside, and the various woods in the district. Each day they secured many interesting specimens of fungi, these being the particular cryptogams they were in quest of this year. A number of the specimens found were exceedingly rare, but none of them is new to science. The members were delighted with their visit to the Fochabers district, and with the hospitality extended to them at the Gordon Arms.

GARDENERS' SPORTS.—A friendly and interesting series of Athletic sports, confined to gardeners and gardeners' labourers, was held on Saturday, the 19th inst., in a field at Ferguslie Park, Paisley, kindly granted by Sir THOMAS GLEN-COATS, Bart. The events consisted of racing, jumping, hammer-throwing, vaulting, tug of war, &c. Each event was well contested, and great interest was shown in the proceedings. The judges were Messrs. DONALD MCBEAN and ROBERT MCHARDY. At the conclusion of the sports, the prizes were distributed by Mrs. WILLIAM CAMERON.

THE ASSESSMENT OF GLASS-HOUSES.—A question of importance to nurserymen and fruit and flower-growers is likely to engage the attention of the Courts of Law ere long, dealing with the assessment of glass. Hitherto, the view has been held that glass should be considered a utensil in trade, and therefore free from being assessed either for poor or district rating purposes. The Worthing Case has been regarded as having dealt with the point, and finally drawn the line between rateable and unrateable glass. But, in spite of this, the nurserymen and market gardeners in the Brentford Union (Middlesex), an area which comprises such agricultural and fruit-growing districts as Isleworth, Twickenham, Heston, Greenford, Ealing, and Brentford, have had the glass in their possession or use dealt with in a manner that has caused them perhaps little short of consternation. The work was not undertaken by the overseers of the parishes (who have hitherto eschewed rating glass), but the Assessment Committee of the Union took it up themselves, and employed Mr. C. F. JONES, a rating surveyor, to get out the lists. Upon what grounds or bases he has made his valuations is unknown, and not the smallest amount of information has been given by the Assessment Committee to the gardeners or the legal gentlemen who represented them on the appeals they made to the committee. As instances of re-assessment, on one garden at Acton there has been a jump from £8 to £44 in the net rateable value, more than five times as much; whilst at Hanwell, at a big nursery, the rise has been nearly four times as great, viz., from £40 to £140. In another case, also at Hanwell, the rise was from £50 to £100, or just double; and yet in another case, as I see, the rise was but £4, viz., £50 to £54. In the instance of large glass-houses at Chiswick, the ratio on increase was less than double; at Brentford the rule seemed to be two-thirds, i.e., from £24 to £68. On one garden at Twickenham, the increase was from £24 to £160; but in another case in the same parish there was the remarkable rise from £2 to £75, or thirty-eight times as much! These are but a few cases out of many, and the general principle that has been followed, it has been stated, is to rate the land on which the glass stands as if it were building land. Before the committee the cases have been argued at great length, and a variety of views have been urged, but with no effect in the majority of instances. In a few appeals, however, the assessment committee have feared the strength of their own figures, and have made reductions; but their obvious intention throughout has been to have the questions tested on appeal to Quarter Sessions. A number of the gardeners in the district have combined, and intend carrying the cases to Quarter Sessions, having been fully advised the actions of the assessment committee are unjust as well as illegal.

THE IRISH GARDENERS' ASSOCIATION have determined to celebrate the tercentenary of the introduction of the Potato into Ireland by holding a Conference and Exhibition of Potatos in Dublin towards the close of the year. The Potato was first planted in Ireland in 1596 by Sir WALTER RALEIGH, in the garden attached to his residence, Myrtle Villa, Youghal. The house is preserved, and its antique furniture maintained precisely as it was in RALEIGH's time and the exact spot in the ground is shown to visitors where the Potato was for the first time planted in Irish, and indeed in European, soil. *Irish News.*

THE QUEEN is going to expend a considerable sum on improvements at Osborne. Large kitchen gardens are to be formed, and extensive hot-houses are to be built. At present all the fruit and vegetables which are consumed at the Palace are supplied from Frogmore. *Truth.*

ASSIMILATORY INHIBITION IN PLANTS.—The *Journal of the Linnean Society*, published on July 8, contains a paper by Mr. ALFRED JAMES EWART, "On Assimilatory Inhibition in Plants," that is to say, the causes which check the formation of nutritive matters in plants. The author's conclusions are as follows:—"By the operation of a variety of agencies, a condition of assimilatory arrest or inhibition may be induced in living chlorophyllaceous cells and tissues. These are—dry heat, moist heat, cold, desiccation, partial asphyxiation, etherisation, treatment with acids, alkalies, and antipyrin, accumulation of the carbohydrate products of assimilation, immersion in very strong plasmolytic solutions, and prolonged insolation. The inability to assimilate is, if the cell remain living, only temporary, being followed sooner or later by a more or less complete recovery of the power of assimilation. During the whole time in which the power of assimilation is absent, the cell continues to respire. By the direct effect of each particular agency, the respiratory activity may, in some cases, be but little affected (etherisation, over-accumulation of carbohydrates), in one case is increased (moist heat), but in most is diminished (cold, desiccation, immersion in strong plasmolytic solutions). The question, whether or not an after effect may also be produced on respiration, is unable sensibly to affect the results obtained as regards assimilation. If the inhibition of assimilation experimentally produced be permanent, the cell finally dies, and ceases to respire. In the great majority of cases no visible change in the chlorophyll or the chlorophyll grain is associated with the stoppage of assimilation. In such cases the assimilatory arrest probably originates in the plasmatic stroma of the chlorophyll corpuscle, and may be due to some breakage in the necessary vital connection between the assimilatory pigment and the assimilatory plasma. Most of the above inhibitory agencies operate by checking or arresting the initial stages or primary processes of assimilation—the imposition of CO_2 and formation of carbohydrate; but since the accumulation of carbohydrate affects assimilation, any cause interfering with the rapidity of its removal from the assimilatory cells may also readily affect their power of assimilation. Hence in the plant, as a whole, assimilation may be indirectly affected by causes operating upon the general cell protoplasm and affecting the later stages in the process of assimilation (absorption, elaboration, and transformation of the assimilated carbohydrates), either of the assimilatory cell itself or of the cells which are dependent upon it for their supply of carbohydrate food-material, or by a closure of the channels through which these carbohydrates are removed. Cells in which the green colour of the chlorophyll grains is quite masked by the presence of a brown or reddish-brown pigment may show a distinct power of assimilation. If the reduction of the chlorophyll be complete, assimilation ceases. In certain cases isolated chlorophyll bodies may continue to assimilate for a short time after removal from the cell to which they belong. A developing leaf in which the chlorophyll grains are being developed [illegible] by protoplasmic differentiation, lacks at first the power of assimilation. The commencement of assimilation is determined mainly by the development of the chlorophyll pigment, but is also largely influenced by [illegible] indeterminate factors, probably plasmatic in origin."

PUBLICATIONS RECEIVED.—*Handbook of Trees and Shrubs grown in Arboretum, Royal Gardens, Kew.* Part II. Gamopetalæ to Monocotyledons.—*Orchids of Burma*, by E. GRANT.—*Agricultural Statistics, Ireland*, Her Majesty's Stationery Office, Dublin.—*Year-book of the United States Department of Agriculture.*—*Journal of the Royal Horticultural Society* for August, 1896.—*Massee Botanical Bulletin, Second Report.*—*Report of Work of the Agricultural Experiment Station of the University of California for the Year 1894-95.*

PLANT PORTRAITS.

[illegible]

THE DOUGLAS FIR.

The remarks upon the Douglas Fir on page [illegible] of our issue for Sept. 12 are in several points interesting. So far as the timber of the Douglas Fir grown in this country has yet been tested it has not shown the peculiar tendency of the imported spars mentioned by "H. R." to shell-off the annual rings of wood in splinters in the manner he describes and which would prove a great drawback to its general usefulness. Still it has been found that home-grown wood of Douglas Fir possesses a much lower breaking strength than that imported from Oregon and British Columbia. This brittleness of the wood may become less and less, however, as the tree attains to full maturity in properly-treated plantations in Britain; and perhaps it may ultimately stand as great a breaking strain as the imported article. The timber of a fully-matured tree a century or more old, and grown in a close canopy wood, is required to give a reliable and useful test of the qualities of the Douglas Fir timber grown in this country. Till that time arrives, well on in the twentieth century, its merits can only be guessed at as a matter of speculation.

Many thousands of the Douglas Fir have been planted on the Perthshire estates of the Earl of Mansfield within the past forty years, and they are thriving vigorously in all manner of places where a tree of its nature has the least chance of success. All these have been raised from seed produced by one tree growing at Lynedoch, a few miles to the west of Perth, on the Scone estates. This fertile tree, which is of the "green" variety, and another fine tree of the "blue" variety, which fruits but sparsely, were planted in the year 1804, by Lord Lynedoch, who then owned the property, and which afterwards passed into the hands of the Earl of Mansfield. They are splendid examples of the Douglas Fir, and at present, this autumn, they are still thriving and growing with great vigour—the seed-bearing trees being now protected by the fence described by "H. R." to defend the cones from squirrels and other marauders, for which purpose it has proved very effective.

Two plantations of Douglas Fir were formed on the Scone estates by Mr. William Mc[illegible], upwards in 1827, one at Muirward, near Scone, extending to about 18 acres, and the other about the same in extent, at Taymount, a few miles to the northward, and lying between the public road and the railway, about halfway from Perth and Dunkeld. This latter plantation is probably the one shown to "H. R." by Mr. McCorquodale, and it is easily seen by travellers on the Highland Railway, which runs for some distance along its eastern boundary. This plantation has had a considerable addition made to it recently, and both the young and older portions are thriving vigorously, and are notable examples of the useful qualities of the Douglas Fir as a forest tree in Scotland. It is reported that when Professor Schlich, of the Forest Academy, at Eberswalde, Prussia, inspected this plantation of Douglas Fir during his recent visit to the Scottish Arboricultural Society, he returned it to be the best example he had seen in this country of the correct treatment of forest trees, because, with a fair crop on the ground, a close canopy is maintained, so that the young crop of trees from the ground upwards are not [illegible] by allowing the strong side branches of the best quality of timber in the boles of the present forest-manager on the Scone estates, Mr Alex. Pitcaithly, the plantations are well looked after by Mr. McCorquodale is fully entertained in these forest plantations. *M.*

HOME CORRESPONDENCE.

HYDRANGEA HORTENSIS.—I read the note by your correspondent "H. M.," p. 272, on the cultivation of Hydrangea hortensis with interest, as it is one of the most desirable plants for the greenhouse in spring and summer. It forces readily under good treatment, heads 15 inches in diameter being obtainable from plants in 5½-inch pots. Unlike "H. M.", I never had difficulty in inducing cuttings rooted in early summer to flower the following spring and summer. I insert cuttings of slightly hardened wood (if too soft, they do not strike readily) in small pots filled with loam, leaf-mould, and sand, late in May or early in June; plunge them in a close case in stove temperature, and as soon as they are rooted, remove them to a greenhouse or cool pit, and in a few days pot them in singly into 4-inch and 5-inch pots, and as soon as the roots have taken to the new soil, remove them to a cold frame fully exposed to the sun, and aired freely till late in the summer, when they are put outside. All the summer and autumn they are kept well supplied with water. On the approach of winter they are removed to a cold greenhouse, and kept slightly dry. Early in March they are potted-on into 6 and 7-inch pots, and given greenhouse treatment. As soon as the flower-heads show, the pots are placed in saucers and kept well supplied with diluted liquid-manure. By the above treatment plants can be got bearing from one to four heads of flowers from 9 to 15 inches in diameter, and the plants from 15 to 20 inches high. Very good results are obtained from plants raised annually from cuttings, but in this district in cottage gardens large specimens 5 feet through may be seen growing in the open, and bearing their beautifully-tinted flowers in abundance every year. *R. Turnbull, Beachley.*

A CURIOUS PLUM-SPORT.—For two years past I have been invited to visit Alton, Hants, and examine an odd sport on a Plum-tree in the garden of Dr. Stewart. This year, time offering, I went to Alton to see that *lusus naturæ*. Dr. Stewart's garden abuts on to the high road that runs through the town, and is at its southern end. The variety in question is Mitchelson's Plum, and is one of a pair of standard trees purchased from Shilling, of Hartley Row, just about thirty years ago. The main stem is clear of branches up to 6 feet in height, then there breaks out a stout one, and about 3 feet up this branch a smaller one diverges, and the whole of the growth on this branch has not only smaller leafage than is found on the rest of the head of the tree, but every Plum produced on it is yellow, having the form of the purple Mitchelson's, but not quite so large. Really, they resemble fruits of Coe's Golden Drop. The flesh, however, is rather dry and mealy, and separates readily from the stone. The shoot in question appeared some eight years since, and the yellow fruits have been produced for five years in succession. There were fully two quarts on the branch this year. The tree, as it is close to his residence, has been under Dr. Stewart's notice, ever since it was planted, for he is a keen, indeed almost enthusiastic, pomologist; but never at any time has there been any budding or grafting done of any other variety on the tree. The sport is such undoubtedly, and possibly it is a case of reversion to one of the Mitchelson parents. Some way up this sport-branch a strong shoot has broken out this season. I have asked that it may be left, as there are evidences of that also being a reversion to the original variety. Dr. Stewart's garden is full of Pear, Apple, and Plum trees, and he has amongst them many fine sorts. The soil is somewhat thin, resting on chalk, but whilst checking strong growth, it seems capable of frequently producing heavy crops of fruit. *A. Dean.*

PELARGONIUMS *versus* BEGONIAS.—Our gardening prophets never tire of predicting the inglorious end of the reign of the Pelargonium in our gardens, especially as a bedding-plant, and proclaiming the advent of its invincible rival, the tuberous Begonia. Is it likely to happen, I wonder? Fancy the banishment, the total obliteration of the Pelargonium of our youth, and all for the sake of a scentless, heavy-looking flower, of nondescript origin, as useless in an ordinary posy as a Sunflower or a Thistle head! Fashion can do much, but here, I hope she will be only very partially successful, and that we shall keep our dear, expensive zonal tricolors, bicolors, and many scented Pelargoniums. I had almost said that I hoped Peronospora devastans species would come over from the western hemisphere and affect the tubers of the upstart Begonia. It was once shy and ashamed, and hung its head prettily, and was not in the least obtrusive. It was very nice of the plant to do this, and we petted it, making nice beds for it in comfortable warm corners, where it grew well, and quite came up to one's expectations of it. But now that it has been improved, its manners are impudent not to say aggressive. A corner is not good enough, for it must have the finest place in the flower parterre, forsooth! and only think, the chit cannot be more than thirty years old. It is enough to disgust *An Old Hand.*

FACTS RELATING TO APRICOTS. — From numerous investigations it has been found that good ripened Apricots should contain not less than sixteen times a greater weight of flesh than of pits. The relation between fibre and juice in the flesh is usually quite constant, the juice amounting in all the best varieties to about seven-eighths of the flesh. The quantity of sugar in Apricots ranges generally from 4 to 6 per cent.; but it may, in exceptional cases, go up to 15 per cent. It appears that a low amount of acids in the fruit is combined with a high percentage of sugar. The Apricots as a whole (pits included) show from 1 to 2 per cent. of albuminoids, but in inferior varieties this constituent sometimes goes down to less than 1 per cent. The fruit of the Apricot abstracts from the soil in each 1000 lb., 1 lb. of nitrogen, and 5 lb. of mineral constituents, of which potash is the leading ingredient, amounting to more than one-half of the total minerals. Phosphoric acid is not so heavily drawn upon, but amounts to about 10 per cent. of the ash. Soda is somewhat less in quantity than phosphoric acid. Lime and magnesia are about in equal demand, being one-third that of soda; the pits, however, require for their perfect formation twice the amount of these ingredients than does the flesh of the fruit. Sulphuric acid also shows largest in the pits, while silica is in greater demand by the flesh, of which probably the outer skin takes the largest share. The amount of nitrogen required for the production of wood and fruit, and more especially for the increase of the non-nitrogenous constituent sugar on the fruit, emphasizes the necessity of an early replacement of this ingredient in the soil. *J. J. Willis, Harpenden.*

A DRESSING FOR WOOD-WORK.—In answer to "J. C. M.," on p. 343 of the *Gardeners' Chronicle*, I would advise him to put on his garden-frames to protect them, and also greenhouses, &c., Stockholm-tar, thinned with petroleum, in about the proportion of 1 quart of petroleum to 1 gallon of the tar, the wood to be thoroughly dried before the mixture is put on. Two coats would preserve the wood, and last longer than any other kinds of paint that I have tried. It dries quickly of a brown colour; it will take white or any other coloured paint, and is very cheap. We use it largely at Basing Park; and it is a dressing that will be very much used when its good properties are better known. I ask all who are putting up new garden buildings to give it a good trial, as it will not injure the tenderest plants. I have a new house just dressed with it, which is filled with Ferns and Cinerarias, and these plants are doing splendidly. *Wm. Smythe, The Gardens, Basing Park, Alton.*

—— At one time the stage in one of my plant-houses was very much out of repair, and my employer suggested that the repairs then to be made should be creosoted. This was done, and all of the plants in the house afterwards became unhealthy, particularly Adiantum cuneatum and Ficus elastica. The whole collection, in a more or less degree, appeared as if they had been scorched. Before using the creosote all of the plants were perfectly healthy. I have used gas-tar upon frames three or four months previous to putting plants in them, and with very satisfactory results. *G. B.*

CRANSTON'S EXCELSIOR ONION.—Cranston's Excelsior Onion is in great request amongst exhibitors of large Onions, these persons knowing that to win in keen competition only a variety of known superiority over others must be grown; that is, it should be of handsome shape, large size, with very small neck, clear in the skin, and of excellent quality throughout. That the above-named Onion has all the qualities that go to make an Onion a favourite with exhibitors, may be judged from the fact, that at an exhibition held at Hereford on the 16th, there were ninety-four entries for this variety alone, and this in response to handsome prizes offered by Mr. J. Wilson. The most of the English, Scotch and Welsh counties were represented, and in which were included the most prominent Onion exhibitors in this country. The whole exhibit was a splendid one, and worthy of record, most of the winning bulbs scaling over 2 lb. weight each. The winners were:—1st, Mr. H. Pitt, Abergavenny; 2nd, Mr. Noah Kneller, Malshanger, Basingstoke; equal 3rd to Mr. G. H. Copp, Holnest Park, Sherborne; and Mr. H. Folkes, Gaddesden Place, Hemel Hempstead. Three other prizes were also awarded, and these went to Mr. J. McKague, Dalton-in-Furness; Mr. John Leeson, Barrow-in-Furness; and Mr. A. Bevan, Gloucester. The judges evidently selected only those bulbs for prizes which, beside other excellent qualities, were well ripened, and which, considering the season, was only what might have been expected. *A.*

MAIZE, OR INDIAN CORN.—The note upon this subject in the *Gardeners' Chronicle*, at p. 308, leads one to suppose that Maize as a vegetable is practically unknown in England. I admit the cultivation of the plant is not general, but there are several gardens in Devonshire where it has been grown successfully for the table for some years. Mr. P. C. M. Veitch, in his garden at Exminster, near Exeter, has for years grown a crop of it for his table, he, as an old Cape colonist, considering mealies one of the best of vegetable dainties when properly cooked. The seed is sown on a hot-bed about the end of the month of March, and when the plants are a few inches high, they are transplanted to fairly rich ground in a sunny situation. They then grow so rapidly, that good cobs of 5 to 6 inches in length may be cut by the last week in July. Provided varieties which ripen early be chosen, there is no difficulty in growing maize in this part of the country, as "A. M. O." remarks; and it is, in addition to extending the list of table vegetables, a wholesome and delicious article of diet. The ordinary Maize or Indian Corn of the corn-dealers would not answer, but there are two or three early-maturing kinds that never fail to produce good cobs about the end of July or early in August. *Andrew Hope, Exeter.* [Kindly say what name these early varieties bear. ED.]

HARVEST FESTIVALS.— We now are, or shortly shall be, in the thick of these reminders of the rapid passing away of the year. What follows may serve as a useful hint to the respective committees of the Gardeners' Benevolent Institution and the Gardeners' Orphan Fund. For ten years Sir Walter Gilbey has urged the claims of the Royal Agricultural Benevolent Institution to participate in the distribution of the offertories made in the various places of worship on the occasion of harvest festival services. That the institution is doing a good work is shown by the fact that it maintains 1,163 pensioners of over sixty years of age, all of whom have occupied farms, but who have been reduced to their present condition mainly through agricultural depression. During the last six years, the sum of £39,298 11*s.* 3*d.* has been received in collections, last year's total being the largest ever received. If one may say so without, of course, even the faintest intention of criticising this really admirable flow of charity, long may it continue! Yet one may remark that the collections at harvest festivals would seem to be the very source from which such gardening charities, as I have named at the commencement of this note, should derive very material benefit, for it is the gardeners' art, principally, that produces the trophies seen at such. *J. B.*

SCOTLAND.

PENTSTEMONS.

MR. CHARLES IRVINE, nurseryman, Jedburgh, has been for several years making rapid progress in the improvement of the Pentstemon, and three years ago he was successful in bringing forward a new strain. For these flowers he has been awarded numerous first-class certificates in Edinburgh, Glasgow, and elsewhere. Last week a visit to his nurseries at Oakvale revealed a show of Pentstemons that far exceeded expectations, both in extent and quality. This year's seedlings, compared with those of previous years, are not only superior in size of spike and shape of flower, but in general colour and marking; the spikes, which are pyramidal in form, are thickly set with blooms, while the flowers are well developed and of very large size, some individual blooms measuring from 2½ to 3 inches in diameter. The Marchioness of Lothian is one of great elegance; the flower, which is large and of excellent form, is of rosy-carmine, with chocolate marks and beautifully striped with purple. The Marchioness has a keen rival in the Countess of

Dalkeith, a beautiful waxy-white, edged with a faint tint of mauve; this flower, along with a few others of the same race, has a faint tinge of yellow. The Border Maid, which recently carried off first honours at Edinburgh, is pale pink in colour, with a pure white throat, and beautifully feathered with crimson. Waverley is a charming specimen of perfect form, being of a bright pink with crimson feathering. Perhaps one of the finest was named after Rob Roy, the bold outlaw; it is a light scarlet, faintly tinted with crimson, and throat of white. Mr. Irvine, besides being great in Pentstemons, has gone largely into the cultivation of Roses, Carnations, Delphiniums, &c., and it may be interesting to mention that this year he was successful in producing a pure white Delphinium; it is not only white in colour, but is a most perfect flower, of a large size, and of excellent quality. This, so far as we know, is the first pure white Delphinium ever raised in the United Kingdom. *X. Y.*

OF SWALLOWS.

By Harrison Weir.

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Few, if any, birds are more beloved than these, not even the almost sacred robin, the children's garden and our household pet. How eagerly we all look for "the first swallow;" and when seen, how talk of it. And what a truly-beautiful bird it is—how graceful in every line, how its colours flash in the sunlight as it dashes past, itself almost a thing of light, so quickly it comes and goes. It is here, and it is gone, a fast-diminishing speck, gliding away o'er flower-decked meads, and the dappled hedgerows, in the new-born spring. On, on, he goes, this long-curved winged "thing of beauty," seeking the home not only of last year, but also perhaps of many others—the same chimney, the same rafter, shelf of timber, or some cosy ledge. Where? He knows where! Though he left it months ago, and that in hasty flight, travelled thousands of miles to warmer climes, still, through all the long months of absence, he has never forgotten his English home, and the way to it. And as he flies he feeds, on the ephemeræ that so often sorely vex and try the temper of "we" gardening folk. As he comes, while he stays, as he goes, he is doing us a natural insect-destroying service. A bird of "all good" and no harm—absolutely none. No wonder, then, we look for the coming of the swallows, the martins, and the swifts. Each and all beloved in their degree. As a rule, "the continental traveller" comes home again about the beginning of April. Once I remember he came on old Quarter-day, April 5; but he is generally later, varying in time from April 11, 1844, March 30, 1846, and out of the sixteen years noted, the latest arrival was April 25, in 1852. Naturally the bird, when possible, adapts his time of coming to that of being able to get food. If the weather is not genial, or it rains or snows incessantly, then but one fate awaits him—death. Perhaps thus it is that some come earlier than others, and so the latter escape the wintry winds, the frosts and snows. "The Rev. George Marsh noted the springs of 1849–50–51 were cold and backward. In the year 1850 the beginning of May was so severe and frosty (which it generally is), that a great number of swallows died of starvation, it being too cold for the insects to leave their retreats: 100 being picked up by the mill at Chippenham, and several were found dead on the edge of Draycot pond," where, doubtless, the poor birds had resorted, as they often do, for the purpose of feeding on the gnats and other insects that frequent such places at these times; often they seek the most sheltered situations, as marshes and willowy dells, wherever the same insects are to be found, be they on the sides of the rivers, already beautiful and gay with Bluebells, or among the nodding Daffodils, unharmed in such retreats. For these are they

"That come before the swallow dares."

But if the weather is fair, and the spring-tide is but like a foretaste of summer, and the soft west wind dallies about the budding trees and hedgerows, the days and nights being mostly free from frosts, then all goes well with the almost out-wearied traveller who finds his home—and "rest."

But it is not always peace then for the new-come beauty from other and more sunny skies. No! nor even though he has young to tend, nourish, and rear; for there are those that, because this beautiful loveable creature is swift of flight, is agile on the wing, take a gun and go outside, standing, perhaps, on the very door-step of *their* houses to shoot, to maim, and to kill these "beauties," these beloved birds, flying to and fro about their young-filled nests. Yes! to shoot at and try to kill these not only harmless but highly serviceable birds. What for? Why, for "practice," practice and "sport." And so the "little ones" in the nest slowly starve to death, and he with the gun goes in again, well pleased with what he has done, and eats his dinner; while there lie the dead, they that have wearily come thousands of miles to their loved home, thinking, if they do think, to rest and go again, with their family. Never! they, the weary, are at rest—dead; and the little ones starving.

How cheering is the sweet twittering song of the swallow in the early morn, as he sits on the chimney-top singing to his mate brooding over her eggs in their nest on the brick's ledge a little way down, and how different from the other bird's note, the chaffinches' spink! spink!—spink! or the goldfinch, greenfinch, or everywhere chirping sparrow. I have always loved to listen to the swallow's twittering softened melody, and to watch him as he sits, while ever and anon he darts away, with undulatory flights over field and meadow, now and again scarcely a foot above the grass and meadow-flowers, then away skimming over some distant pond, with open beak he takes in myriads of insects, some of, if not most of which he brings home to her, his nest-mate, for I have seen both swallows and martins feed the sitting hens.

And when the young are hatched, how careful and unceasing are the parent birds in their nurture, from early morn until sundown; still they fly, to and fro bringing myriads of insect life, day by day. A short time since, while staying at a country-house, where there were numbers of swallows' nests under a shed-roof, on ledges within 10 feet from the ground, I noted that as soon as the young could, they placed themselves in a row with their beaks just showing above the rim of the nest, as in fig. 67, and it was remarkable to observe how each took his or her turn in the feeding. Then a couple of days after they perched on the side, see fig. 68, and with the same fairness in feeding, long after they were apparently well-fledged; there they sat, until one day the old bird took them away somewhere—far away, and left them, and came back for further incubation. Then again away, and this time not to return, but to gather for a long journey, and then to come again next spring. When the weather is unfavourable, such as prolonged and heavy rains, then it is the young die in their nests, for there is, unfortunately, no help for it, for no food can be got, for insects fly not at such times, and so they die forsaken, and mostly these nests are not occupied again another year.



Fig. 67.—Young swallows, as they appeared on June 28, 1896.

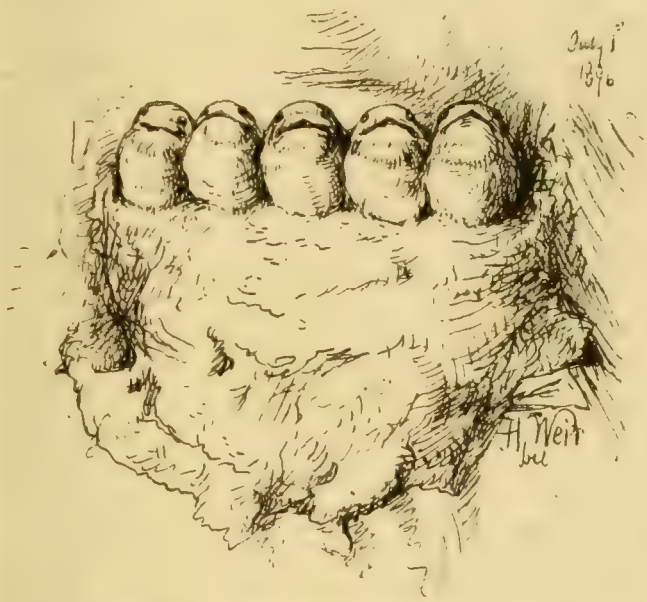


Fig. 68.—Young swallows, as they appeared on July 1, 1896.

BOTANICAL SECTION OF THE BRITISH ASSOCIATION.

At the opening meeting held on September 17, the President of this section, Dr. D. H. Scott, M.A., F.R.S., Honorary Keeper of the Jodrell Laboratory, Royal Gardens, Kew, limited the scope of his address to modern morphological botany, which he described as the accurate comparison of plants, both living and extinct, with the object of tracing their real relationships with one another, and thus of ultimately constructing a genealogical tree of the vegetable kingdom.

The problem presented, he said, is a purely historical one, and is perfectly distinct from any of the questions with which physiology has to do. Yet there is a close relation between these two branches of biology; at any rate, to those who maintain the Darwinian position. For from that point of view we see that all the characters which the morphologist has to compare are, or have been, adaptive. Hence, it is impossible for the morphologist to ignore the functions of those organs of which he is studying the homologies. There is no essential difference between adaptive and morphological characters, but the physiologist is interested in the question how organs work; the morphologist asks, What is their history? The origin of the great groups of plants is perhaps an insoluble problem, for all that can be directly observed or experimented upon is the occurrence of variations. Such investigations can but throw a side-light on the historical question of the origin of the existing orders of living things, and the morphologist must use other methods of research. The embryological method has scarcely received justice from botanists. The law of recapitulation (or repetition of phylogeny in ontogeny) has been very inadequately tested in the vegetable kingdom. Whatever its value may be, it is certainly desirable that the development of plants as well as animals should be considered from this point of view; and this has so far been done in very few cases. So far, at least, embryological research has only yielded certain proof of recapitulation in a few instances. Comparative work, in so far as it is limited to plants now living, can never yield certain results. To determine the blood relationships of organisms, their past history must be deciphered, and palæontology alone can supply real historical facts.

Anatomical Characters.

In judging of the affinities of fossil plants, vegetative characters must be made use of, and especially characters drawn from anatomical structure. In many specimens the anatomical features are the only ones known, and in cases where the reproductive structures have been discovered, the conclusions drawn from anatomical characters have been confirmed. The study of fossil botany is thus likely to call attention to points of structure formerly passed over. Anatomical characters are being made use of in the classification of the higher plants, and thus an effort is being made to place the classification on a broader basis. Anatomical characters are undeniably adaptive, but it is a mistake to suppose that they are necessarily the expression of recent adaptations; on the contrary, there are examples of marked anatomical peculiarities which have become the common property of large groups of plants. A given anatomical character may be of a high degree of constancy in one group, while extremely variable in another, and characters are often most constant when most adaptive.

Histology.

Minute histology is a subject lying on the borderland between morphology and physiology. The questions of the present day may be of as much importance in the history of botany as the discovery of the nucleus. The centrosomes, those mysterious protoplasmic particles, supposed to determine the plane of segmentation of the nucleus, if really permanent organs of the cell, must rank as co-equal with the nucleus itself. If they are not constant morphological entities, but temporary structures, do the causes of nuclear division lie in the nucleus itself, or in the surrounding protoplasm? The detailed agreement in the structure and behaviour of the nucleus in the higher plants and the higher animals is most remarkable. Is this striking agreement the product of inheritance from common ancestors, or is the parallelism dependent solely on similar physical conditions in the cells?

Alternation of Generations.

It has been known ever since the great discoveries of Hofmeister that the development of a large part of the vegetable kingdom involves a regular alternation of two distinct generations, the one, which is sexual, being constantly succeeded—so far as the normal cycle is concerned—by the other, which is asexual. This alternation is most marked in the mosses and Ferns, taking these words in their widest sense. Now as regards this life-cycle, which is characteristic of all plants higher than Algæ and fungi, there are two great questions at present open. The one is general. Are the two generations, the sporophyte and the oöphyte, homologous with one another, or is the sporophyte a new formation intercalated in the life-history, and not comparable to the sexual plant? The former kind of alternation has been called homologous, the latter antithetic. This question involves the origin of alternation; its solution would help us to bridge over the gap between the Archegoniatæ and the lower plants. The second problem is more special—has the sporophyte of the Pteridophyta, which always appears as a complete plant, been derived from the simple and totally different sporophyte of the Bryophyta, or are the two of distinct origin? At present it is usual, at any rate in England, to assume the antithetic theory of alternation. On this view the sporophyte first appeared as a mere group of spoors formed by the division of the fertilised ovum. Consequently the inference is drawn that all the vegetative parts of the sporophyte have arisen by the "sterilisation of potentially sporogenous tissue." That is to say, there was nothing but a mass of spores to start with, so whatever other tissues and organs the sporophyte may form must be derived from the conversion of spore-forming cells into vegetative cells. The assumption on which the theory rests need not necessarily be accepted. There is another view for which much is to be said—namely, the theory of Pringsheim, according to which the two generations are homologous one with another, the oöphyte corresponding to a sexual individual among Thallophytes, the sporophyte to an asexual individual. Pringsheim says:—"The alternation of generations in mosses is immediately related to those phenomena of the succession of free generations in Thallophytes, of which the one represents the neutral, the other the sexual plant." He illustrates this by saying—"The moss sporogonium stands in about the same relation to the moss plant as the sporangium-bearing specimens of Saprolegnia stand to those which bear oögonia, or as, among the Florideæ, the specimens with tetraspores are related to those with cystocarps." This gets rid of the intercalation of a new generation altogether; the modification of the already existing sexual and asexual forms of the Thallophytes is only required. The sudden appearance of something completely new in the life history, as required by the antithetic theory, has a certain improbability. Nature is conservative, and when a new organ is to be formed, it is almost always fashioned out of some pre-existing organ. Hence I feel a certain difficulty in accepting the doctrine of the appearance of an intercalated sporophyte by a kind of special creation.

Mosses and Ferns and Fossil Botany.

In discussing the relation between Mosses and Ferns, Dr. Scott said that few people realise how insoluble the problem is; but, without being a partisan for the homologous theory, he protested against the dogmatic statement that alternation of generations must have been the result of the interpolation of a new stage in the life-history. In the presence of the greatest mystery in the morphology of plants, all ought to keep an open mind, and not tie themselves down to assumptions, though they might use them as working hypotheses. The President next discussed the histological characters of the two generations and the sexuality of fungi, and then dealt with the evidence of descent derived from fossil botany. It has revealed the existence in the carboniferous epoch of a fourth phylum of vascular Cryptogams, quite distinct from the three which have come down to our own day. The keenest interest now centres in the Ferns and Fern-like plants of the carboniferous epoch. No fossil remains of plants are more abundant or more familiar to collectors. In certain cases the whole Fern plant can be built up. Finally, he referred to the Cycad-like fossils which are a striking feature of mesozoic rocks. In conclusion, Dr. Scott remarked on the wonderful fascination of the records of the far-distant past, in which our own origin, like that of our distant cousins the plants, lies hidden. If any fact is brought home to us by the investigations of modern biology, it is the conviction that all life is one; that, as Nägeli said, the distance from man to the lowest bacterium is less than the distance from the lowest bacterium to non-living matter. The problems of descent, though strictly speaking they may often prove insoluble, will never lose their attraction for the scientifically-guided imagination.

Professor Vines, in proposing a vote of thanks to Dr. Scott, remarked that the discourse was of special value to teachers, who find great difficulty in keeping themselves informed of the advances made in the many and various branches of botany. Dr. Scott had touched upon many points of importance, and indicated the present state of knowledge of those subjects. He believed that the public usually made the mistake of supposing that botany is a single science. On the contrary, it is an aggregate of sciences, each of which it is impossible for one man to fully pursue.

The vote of thanks was seconded by Professor Bower, and carried with acclamation.

Other Subjects.

Professor P. Magnus, of the University of Berlin, read a paper on Some Species of the Chytridiaceous genus Urophlyctis, sketches and specimens of which were handed round for inspection.

In the unavoidable absence of the author, Mr. W. G. P. Ellis, M.A., of Cambridge, a paper on "A Parasitic Disease of Pellia epiphylla" was read by Mr. A. C. Seward, M.A. Mr. Ellis's paper, which was illustrated with lantern-slides, dealt with a disease extending over a pan of Pellia epiphylla at the University Botanic Garden, Cambridge, during May and June, 1896, and caused by a mould allied to, if not identical with, Ascotricha, which has become endoparasitic. The fungus was isolated, cultivated in hanging drops, gelatine tubes and flasks; and conidia from a pure culture when applied to fresh Pellia plants reproduced the disease.

Mr. Vaughan Jennings, Demonstrator of Botany and Geology in the Royal College of Science, Dublin, gave an account of Corallorhiza innata and its associated fungi, illustrated by large diagrams. Mr. Jennings also exhibited diagrams of a new genus of Schizomycetes, which he believed to be reproduced by longitudinal fission instead of by transverse fission, as is usually the case in the Schizomycetes.

Professor Hartog and Professor Marshall Ward disagreed with Mr. Jennings' views, the former suggesting that it was quite possibly a case of dichotomous branching.

The Ascent of Water in Trees.

On the occasion of the meeting of the Botanical section on Friday, September 18, after short addresses by Mr. D. T. Gwynne-Vaughan and Mr. G. F. Scott Elliot, Mr. F. Darwin read an elaborate paper on the Ascent of Water in Trees. The two questions to be considered, he said, were—(1) What is the path of the ascending water? (2) What are the forces which produce the rise? As a result of Strasburger's experiments on stems, in which the tissue has been previously killed, it may be concluded that the ascent of water is due entirely to physical causes. The leading idea of botanists who have worked on Strasburger's lines has been that the raising of water to the tops of trees depends on the quality which water possesses of resisting tensile stress. Experiments have proved

that the amount of tension which water will bear is equal to about seven atmospheres. If, therefore, the leaves at the top of a tall tree can exert the requisite upward pull on the water in the trunk, it seems certain that the pull can be transmitted to the level of the ground. This opens up the question whether the leaves can exert this traction on the water in the tracheal, and whether there are any factors in the problem incompatible with this theory. The conclusions now adopted are that the sun's heat causes the evaporation of the water with which the walls of the mesophyll cells are imbibed; this water is replaced by imbibition from the cell sap. The concentration of the cell sap so produced maintains the osmotic force of the cell, which again exerts suction on the water on the tracheals. The question of the resistance to the flow of the transpiration current is in want of further investigation. The theory now being considered requires that there shall be continuous columns of water from leaf to root. This is a violent disturbance of current views, since it has been insisted by Sachs and others that at the time of most active transpiration the vessels contain air and not water. Strasburger has concluded that approximate continuity of water-columns is a condition of primary importance, and has made out the cognate fact that the whole of the alburnum need not be simultaneously occupied by a transpiration current; parts of it may be so occupied while parts of it are filled with air, and do not function as waterways. Strasburger states that he has seen water creep past the air-bubbles in coniferous tracheids. It may be concluded, generally, that the tracheals in their youngest condition may contain water in continuous columns, since the cambium cells from which they arise certainly contain fluid, though it is known also that this condition is not absolutely maintained. It must therefore be believed that either the transpiration current is able to travel past the air-bubbles, or that tracheals partly filled with air may again become continuous waterways by solution of the air.

Professor Vines said that the problem of the ascent of water in trees still remained unsolved after 200 years of research. The subject now to be studied was the suction force of the branches. He observed when experimenting with a living branch that it was capable of developing suction force. He removed all the leaves and then found it still capable of producing tension. He concluded that the trunk and branch of the tree must be studied apart from the leaves, and then afterwards the effect of the leaves in conjunction with the stem must be considered. He inferred that the development of suction force was not dependent on the living protoplasm of the branch, since a specimen poisoned with copper subsulphate can still produce the action. In this case there can be no osmosis. His latest experiments had been with dry sticks of Hazel not poisoned. These can develop a suction force of nearly a quarter of an atmosphere. Since the question of life and osmosis was eliminated, he supposed that the problem was purely a physical one. The physical constants of dead-wood must be known without taking into account the question of osmosis.

Mr. Jolly, speaking on behalf of his colleague, Mr. Dixon, as well as himself, described experiments which they had performed to determine the osmotic power in stems. It had been doubted whether the suction force was sufficient to overcome the resistance. They found that a plant enclosed in an air-tight vessel could be subjected to a pressure of 16 atmospheres of carbon dioxide and 26 atmospheres of air before the leaves began to crumple.

Professor Fitzgerald expressed his satisfaction that physicists, botanists, and chemists were at length obliged to meet on a common plane. He believed that one of the great difficulties of botanists in accepting the idea of the tensile property of water was due to the incorrect ideas prevalent as to the difference between solids and liquids. A liquid was not a substance which could be easily pulled apart, while a solid resisted the action; but in a liquid the particles readily slid over one another, while in a solid they did not.

On the motion of Professor Marshall Ward, a special vote of thanks was given to Mr. F. Darwin, which was extended by the President, Dr. Scott, to all who had contributed to the discussion.

(To be continued.)

THE VEGETABLE PRODUCTS OF NAPLES.

In a report on the trade of the consular district of Naples, Mr. E. Neville-Rolfe gives some interesting notes on the Orange and Lemon groves, from which the following facts are gathered. When an Orange-grove is planted, wild trees are put in, and grafted in the usual way. They grow with bare trunks to 4 or 5 feet from the ground, and then the branches run out and form the fruit-bearing portion of the tree. In this grove an innovation has been introduced which is as ingenious as it is beautiful. Lemons are grafted upon the bare and non-productive stems of the Oranges, about 2 feet from the ground, and twined in garlands from tree to tree, thus not only increasing the productiveness of the grove very materially, but adding greatly to the picturesqueness of its appearance. Orange-trees being usually planted in rows at a measured distance apart, a grove has always a geometrical appearance, which is unsatisfactory; but this appearance is very much modified by the Lemons, which break the lines in all directions. There is a legend, which most people firmly believe, that the grafting of a second fruit on the parent-stem materially alters the type and quality, not only of the original fruit, but also of the graft, and it is sometimes gravely asserted that Blood Oranges are obtained by grafting the Pomegranate on to the Orange. This is a complete fallacy. Both fruits retain their original quality, and neither borrows anything from the other. There is thus no difference between the Lemons grown in the Orange-grove from those grown in the grove where Lemons alone are cultivated.

The Orange-trees produce about 10,000 Oranges annually. The varieties of the Orange grown are the Seville for the making of marmalade, and Blood and Vanille for the table. These are sent to the Naples market and exported—mainly to Hull.

The Lemon-trees flower three times a year, and produce an average crop of 30,000 Lemons, which are exported in cases to Hull, London and America. The trees are all trained on an arbour-trellis, and are protected in the winter by screens made of straw against the possibility of frost. The packing, both of Oranges and Lemons, is done by women, each fruit being rolled separately in tissue paper. The Torrentine women have a special reputation as packers, and go about in gangs in the neighbourhood during the season.

The grove of Mandarins consists of standards trimmed to a round shape like umbrellas. These bear a fine fruit, unusually large of its kind, and form a valuable article of export. The annual yield is about 30,000. The Citrons grow a very large fruit, weighing from 3 to 4 lb. each. Their rind is used for making candied-peel. These trees produce about 2,000 fruits annually, which are sold to grocers at from 50 cents. to 1 franc apiece. Limes, which are also grown, are reserved for home consumption.

The plantations of other fruit-trees are all carefully pruned, as in France, and not allowed to run wild, as is the custom in some parts of Italy. The Fig crops come in the spring and autumn, and the Figs of Posilipo have a well-deserved reputation for their excellence. The variety known in England as the Ischian, or Black Ischian, is here known as the Trojan, showing probably that in remote times it came to these shores from Asia Minor. In order to hasten the ripening of the fruit for the market by ten or twelve days, the top of it is touched with cotton-wool dipped in Olive-oil.

Apricots, Peaches, Nectarines, Plums of all kinds, Olives, Cherries, Raspberries, Mulberries, Loquats, Cape Gooseberries, Prickly Pear, Strawberries, and many other fruits grow in great profusion, and are of excellent quality. The Strawberries are not in great variety, those most used being the indigenous wild mountain Strawberry, which when cultivated, grows to a good size, and has an exquisite flavour. Besides these fruits, there is the "Percuochi," a kind of hard Peach unknown in England, but larger than the largest Peach, and something in taste between a Peach and a Nectarine, although in colour it more nearly resembles an Apricot. Both summer and winter varieties of Pears do well, but Apples do not give an abundant crop, though what there is of them is excellent. The Apples grown on the Torrento Mountains, not twenty miles off, are first-rate eating, unrivalled for keeping, and the trees are extremely productive. Sixty large Walnut-trees produce abundant crops, chiefly exported to America. The Sorbe, or Service-tree (Pyrus Sorbus) is largely grown. The fruits are gathered in September, tied up in bunches, hung to an outside wall to ripen, and are ready for the table at Christmas. The Mulberry grove produces about 30 quintals (10,050 lb.) of leaves for feeding silkworms, and these are reared in a large house built expressly for the purpose, which will provide for the hatching of ten ounces of eggs, producing many thousands of worms. The eggs are hatched by an incubator. The walls of the silkworm-house are covered with climbing Roses, Jasmine, and other flowers, which give food to a dozen hives of highly-productive bees, the best kinds of which are the Ligurian.

Obituary.

Sir John Erichsen.—This distinguished surgeon died on Wednesday, the 23rd inst., at Folkestone, from a paralytic seizure. Sir John Erichsen was born in 1818, and notwithstanding his father was a Copenhagen merchant, Sir John was brought up in England, and became a student at the University College, London. The deceased was the author of many books upon surgery and physiology. He was made a baronet early in 1895, was the senior Surgeon-Extraordinary to the Queen, and had been President of University College, London, since 1887.

Professor King.—Professor James J. F. King, Glasgow, died on Monday, 21st inst., at the Gordon Arms Hotel, Fochabers. He went to Fochabers on Monday, 14th inst., to attend the annual Conference of the Cryptogamic Society of Scotland, of which he was Treasurer. On the Tuesday he accompanied the members in a long outing in search of fungi, and in the evening was present at their meeting in the hotel, and attended to the business of the society. He retired for the night, not feeling very well, and next day he decided to stay in bed. He gradually got weaker, and until Saturday was attended by some of the medical members of the Cryptogamic Society. Dr. Gage, Aberdeen, left the hotel on Saturday, believing that if the professor continued to improve, as he was then doing, he would be able to leave for the south in a few days. On Sunday, however, a change for the worse was noticed. Dr. Hitchcock, Fochabers, was called in, and at once pronounced the case hopeless. The deceased gentleman was Professor of Botany in Anderson's Medical College, Glasgow, and a lecturer in the Glasgow and West of Scotland Technical College, and the Veterinary College. He was sixty-two years of age. Needless to add, the sudden death of the genial doctor has given intense pain to the members of the Cryptogamic Society, of which body he was a most enthusiastic member.

Friedrich A. H. Gireoud.—This eminent and much respected Berlin gardener died on August 26, 1896, at the age of seventy-five years. He came of French parents domiciled in Berlin, and the greater portion of his life was spent in Germany, beginning his career as gardener in the royal gardens at Sans Souci, near Potsdam. After serving in various places he came to England in 1851, and obtained a post in Kew Gardens, visiting, as occasion offered, some of the best plant-growing places at that time in this country, including Mrs. Lawrence's at Ealing, Chats-

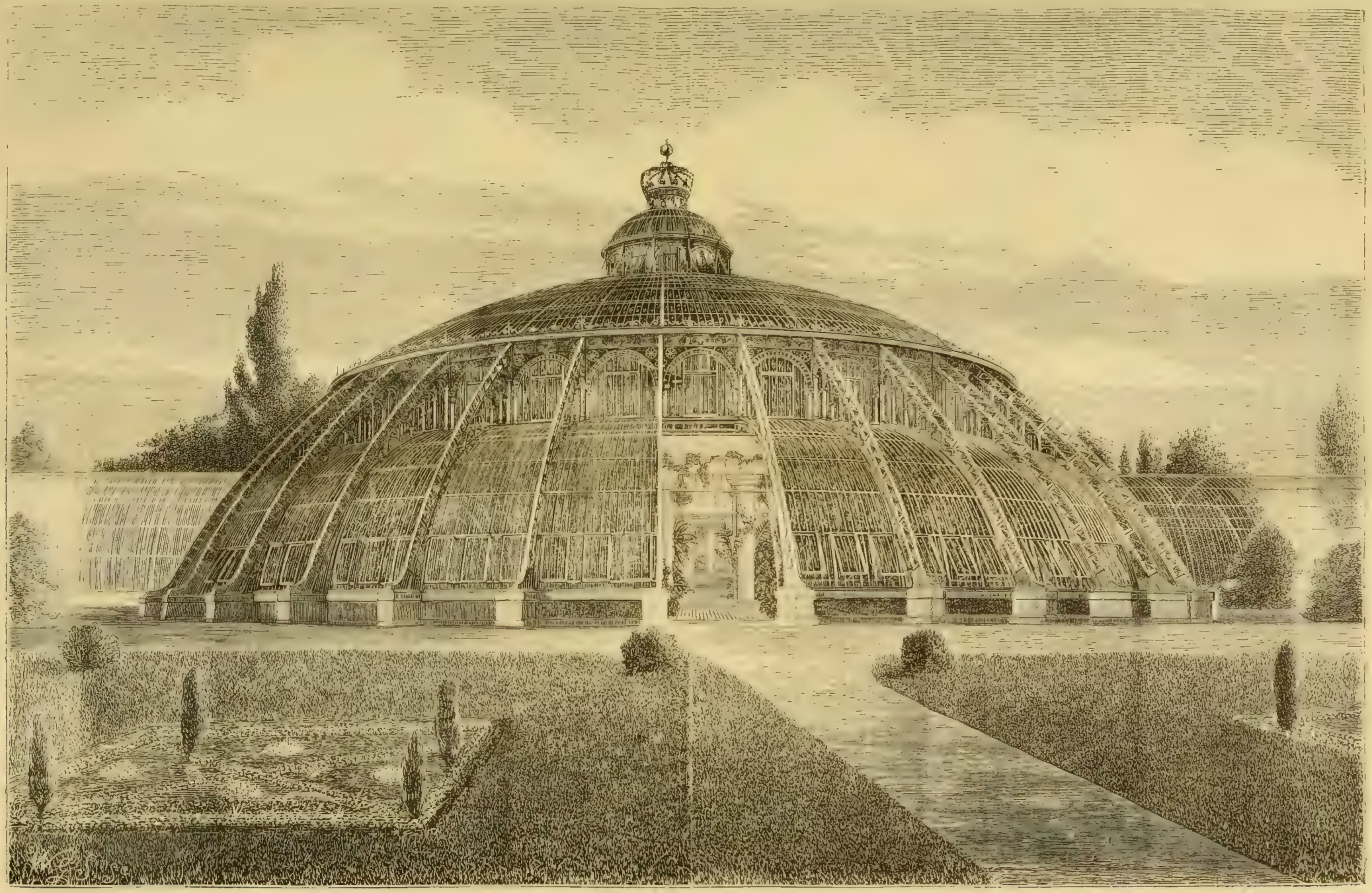


FIG. 69.—THE GREAT CONSERVATORY IN THE ROYAL GARDENS, LAEKEN. (SEE P. 377.)

worth. Messrs. J. Veitch & Sons, and others. In 1862, Gireoud became head-gardener to the Duke of Sagan, at Sagan, whose extensive gardens offered him a wide field in which to display his abilities. In 1868, he became garden-inspector, and later ducal garden-director. He was the recipient of various medals, received in 1889 the patent as royal Oekonomierath, and the French Good Service Order for agriculture and horticulture.

HENRY KNIGHT.—Mr. Henry Knight, whose death, we announced in our last issue, was not, as some have supposed, a Scotchman, but was born at Taunton on December 14, 1834, and therefore at the time of his death was in his sixty-second year. At the the age of fifteen he lost his father, and having to obtain employment, was for three or four years afterwards in Messrs. Veitch & Son's seedshop, at their Exeter nurseries. He then went to the gardens at Dalkeith Palace, then under the charge of Charles Macintosh, in the year 1853, where although we find his name on the garden books as a journeyman, it was probable that he was really an improver. Those who knew him at that time say he was a "nice, quiet, well-be-haved lad," and he bore the same excellent reputation till the end of his services at Dalkeith in 1859. In the meantime Macintosh had retired, and was succeeded, in 1855, by W. Thomson, by whom Knight was ultimately raised to the post of senior foreman under glass with the charge of the fruits, serving in that capacity for several years. On one occasion the Countess of Pavia called during the summer season at Dalkeith, and was shown over the gardens, and being favourably impressed with what she saw in the way of fruit culture, and in the general appearance of the place, requested Mr. Thomson to select for her a gardener who would be likely to carry out gardening operations in the same excellent style at her place, Câhteau Pontchartrain, Seine et Oise, in France. Without hesitation, he recommended Mr. Knight, who in the year 1859 or 1860 entered the Countess' service as head gardener. There he remained eight years, and carried out a great deal of heavy and expensive work in remodelling the gardens, constructing lakes, roads, &c., and erecting a considerable number of glass structures. He much astonished the Parisians with the size and quality of the Grapes he grew at Pontchartrain; and in 1866 he sent some to a meeting of the Royal Horticultural Society, which are said to have greatly astonished the leading Grape growers of that day in this country. Mr. Knight's name also appears in the list of exhibitors at the great International Horticultural Exhibition held in London in that year. He remained at Pontchartrain eight years, and in 1867 he was appointed gardener to the Duke of Roxburgh, at Floors Castle, Roxburghshire. Being desirous of becoming acquainted with horticulture as pursued in the South of England, he left Floors on the death of the Duke, and became head gardener to the late Right Hon. W. H. Smith, M.P., Greenlands, Henley-on-Thames. Here he remained for four years, resigning his situation as a consequence of disagreement with the estate agent; and when His Majesty the King of the Belgians required a Superintendent of the Royal parks and gardens at Laeken, Mr. Knight was recommended by Dr. M. T. Masters, the editor of the *Gardeners' Chronicle*, who was thanked by the King himself for having done so, who likewise informed him that the Duchess of Roxburgh, then one of the Ladies-in-waiting to Her Majesty the Queen, confirmed Dr. Masters' statements. The Duchess' connection with the English Court may afford a reason for the statement we have seen that it was on the Queen's recommendation that Knight was appointed.

The Royal demesne and château of Laeken are distant about 2 miles from Brussels, and rank as regards the beautiful park and gardens among the finest in Europe. The conservatory (fig. 69, p. 376) is of enormous dimensions, although the effect of the building as a whole is somewhat marred by the unnecessary massiveness of the iron-work. Knight, however, was not responsible for that, the design and the materials being supplied by Belgians. Many new glasshouses were erected, and others rebuilt according to modern ideas, and the gardens greatly altered and improved during the past twelve years.

Mr. Knight enjoyed the confidence and esteem of the King, and he was highly respected by the members of the Belgian royal family. Only last year, on returning home after a visit to the King of the Belgians, the Duke of Westminster wrote to Mr. Knight expressing his congratulations at the splendid order and artistic appearance of the gardens under his charge. Mr. Knight had been ill for about six weeks previous to his death. He leaves a family of six, three sons and three daughters, two of whom, a son and a daughter, are settled in Australia, and two are unmarried, and reside at Laeken. The eldest son, James Knight, is engaged in farming in Australia; the second is in the banking business; and the youngest, Thomas, is being brought up to the gardening profession at Messrs. B. S. Williams & Son's, Upper Holloway, London, N. Mr. Knight was a man of marked ability; he was fully conversant with the French language, and his



THE LATE HENRY KNIGHT

geniality made him a great favourite with all. The funeral took place at Laeken on Saturday, September 12, and was attended by a large concourse of mourners, the funeral procession to the cemetery numbering 400 persons, His Majesty the King of the Belgians being represented by Baron de Goffinet, Colonel-Equerry to His Majesty; the King also sent a magnificent wreath of Orchids, the centre of which was composed of Cattleya Leopold II., grown by Mr. Knight. Amongst others present were Count de Kerchove de Denterghem, Sir Francis Plunkett, G.C.M.G.; M. Boxtal, Burgomaster of Laeken; Baron Wyckerslooth, and Messrs. J. Linden, C. Murray, Rodegas, Dr. Thomson, and others, besides the entire *personnel* of the Royal Gardens and Parks. It may be mentioned that Mr. Knight was for many years a valued correspondent of this journal, at first over the signature of "Chevalier," and latterly over those of "H. K.," and "K."

ORCHID NOTES AND GLEANINGS.

ONCIDIUM HEMATOCHILUM.

THIS is one of the handsomest of the Lanceanum section of Oncidiums. True, it is only about half the size of O. Lanceanum, but it throws a handsome raceme with a large number of flowers, and the spikes vary from 2 to 3 feet in length. We have known the species for years, but it is by no means plentiful; and it was a pleasure to note a plant of it in that varied collection of Orchids formed by E. Ashworth, Esq., Harefield Hall, Wilmslow (Mr. Holbrook, gardener), The plant had two racemes, one bearing eighteen and the other thirteen flowers. The colouration and, indeed, formation of both sepals and petals are alike, the ground-colour being pinkish-yellow, with crowds of Indian-red blotches, which is so characteristic of Lanceanum. The lip has two stiff-looking wings, all but sessile, and the unprotected column rests on a circular knob immediately above the wings; the lower portion expands from a linear line to a considerable circular blade with similar ground-colour to the segment, only the blotching is more pronounced.

EPIDENDRUM GODSEFFIANUM.

This is one of the atro-purpureum section of Epidendrums which is worthy of cultivation, as it is essentially distinct from many of its compeers. The flower-spike is showy, the one in question in the Harefield House collection bearing eighteen flowers, and the individual flowers take the eye being of good form. The sepals and petals are ovate, clumping well together, having a sienna ground, the cinnamon colour shining through; and the margin forms a fine decided line of old gold colour. The upper lobes of the lip are pinkish-white, while the lower obcordate blade has whitish ground with prominent purple lines. It was growing in the Cypripedium-house, which seems a good one for these West Indian Epidendrums.

DENDROBIUM HOOKERIANUM.

This is a distinct species, and a welcome one flowering, as it does, at this season of the year. It has the yellow colour of D. Brymerianum, and a little of the fringed lip of that delightful Orchid. It seems to be a lanky grower, after the way of D. triadenum, but is much less robust in habit, and throws its short spikes of flowers towards the extremity of the pseudo-bulb. Its flowers are large, measuring about 4½ in. across. The sepals are broadly linear, acuminate, and turned back at the edges until nearing the point; the petals are of much the same formation, but more inclined to be ovate, and the colour of the whole of the segments is yellow. The lip is circular, springing from a convolute base, completely concealing the column, and is in colour similar to the segments, with the very prominent fringe, above alluded to; the two eyes at the base are of deep maroon, with an orange blotch above them, leaving a broad band of yellow running right up to the base of the column.

DENDROBIUM DEAREI.

This is one of the most desirable, and undoubtedly the most lasting of all the white Dendrobes. Mr. Ashworth has always grown and shown this well, and the fact of one of the plants that came under my eye being at the Manchester Whitsuntide Exhibition, and is still in flower, shows how persistent are the blooms. We all admire the species because of its evergreen habit, the pale-green ovate leaves, forming a grand setting for the crowd of flowers that come in various numbers towards the extremity. The flowers, too, are exquisitely white, of as good formation, too, as D. Phalænopsis, and the greenish lines running together at the upper blade of the labellum adds to its attraction. Mr. Ashworth's gardener has the plants in various houses, but it appears to be most at home in a brisk East Indian temperature, and appears to like limited rooting-space and moisture at the roots.

ZYGOPETALUM MAXILLARE GAUTIERII.

The fine plant which we noticed at p. 95, col. c., grown by Geo. Shorland Ball, Esq., Ashford (gr., Mr. Hay), is now in full flower. It has thirty-six of its grand violet and white blended flowers fully expanded, and is quite a refreshing sight among other flowering Orchids. The robust character of its leaves, and shining distended pseudo-bulbs, command attention, springing as they do from a Tree-Fernstem.

J. A.

VEGETABLES.

TURNIPS WHITE AND YELLOW, NEW AND OLD.

YOUR notice of the new Milan Turnip yielding bulbs 7 inches in circumference within a month of sowing, wakes up old practitioners accustomed to the slower pace of the White Stone, White Dutch, or Yellow Maltese. We carefully note that soil, site, and season were forcing—the former rich, the locality warm (near Exeter), and the season included between July and August 29. Still, edible Turnips obtained in one month from time of sowing was worthy of the record you gave of the Early Milan on p. 297, and will cause it to be very generally enquired for. Turnips, like Radishes, can hardly be too quickly grown. The Early Strap-leaf, White Stone and Extra-early Paris Market, a Carrot-shaped variety, have proved the earliest in my past experience; but obviously the Extra-early Milan is a dead beat to these in regard to time. The Red Globe Turnip is not especially early, but it is admirable as a main, reliable cropper, remains long in season, and proves reliable and good for autumn sowing.

Messrs. Dobbie and other nurserymen offer very special selections of White Model and Golden Ball Turnips of fine form and size for garden purposes, but it seems as if no one cares to grow white Turnips in Scotland. Out of eighteen dishes shown at the recent meeting of the Royal Caledonian Horticultural Society there was only one dish of white Turnips shown, all the others being Golden Balls, as like each other as two peas in a pod. This is the more extraordinary, as in many families in England neither French nor English cooks will use yellow-fleshed Turnips. And I think it will generally be admitted that other conditions of soil, climate and culture being equal, white Turnips are milder and sweeter than the yellow; and in Turnips yellow colour can bring no advantage, for white Turnips, skilfully cooked and served, are more like whipped cream than those of any other colour.

Perhaps some of our friends who still are, and perhaps always have been, north of the Tweed, will tell us through the *Gardeners' Chronicle* why they nearly all grow Yellow or Golden Ball Turnips? and while they are among our garden roots, why they all grow Carrot-rooted instead of globular or Turnip-rooted Beets? the finer strains of Turnip-rooted or Egyptian Beet being earlier, better, morenutty-flavoured than the longer-rooted varieties. And yet, at the show already referred to, there were twenty-four lots of Carrot-rooted, and not one Egyptian. These differences in regard to the form and colour of popular vegetables are so pronounced as to excite notice and invite explanation. One more and I have done, why is the Red Globe Onion more popular in Scotland than in England. *D. T. F.*

SOCIETIES.

HOVE HORTICULTURAL AND INDUSTRIAL EXHIBITION.

SEPTEMBER 16, 17.—The nineteenth annual exhibition of this flourishing society was held at the Hove Town Hall on the above dates.

For a collection of four dishes of fruit, Mr. H. HARRIS, gr., Denne Park, Horsham, was 1st with Barrington Peaches, Pitmaston Orange Nectarines, Royal Favourite Melon, and Black Hamburgh Grapes, good berries but lacking colour; 2nd, Mr. W. E. Anderson, gr. to S. COWELL, Esq., Preston, who had good Hamburgh Grapes, Royal George Peaches, Louise Bonne of Jersey Pears, and Brown Turkey Figs.

Collection of Apples, consisting of six varieties, Mr. CARTER was 1st with Peasgood's Nonsuch, Warner's King, The Queen, Worcester Pearmain, Lord Lennox, and Duchess of Oldenburg; 2nd, Mr. HARRIS, with Lord Suffield, Emperor Alexander, Blenheim Orange, Worcester Pearmain, &c.

In the special Grape classes the chief prize-takers were Messrs. ANDERSON, LAWRANCE, and G. HOUSE.

Potatos, six varieties, were well shown by Mr. J. Pearl, gr. to R. BEVAN, Esq., Withdean, who was 1st, with King of the Russets, Magnum Bonum, Supreme, Satisfaction, Snowdrop, and Reading Hero; and Mr. F. Rapley, gr. to Miss VISICK, St. John's, Preston, was 2nd.

Vegetables were excellently shown by Mr. E. LAWRANCE and Mr. RAPLEY.

Cottagers exhibits were less numerous than usual, and scarcely so good as in some previous years.

ROYAL SCOTTISH ARBORICULTURAL.

SEPTEMBER 19.—On Saturday this society had the privilege of visiting Arniston, Garebridge, Midlothian, the splendid domain of Dundas, Esq., who, in the most courteous manner, received the visitors (chiefly from Edinburgh and the southern parts of Scotland), and the delight of the foresters reached the maximum pitch when Mr. Dundas produced maps showing the gradual but great changes made on the forests, park, and grounds since they were laid out in the old formal style with consummate care in 1690. Capability Brown (among other great landscape gardeners) applied his skill on the spacious area of woods, reducing much of the formality, and introducing a style more in harmony with modern taste, but enough is left to show the gigantic scale on which the planting was first done; the long avenues of gigantic Limes, Planes, Beeches, and other forest trees, show that great labour must have been expended, and the interest in forest planting maintained for many generations. The present proprietor (so highly esteemed for the benefits rendered in various directions to the county) has nobly done his part towards the maintenance of ornamental and commercial forestry. The formation of the ground, with deep ravines, streams of water, and cascades, seen throughout the domain, is most suitable for testing the growth, hardness, and general suitability of trees and shrubs for ornamental planting. A grand batch of specimen Larches are growing on the banks; no disease or stunting being observed on these steep declivities; there are also many thriving Oaks, and among some fine Ash trees noticed is one huge spreading tree that measures 15 feet in girth 4 feet up the bole, and 16 feet at 2 feet from the ground; this tree is about 250 years old. A grand Sycamore, with wide-spreading head, is 16½ feet in girth of bole. A stunted Oak, but also of good size, is 300 years old; and another is nearly 400 years old. Growing in poor soil is a fine Oak, and the oldest on the place, whose girth is 10 feet.

Passing along one of the avenues, chiefly consisting of large Lime-trees, mixed with Oak, Elm, Beech, and Ash, we came to a plantation of Scots Fir, very handsome trees, with clean, straight stems, 45 to 60 feet high, and averaging 10½ feet in circumference of stem. Others were noted of grander proportions, with stems 60 to 70 feet in height, and 112 feet to the tops of the crowns. Some wonderful Larches, with stems 80 feet high, and free from branches; and grand Sweet Chestnuts, with stems 10 feet and 11 feet in girth were noted. Passing on towards the spacious and imposing mansion, fine old Yews were remarked, interspersed with Beeches, Sweet Chestnuts, and some other timber trees, giving this part of the grounds an antique appearance. Many grand Larches stand near to these, and one which measures 114 feet to the top, with 65 feet of clean stem, and a girth (4 feet up) of 16 feet, is a magnificent specimen. An Italian Black Poplar, 90 feet high, growing beside two small Oaks planted at the same time, shows how well adapted to the position is the first-named as compared with the latter. A beautiful glade consists of Sequoia gigantea, Abies Douglasii, and Picea nobilis shows trees in fine vigour. A plantation of Spruce Firs standing at wide distances apart, have an attractive appearance with branches drooping towards the ground. These were said to have been selected trees from the nursery-beds, and they are now 120 feet or more in height, and furnished with branches to the ground. Some fine Douglas Firs are over 100 feet high, and 7½ feet in girth at 4 feet up the stem. A number of rustic, Ivy-covered bridges thrown across a brook connect the ornamental with the commercial woods; and hereabouts some fine specimen Picea nobilis, 40 feet high, planted thirteen years ago, are in full vigour, and of remarkable beauty. There is much in the gardens worthy of note, through which we were conducted by the agent for the estate; and Mr. McTaggart, the head-gardener, gave us useful information in regard to his treatment of the Apricots under glass. This fruit, along with Plums, does splendidly on the back walls of the glasshouses. The Moor Park is the favourite variety. Apricots are grown also on a south wall, with uniform success. Many of the Peach-trees observed under glass are of great age, but they produce fine fruits in abundance. Passing along the spacious vegetable garden, crops of every sort seemed of remarkable goodness. The Apple crop is a good one, and many fruits were being housed. Muscat of Alexandria and Lady Downe's Grapes were remarked in the vineries, the latter especially being in fine condition.

The company were entertained in Mr. DUNDAS' dining-room to a substantial tea, the thanks of the visitors being afterwards expressed by Mr. M. DUNN, of Dalkeith.

VARIORUM.

THE man who thinks all the time and never acts is a stick—he is too sleepy to succeed. The man who acts all the time and never thinks is a plodder—he does what others tell him, but does nothing that he tells himself. The successful man not only thinks all the time, but backs up his thinking with acting all the time. *Minneapolis Bulletin.*

MARKETS.

COVENT GARDEN, SEPTEMBER 24.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arums, p. 12 blooms	3 0	6 0	Mignonet e, per doz.	2 0	4 0
Asters, English, doz. bunches	3 0	6 0	Orchids:—		
Bouvardias, per bn.	0 4	0 6	Cattleya, 12 blms.	6 0	12 0
Carnations, 12 bun.	4 0	6 0	Odontoglossum crispum, 12 bm.	2 0	6 0
— 12 blooms	0 6	2 0	Pelargoniums, scarlet, per 12 bun.	3 0	6 0
Chrysanthemums, doz. bun.	3 0	6 0	— per 12 sprays	0 4	0 6
— doz. blooms	1 0	4 0	Pyrethrums, 12 bn.	2 0	4 0
Eucharis, per dozen	1 6	2 6	Roses, Tea, per doz.	0 9	1 6
Gardenias, per doz.	1 0	3 0	— coloured, doz.	0 9	1 6
Gladiolus, coloured, per doz. sprays	1 0	1 6	— yellow (Maréchal), per doz.	2 0	4 0
Lilium Harrisi, per doz. blooms	3 0	6 0	— red, per dozen	0 6	1 0
— lancifolium, doz. blooms	0 9	2 0	— red, doz. bun.	4 0	6 0
Maidenhair Fern, per 12 bunches	4 0	8 0	— Gloire, doz. bn.	4 0	6 0
Marguerites, per 12 bunches	1 0	2 0	— Safrano, p. doz.	1 0	2 0
			Stephanotis, 12 sps.	3 0	4 0
			Tuberoses, 12 blms.	0 2	0 4

ORCHID-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Adiantum, per doz.	4 0	12 0	Ferns, various, doz.	5 0	12 0
Aspidistra, per doz.	12 0	30 0	Ficus elastica, each	1 0	7 6
— specimen, each	5 0	15 0	Foliage plants, doz.	12 0	36 0
Asters, doz. pots	3 0	5 0	Heliotrope, per doz.	4 0	6 0
Chrysanthemum, p. doz.	4 0	9 0	Lilium Lancefolium, p. doz. pots	9 0	12 0
Coleus, per doz.	2 0	4 0	Marguerites, p. doz.	6 0	10 0
Dracæna, each	1 0	7 6	Mignonette, p. doz.	4 0	6 0
— various, p. doz.	12 0	24 0	Palms, various, ea.	2 0	10 0
Erica, p. doz.	10 0	12 0	— specimens, ea.	10 6	84 0
Evergreen Shrubs, in variety, doz.	6 0	24 0	Pelargoniums, Scarlets, p. doz.	2 0	4 0
Ferns, small, doz.	1 0	2 0	Solanum, p. doz.	12 0	15 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples, cooking, in variety, per sieve	2 6	3 0	Grapes, Muscat, Channel Islands, per lb.	1 0	1 3
— dessert, in variety, per ½ sieve	2 6	4 0	— Gros Maroc, per lb.	1 0	1 3
Damsons, per half sieve	3 6	4 0	Figs, per doz.	0 6	0 8
Grapes, Alicante, 1st quality, per lb.	1 0	1 3	Melons, each	0 6	1 0
— Alicante, 2nd quality, per lb.	0 9	1 0	Nuts, Cob, per lb.	0 3	
— Hamburgh, 1st quality, per lb.	1 0	1 3	Peaches, 1st size, per doz.	9 0	12 0
— Hamburgh, 2nd quality, per lb.	0 6	0 9	— 2nd do., per doz.	4 0	5 0
— Gros Colmar, per lb.	1 0	1 6	— 3rd do., per doz.	1 6	2 0
— Muscats, English, 1st quality per lb.	1 9	2 0	Pears, Pitmaston, p. half-sieve	3 0	4 0
2nd qual., p. lb.	1 0	1 6	— Calabash, half-sieve	4 0	4 6
			Pine-apples, St. Michael, each	5 0	6 0
			Prunes, p. ½-sieve	3 6	4 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Beans, Scarlet Runner, p. sieve	1 0	1 6	Mushrooms, (Indoor) per lb.	0 9	1 0
Cauliflowers, per 5 doz.	4 0	5 0	— (Outdoor), per half-sieve	4 0	5 0
Cucumbers, home-grown, per dz.	2 0	3 0	Tomatos, home-grown, smooth, per doz. lb.	3 0	3 6
Marrows, Vegetable, per 5 doz. tally	2 0	3 0	— ord. kinds, do.	1 6	2 0

POTATOS.

The market generally is in a very bad state. Owing to the late heavy rains most samples show a large proportion of diseased tubers, and in consequence, exceedingly low prices have to be taken to realise. Sound tubers still command the prices given in our last report. *J. B. Thomas.*

SEEDS.

LONDON: *September* 23.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., describe to-day's seed market as barely attended. Clover-seeds, of all kinds, with bad Home, American, and Continental crop prospects, point to higher values. For Trifolium the demand is about over. Winter Tares keep steady. Rye is advancing. As regards Wisconsin Green Boiling Peas, the upward movement previously noted, is making rapid and substantial progress. Haricots are firm. More money is asked for Lentils. In oatmeal there has been a most remarkable rise. As regards Canary-seed, the undertone daily gains in strength and holders show a bolder front. Hemp-seed tends against buyers.

FRUIT AND VEGETABLES.

LIVERPOOL: *September* 23.—The following are the average o the prices at market at this date: Potatos, 8*d.* to 10*d.* per peck; Cucumbers, 3*d.* to 6*d.* each; Damsons, 1½*d.* per pound;

Grapes, English, 2*s.* 6*d.* to 3*s.* per pound; do. foreign, 4*d.* to 8*d.* do.; Mushrooms, 4*d.* to 8*d.* do. The above are the St. John's prices In other markets prices average:—Potatos, Main Crops, 2*s.* 3*d.* to 3*s.* 6*d.* per cwt.; pink eyed Kemps, 2*s.* to 2*s.* 6*d.* do.; Sutton's Abundance, 1*s.* 9*d.* to 2*s.* 3*d.* do.; Bruce, 1*s.* 9*d.* to 2*s.* 2*d.* do.; Turnips, 6*d.* to 8*d.* per doz. bunches; do., Swedes, 1*s.* to 1*s.* 2*d.* per cwt.; Carrots, 6*d.* to 8*d.* per doz. bunches, 3*s.* per cwt.; Onions, English, 5*s.* to 7*s.* per cwt.; do., foreign, 3*s.* do.; Parsley, 4*d.* to 6*d.* per doz. bunches; Cucumbers, 1*s.* to 2*s.* 6*d.* per dozen; Cauliflowers, 6*d.* to 1*s.* 4*d.* do.; Cabbages, 6*d.* to 10*d.* do.; Celery, 1*s.* to 2*s.* 3*d.* per dozen.

GLASGOW: *September* 23.—The following are the averages of the prices current at this market during the past week:—*Fruit*:—Pears, 2*s.* 3*d.* per case; Apples, 4*d.* to 6*d.* per pound; Green Gages, 5*d.* to 6*d.* do.; Tomatos, Guernsey, 4*d.* to 5*d.* do.; do., Scotch, 7*d.* to 9*d.* do.; Plums, 3½*d.* to 4*d.* do.; Grapes, home, 2*s.* do. *Vegetables*:—Turnips, yellow 2*s.* to 2*s.* 6*d.* per dozen bunches; Cabbages, 8*d.* to 9*d.* per dozen; do., Red, 2*s.* 6*d.* to 3*s.* do.; Cauliflowers, English, 2*s.* to 2*s.* 6*d.* do.; do., Edinburgh, 1*s.* to 1*s.* 3*d.* per bunch; Parsnips, 5*s.* 6*d.* to 6*s.* per cwt.; Herbs, assorted, 1*d.* to 2*d.* per bunch; Leeks, 2*s.* to 2*s.* 6*d.* per doz. bunches; Mint, 6*d.* per bunch; Onions, Dutch, 3*s.* 6*d.* to 4*s.* 6*d.* per bag; do., Portugal, 10*d.* per stone; do., Globe, 3*s.* to 3*s.* 6*d.* per cwt.; Parsley, 8*s.* to 10*s.* do.; Celery, table, 2*s.* to 2*s.* 6*d.* per bundle; Potatos, 8*d.* per stone; Carrots, 4*s.* 6*d.* to 5*s.* per cwt.; do., new, 1*s.* to 1*s.* 6*d.* per dozen; Cucumbers, 4*s.* per dozen; Lettuces, 6*d.* to 8*d.* per dozen; do., Cos, 9*d.* per dozen; Radishes, 9*d.* to 1*s.* per dozen bunches; Horseradish, 2*s.* 9*d.* to 3*s.* per bunch; Beans, broad, 1*s.* to 1*s.* 3*d.* per stone; do. French, 2*s.* to 2*s.* 6*d.* do.; Mushrooms, 1*s.* to 1*s.* 3*d.* per lb.; Rhubarb, natural, 2*s.* 6*d.* to 3*s.* per cwt.; Beetroot, 7*d.* per dozen; do., new, 3*s.* 6*d.* to 4*s.* per dozen bunches; Cress, 3*d.* per basket; Brussels Sprouts, 2*s.* 6*d.* per stone.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Accumulated. Above (+) or below (−) the Mean for the week ending September 19.	Above 42° for the Week.	Below 42° for the Week.	Above 42°, difference from Mean since December 29, 1895.	Below 42°, difference from Mean since December 29, 1895.	Rainfall. More (+) or less (−) than Mean for the Week.	No. of Rainy Days since Dec. 29, 1895.	Total Fall since Jan. 1, 1896.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Dec. 29, 1895.
	Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch		Ins.			
0	0 aver	67	0	+ 264	− 320	14 +	175	38·5	26	24
1	0 aver	69	0	+ 215	− 243	2 +	145	17·9	37	30
2	1 +	93	0	+ 287	− 222	2 −	123	13·1	36	30
3	2 +	110	0	+ 244	− 229	1 −	123	15·8	38	36
4	1 +	95	0	+ 246	− 247	1 +	120	15·2	32	32
5	2 +	120	0	+ 312	− 240	2 +	110	14·6	36	38
6	1 +	85	0	+ 297	− 228	6 +	152	30·0	32	32
7	1 +	98	0	+ 367	− 258	4 +	137	22·0	23	33
8	1 +	108	0	+ 411	− 206	5 +	117	17·6	32	42
9	0 aver	83	0	+ 294	− 233	5 +	157	26·6	31	28
10	1 +	97	0	+ 384	− 210	4 +	134	23·4	43	34
*	2 +	132	0	+ 534	− 109	2 +	126	15·2	38	48

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending September 19, is furnished from the Meteorological Office:—

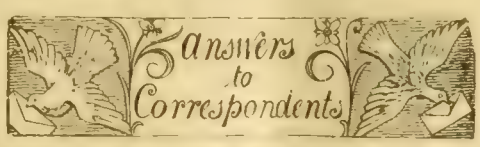
"The *weather* during this period continued unsettled and rainy very generally, with thunder and lightning at times in nearly all districts. During the earlier days of the week the rain was heaviest at the southern stations, but later on it became heaviest in the north and north-west.

"The *temperature* was slightly above the mean in most districts, but just equalled it in the north and east of Scotland, and the north of Ireland. The highest of the maxima were recorded during the early part of the week, and ranged from 70° in 'England, E.,' and 69° in the 'Channel Islands,' 'England, S.,' and the 'Midland Counties,' to 64° in 'Scotland, E.,' and to 62° in 'Scotland, W.' The lowest of the minima, which were registered on the 19th, varied from 39° over 'Scotland, N. and E.,' and the 'Midland Counties,' to 45° in 'England, E. and N.W.,' and to 52° in the 'Channel Islands.'

"The *rainfall* again exceeded the mean in nearly all districts, the excess being very large in 'Scotland, N.,' and very considerable in all the western districts. In 'England, N.E. and E.,' however, there was a slight deficit.

"The *bright sunshine* was again very deficient over nearly the whole of England, but was rather in excess of the normal over our north-eastern counties, Ireland, and the greater part of Scotland. The percentage of the possible duration ranged from 43 in 'Ireland, S.,' 38 in the 'Channel Islands' and 'England, E.,' and 37 to 36 over our north-eastern districts, to 31 in 'Ireland, N.,' 26 in 'Scotland, N.,' and 23 in 'England, N.W.'"

NATIONAL CHRYSANTHEMUM SOCIETY.—A meeting of the Floral Committee took place on September 24, and but very few exhibits of Chrysanthemums were forthcoming, Dahlias preponderating. A First-class Certificate of Merit was awarded to an early-flowering Chrysanthemum named Barbara Forbes, a large white incurved Japanese, with a delicate sulphur-coloured centre; like Anna Hartshorn in character, but from three weeks to a month earlier, in height about 4 feet, from Mr. W. J. GODFREY, nurseryman, Exmouth. From Mr. J. ARNOLD, florist, Stoke, Devonport, came some very pretty Cactus Dahlias, but unfortunately not in the best condition, the blooms being past their best; John Arnold, a pretty pink variety; Lady Lyons, pure white; and Star of Devon, bright crimson, are so promising, that it is a pity they were not seen in better condition. Mr. J. GREEN, Norfolk Nurseries, Dereham, sent a number of blooms of his new Cactus Dahlia, Aurora, which has already received several Certificates of Merit, but which was not seen at its best on this occasion. It has a bushy habit, grows to the height of 3½ feet, flowers stand well above the foliage, and is singularly free, thirty to forty expanded flowers being cut from a plant at one and the same time. Mr. GREEN also sent a bloom each of some seedling Cactus Dahlias, one, an apricot-coloured variety, was very distinct; and a crimson flower of the Matchless type was also very promising. Votes of Thanks were passed to each exhibitor.



APPLE: *J. D. A.* We do not know of any Apple similar to the one you send us. We are unable to endorse all you say about its goodness. We cannot trace any resemblance whatever either in appearance or in quality to Cox's Orange Pippin. It is certainly a very late Apple, instead of being a month earlier than Cox's; the flesh is hard, dry and sweetish. In our opinion, it is almost as regards quality, third-rate. The name and address of the Secretary of the Royal Horticultural Society is as follows: The Rev. W. Wilks, 117, Victoria Street, Westminster.

ARBORICULTURE: *Arboriculturist.* There is a Scottish society. You should make an application to the Director of the Royal Botanic Gardens, Edinburgh. A government School of Forestry exists at Cooper's Hill, Englefield Green, Staines, which of course holds examinations, and awards certificates of efficiency.

BOOKS: *E. F.* Schlich's *Manual of Forestry*, 5 vols. up to the present time (Bradbury, Agnew & Co.).—Hartig's *Diseases of Trees*, translated by Somerville and Marshall Ward (Macmillan & Co.).—*Timber, and some of its Diseases*, H. Marshall Ward (Macmillan & Co.).—Veitch's *Manual of Coniferous Plants*, by J. Veitch & Sons, Royal Exotic Nursery, Chelsea.—*The Forester*, by Brown & Nisbet, new edition (Blackwood & Sons).—*J. C.* Elementary Chemistry. Which branch of this wide subject do you require information upon?

EXAMINATION IN HORTICULTURE: *J. E. W.* If you make application to the Secretary of the Royal Horticultural Society, Rev. W. Wilks, stating your wish to be examined, you will be furnished with all necessary information regarding the subjects, time, place, &c.

FORTY-EIGHT SPECIES AND VARIETIES OF HERBACEOUS PLANTS: *A Constant Subscriber.* Peruse our Flower-garden Calender in the present issue; or get some trade grower to give you a list.

GARDENIA ROOTS: *R. W. Dean.* The roots sent are very badly infested with eel-worm, for which there is no remdy. Dig up the plants and burn them, and char the soil in which they are growing. The eel-worms have probably been introduced with the pasture loam.

GRAPES: *R. G. S.* From the specimen sent it is evident that the Vines have been seriously neglected, and it would be the best policy to make new borders and plant afresh. The white Grape is one of the American varieties so distasteful to English palates by reason of the pronounced "musky" flavour they possess. The black variety is one of average merit; but we prefer not to name such uncharacteristic berries. The foliage is enveloped with red-spider and other pests.

INSECTS: *T. G.* The larvæ of Tipula oleracea. Dig the ground frequently, and expose the caterpillars to the birds. It is difficult to kill them by other means.

JUMPING BEANS: *W. T.* The seeds are those of a Peruvian plant whose native name is Colliguaja, and the larvæ therein contained is that of an insect belonging to Tortricidæa (Carpocapsa saltitans). For full description and figures, see *Gardeners' Chronicle*, 1859, p. 909, and December 22, 1894, p. 761.

*** *The applications for name flowers, and especially fruits, are so numerous at this season, as to exceed to tax our resources. They entail an expenditure of time, labour, and money, of which our readers have little idea. We are willing to oblige our correspondents as far as we can, but we must request that they will observe the rule that* **not more than six varieties** *be sent at any one time. The specimens should be good ones, just approaching ripeness, and to prevent disappointment, they should be properly numbered, and carefully packed. We do not undertake to send answers through the post. Delay in any case is an evil.*

NAMES OF FRUITS: *J. M.* 2, Blenheim Orange; 3, Hollandbury; 5, Gloria Mundi; 6, Claygate Pearmain; others not known.—*M. R.* 1, Duchess d'Angoulême; 2, Doyenné d'Alençon; 3, Bergamotte d'Esperen; 4, Beurré Bachelier; 5, Beurré Superfin; 6, Urbaniste.—*W. T.* 1, Brabant Bellefleur; 2, not known.—*A. de Mel.* We are not sure of your Apple—an early Scotch Apple of second-rate merit.—*G. B.* 1, Ribston; 4, Lady Henniker; 3, Fearn's Pippin; 5, New or Winter Hawthornden; 6, Tom Putt. Pear, Pitmaston Duchess—*H. A.* 1, Van Mons Léon Leclerc; 2, Bergamotte d'Esperen; 3, Comte de Flandres; 4, Brabant Bellefleur, 5, Sturmer Pippin; 6, Dumelow's Seedling.—*J. W.* 1, Yorkshire Beauty; 2, Queen Caroline; 3, Margil; 4, imperfect specimen; 5, Pear, Beurré d'Aremberg.—*J. K.* Apple Beauty of Kent.—*M.* 1, Lane's Prince Albert; 2, Hanwell Souring; 3, Cox's Pomona; 4, Ribston Pippin; 5, Gloria Mundi; 6, Cellini.—*Alpha.* Pear Louise Bonne of Jersey.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to be so good as to consult the following number.*—*T. W. R.* 1, 2, 3, Cratægus coccinea; 4, 5, C. mollis (both N. American).—*Quercus.* 1, Quercus Turneri; 2, Q. Toza.—*W. C.* 1, no fruits, cannot name from leaves only; 2, Cratægus mollis; 3, C. coccinea; 4, Pyrus Aria; 5, P. A. variety; 6, P. A. flabelliformis; 7, Cratægus oxyacantha (variety of).—*H.* Cattleya Warscewiczii, a species which, crossed with C. Dowiana aurea, produced C. × Hardyana, a flower very different from the one that you sent.—*A. F.* Genista tinctoria; not poisonous to cows, but is said to give a bitter taste to their milk, and the cheese made from it.—*E. F.* Chrysanthemum Parthenium var. discoideum.—*W. O.* Salvia splendens.—*F. G. S.* The best form of Odontoglossum Bictoniense album.—*J. W.* Cypripedium Spicerianum.—*W. J. P., Farnham.* 1, Odontoglossum grande; 2, Coreopsis tinctoria; 3, Funkia albo-marginata; 4, Heuchera sanguinea, so far as we can tell without seeing flowers; 5, Funkia grandiflora.—*G. P.* Chlorophyton Sternbergianum. *Reader.* 1, Maranta (Makoyana: propagate by division; 2, Streptocarpus hybrid: propagate by leaf-cuttings or seed.

NATURAL ORDERS: *A. M. B.* Davidsonia pruriens (Saxifrageæ), Cardwellia sublimis (Proteaceæ), Asterolasia Muelleri (Rutaceæ).

ORCHID UNHEALTHY: *J. B.* It may be a case of what is somewhat vaguely called Orchid disease, and which is very liable to attack Cattleya Warscewiczii and C. Dowiana aurea; or, it is possible that your plant has been situated where the direct heat from the hot-water pipes, or the draught from a ventilator or door reaches it?

PTEROCARYA CAUCASICA: *H. May.* In the southern districts of England this plant fruits with considerable freedom. Such an occurrence may be rare in county Sligo, but we have seen it in fruit in other parts of Ireland. The plant does remarkably well at Fota.

RAMONDIA: *W. W.* The cause of the discoloration and shrivelling of the leaves of Ramondia is not to be found in the plants themselves. There is no appearance, and no trace of fungus disease, not even of Bacteriosis. In one plant there is a white saprophyte upon the dead tissues, but it can have nothing to do with the disease. The cause will have to be sought in external surroundings. Some such results might be produced by imperfect drainage. *M. C. C.*

REFUSE FROM PAPERMILL: *Gardener.* As affording lime and potash to the soil, the substance would certainly have its advantages if used as a top dressing, stirred into the surface with a hoe. Two to three cwt. to the acre would suffice at any one time.

TOMATO CROP ON A SINGLE PLANT: *R. G.* A tall well-grown plant under glass will produce from 15 to 20 lb. of fruit, and an out-of-doors plant 5 to 6 lb. These are merely approximate figures, so much depending on soil-culture, variety, and the time when the seed was sown.

TOMATO PLANTS WITH ABNORMAL LEAVES: *W. L. Y.* No trace of fungus in the foliage of Tomatos to account for the abnormal development discovered; and it would seem that an arrest of growth has taken place, due probably to the cool conditions of weather.

USERS OF THE DIVINING ROD: *J. C.* We are unable to give you the addresses of these persons. You should use our advertising columns.

COMMUNICATIONS RECEIVED.—Mertens & Co.—E. J. L.—W. W. & Co.—A. H. O'K.—F. Roemer (shortly).—R. Sutton, Winnipeg.—A. S. B.—F. H.—Puzzled.—W. N.—F. G. D.—A. H.—Tempus Fugit.—G. H. S.—F. Herrington.—F. Lee.—Dobbie & Co.—W. C. F.—G. A., Avery Hill.—D. T. F.—R. D. L.—Claud Lonsdale.—C. H.—J. M. B.—Dr. King.—F. J. T.—A. S. S.—Gardener.—E. W.—J. H.—J. H. Maiden.—W. B. H.—R. R.—F. F. S. & Co.—T. H. F.—E. H.—F. Kleinnikel.—J. W.—A. F. B.—F. C. Smale.—H. E.—C. T. D.—M. D.—R. D.—G. S.—G. A.—C. W. D.—D. S. M.—W. G. S.—A. Cook.—E. H. C.—E. M.—N. E. B.—J. J. W.—A. D.—H. S.—J. A.—E. B.—M. T. M.—H. W. W.—A. Hatton (many thanks).

PHOTOGRAPHS, SPECIMENS, &c., RECEIVED WITH THANKS.—From Marchese Hanbury, of Euphorbia.—From F. Roemer, Lobelia erinus.—From T. Christy, Indian Corn.—H. R., Apple-tree Grafting.—W. H. D., Cowdenknowes.—W. Roberts, various.—J. McIntyre, Darlington, various.—S. P. H., many thanks for the plants of the abnormal form of Linaria vulgaris.—H. J. C., thanks for interesting specimen of malformed Dahlia.—Colonel R. B. Ingram (with thanks).

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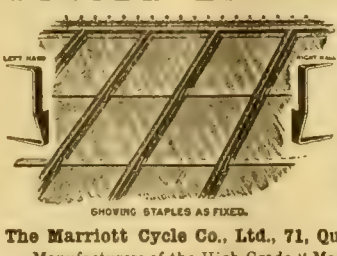
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("THE TIMES OF HORTICULTURE")

A Weekly Illustrated Journal

(ESTABLISHED 1841)

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SURINGAR, Prof., Leyden.
TRELEASE, Prof., St. Louis.
TROUBETZKOI, Prince, the late, (Eucalyptus).
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VILMORIN, Maurice de, Paris.
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BALFOUR, Prof., Edinburgh.
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BURBIDGE, F. W., Botanic Gardens,
CLARKE, Col. Trevor. [Dublin.
CLARKE, C. B., Pres. Linn. Soc.
CORNU, Prof. Max, Director of the Jardin des Plantes, Paris.
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LEICHTLIN, Max, Baden-Baden.
LINDSAY, R., Royal Botanic Gardens, Edinburgh.
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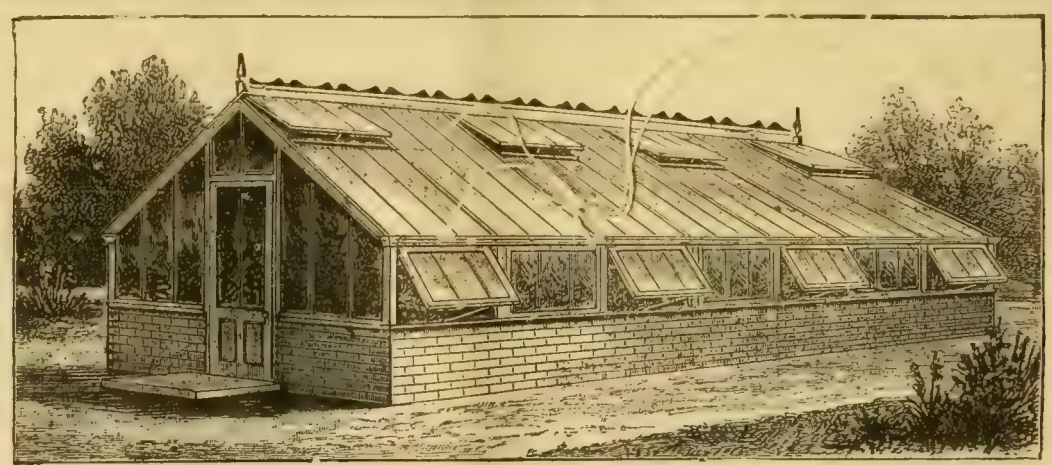
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The Gardeners' Chronicle

ESTABLISHED 1841. No. 2910.

No. 510.—Vol. XX. {Third Series.} SATURDAY, OCTOBER 3, 1896. [Regt. as a Newspaper. {PRICE 3d. Post-free, 3½d.

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NOTICE TO ADVERTISERS.

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UNRESERVED SALE OF HOLLIES, FOREST TREES, and other NURSERY STOCK, by order of Mr. Isaac Crick, who is clearing the ground.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION on the Premises, The Houghton Park Gardens, Ampthill, Beds, 1½ miles from Ampthill Station, Midland Railway, on THURSDAY, October 15, at 1 o'Clock, 9,000 GREEN HOLLIES, 1½ to 5 feet, Young, Strong, and Healthy, all moved in 1894, 1,000 HORSE CHESTNUTS, 2 to 4 feet, 4,000 QUICK, SPECIMEN SHRUBS in variety, THUJOPSIS, CUPRESSUS, LAURELS, YEWS, &c., 5,500 GOOSEBERRIES and CURRANTS, 3 to 4 years, 600 FRUIT TREES of Sorts, and other STOCK.

May now be Viewed. Catalogues on the Premises and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

WEDNESDAY, OCTOBER 14.

FIRST SPECIAL LILY AND PLANT SALE OF THE SEASON.

221 CASES OF JAPANESE LILIES.

Received direct from Japan for unreserved Sale.

IMPORTANT TO THE TRADE.

100 cases containing 17,000 LILIUM LONGIFLORUM
90 ,, ,, 9,000 ,, ,,
7 ,, ,, 630 ,, ,, (extra large bulbs)
14 ,, ,, 2,520 ,, ,, GIGANTEUM
9 ,, ,, 1,800 ,, ,, ,,
560 LYCORIS AUREA, and 260 Copies of Lily Flower Books.

Also 120 LILIUM HENRYII, 1,360 L. SPECIOSUM MELPOMENE, 1,700 L. SPECIOSUM ALBUM KRETZERI, 3,000 L. THUNBERGIANUM, and 100 L. UKEYWII.

500 HEMEROCALLIS AURANTIACA MAJOR.

10,000 SPIRÆA JAPONICA, in baskets as received.

50,000 LILY OF THE VALLEY, Berlin Crowns.

1,000 AZALEA MOLLIS, also CAMELLIAS, RHODODENDRONS, &c., together with 150 lots of HARDY BULBS and PLANTS, ROSES, CLIMBING and other PLANTS.

Also a consignment direct from Bermuda, consisting of
3,350 LILIUM HARRISII, 9 to 11 inches
8,500 ,, LONGIFLORUM, 5 to 7 inches
500 AMARYLLIS JOHNSONII.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY, October 14, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

FRIDAY, OCTOBER 9, 1896.

ENORMOUS SALE OF 20,000 ORCHIDS,

ABSOLUTELY WITHOUT RESERVE.

THE VERY GRANDEST KNOWN TYPES

7,000 DENDROBIUM PHALÆNOPSIS SCHRODERIANUM,

THE GLORY OF THE EAST.

In simply Perfect Condition; they will bear Flowers on their present growths in November and December, and on their new growths about April or May,

WE GUARANTEE THEM THE BEST AND FINEST LOT IN EVERY WAY EVER IMPORTED,

3,000 ODONTOGLOSSUM CRISPUM (True Pacho Type),

THE QUEEN OF THE WESTERN CORDILLERAS.

We absolutely warrant them the finest type: these we know are the true Pacho, round, perfect kind, that cannot be equalled by any other form of the species. They are Sander's genuine, unapproachable and peerless Pacho type, unequalled for size of flower, substance, quality and perfection of form.

Grand varieties have emanated from our former importations. These now offered are most distinct looking in every way, and we can most strongly recommend and thoroughly guarantee them, the finest and best procurable.

A Consignment of LÆLIA ANCEPS,

Sent as GRAND WHITE. The original Dawsonii type, with broad rhomboid segments of a dazzling white, found only in that variety.

SCHOMBURGKIA THOMSONIANA.

Undoubtedly the finest in the genus. Twenty blossoms borne on a spike; flowers like a cream-coloured Lælia purpurata, with a black-maroon lip.

DENDROPHYLAX FAWCETTII.

Offered for the first time.

Flowers snow-white, resembling Angræcum Fournierianum. Grows and Flowers without Leaves.

NEW SOBRALIAS.

Rare and Lovely kinds.

LÆLIA PURPUPATA.

Exceptionally splendid Plants with huge bulbs, plump eyes; most distinct looking and beautiful specimens are among them.

CATTLEYA, Intermedia and Varieties.

A most distinct and diverse looking lot, many having the appearance of Lælia elegans. These and the Lælia purpurata were found growing together in company with Cattleya Leopoldii.

VANDA CŒRULEA in Flower or Bud.

Boxes of miscellaneous Orchids, etc., etc.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. F. SANDER & Co., St. Albans, to SELL the foregoing in their Central Auction Rooms, 67 and 68, Cheapside, London, E.C., ABSOLUTELY WITHOUT RESERVE, on FRIDAY, OCTOBER 9th.

Cattleyas not to hand; we hope to make a big Cattleya Sale on their arrival.

Normandy, near Guildford, Surrey.

The Normandy Manor Estate, adjoining the Wanborough Railway Station.

PRELIMINARY NOTICE OF SALE BY TENDER, TO WIND UP THE ESTATE.

MESSRS. PROTHEROE AND MORRIS are instructed to SELL BY TENDER the remaining seven lots of the FREEHOLD PROPERTY, known as the Normandy Manor Estate, comprising in all 184a. 3r. 32p., which will include the unique and model Nursery and Fruit Garden, known as the Manor Nurseries, of 41a. 3r. 38p.; two productive Freehold Farms, including valuable enclosures of arable and rich pasture land and several choice freehold sites for building, all situate in the parish of Ash, in the county of Surrey.

Forms of Tender may be had on the premises; at the White Lion Hotel, Guildford; of Messrs. J. & T. PARROT, Solicitors, Aylesbury; and of the Auctioneers, 67 and 68, Cheapside, London, E.C. Tenders will be received at the Offices of Messrs. PROTHEROE and MORRIS, 67 and 68, Cheapside, London, E.C., until 12 o'clock noon on Thursday, October 22nd.

The Vendors do not bind themselves to accept the highest or any tender.

Auction and Estate Offices, 67 and 68, Cheapside, E.C.

Framfield, near Uckfield, Sussex.

About Two Miles from the Uckfield Station, L. B. & S. C. R., where conveyances can always be obtained.

GREAT SALE OF ROSES, FRUIT TREES, & OTHER STOCK, by order of Messrs WILLIAM PAUL & SON.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION on the Premises, Arches Farm, Framfield, near Uckfield, on TUESDAY, OCTOBER 13, at Half-past 12 o'Clock,

10,000 DWARF AND CLIMBING ROSES,

Of splendid quality, all first rate Hybrid Perpetual and other varieties,

6,000 STANDARD AND PYRAMID FRUIT TREES,

Apples, Pears, and Plums, exceptionally clean and healthy trees of fine vigorous growth.

6,000 CLEAN AND HEALTHY FRUIT STOCKS, OF SORTS,

20,000 WELL-GROWN MANETTI STOCKS,

500 PINUS AUSTRIACA, 5 ft. to 8 ft.,

Handsome trees, that have been grown singly with plenty of room, and have been recently transplanted; and other stock.

May now be Viewed. Catalogues on the Premises and of the Auctioneers, 67 and 68, Cheapside, E.C.

Sunningdale, Berks.

SIX DAYS' UNRESERVED SALE of exceptionally well grown NURSERY STOCK.

By order of Mr. Charles Noble.

MESSRS. PROTHEROE AND MORRIS will SELL BY AUCTION, on the premises, the Nurseries, Sunningdale, close to Sunningdale Station, and within easy distance of Bagshot, S.W.R., on MONDAY, October 19, and FIVE FOLLOWING DAYS, at 12 o'clock each day, without the least reserve, several acres of unusually well-grown NURSERY STOCK, the whole in the best possible condition for removal, comprising:—

10,000 APPLE TREES, standard, pyramid, and bush,
12,000 OVAL LEAF PRIVET, 1,000 bushy AUCUBAS,
3,000 HARDY GHENT and MOLLIS AZALEAS,

thousands of RHODODENDRONS, including the best named and hybrids, and the finest in the Trade; millions of other useful CONIFERS, EVERGREEN and DECIDUOUS SHRUBS, ORNAMENTAL and FOREST TREES, ROSES, &c., too numerous to mention, the cream of the Nursery, and the finest stock ever offered to the public.

May be viewed any day prior to the sale. Catalogues may be had on the premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Feltham.—Preliminary Notice.

GREAT CLEARANCE SALE of FERNS and OTHER PLANTS in Pots.

MESSRS. PROTHEROE AND MORRIS are instructed by Messrs. W. COOPER, Limited, who are relinquishing this branch of their business, to SELL by AUCTION on the Premises, at an early date, the whole of the STOCK IN TRADE, including many Thousands of STOVE and GREENHOUSE PLANTS, PALMS, FERNS, ROSES, VINES, &c., also large quantities of CLIMBERS in variety, and other Stock.

N.B. The Valuable FREEHOLD of 64 Acres of fertile LAND, and the GREENHOUSES erected thereon, will be offered at the Mart, London, E.C., in one or two lots, at the end of the present month.

Detailed particulars will appear next week.

DUTCH BULBS.

SALES EVERY DAY (Saturdays excepted).

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., EVERY DAY (excepting Saturdays), at 12 o'Clock, large consignments of NAMED HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other BULBS from Holland, received direct for Unreserved Sale, Lotted to suit the Trade and Private Buyers; together with white ROMAN HYACINTHS, paper-white NARCISSUS, SNOWDROPS, special TULIPS, &c.

On view morning of Sale, and Catalogues had.

Isleworth.—Preliminary Notice.

ANNUAL SALE of thousands of beautifully grown Young CONIFERS and GOLDEN EUONYMUS for immediate potting, window boxes, or for growing on; also hundreds of SPECIMENS from their famous collection of ORNAMENTAL TREES, specially suitable for Park and Avenue Planting. By order of Messrs. Charles Lee & Son.

MESSRS. PROTHEROE AND MORRIS will SELL as above by AUCTION, on the premises, The Wood Lane Nurseries, Isleworth, on TUESDAY, October 20, at 12 o'clock.

Fuller particulars will appear next week.

Two Great Sales of Fruit Trees.

PRELIMINARY NOTICE.

MESSRS. PROTHEROE AND MORRIS beg to announce that they have received instructions from Mr. W. HORNE to hold TWO GREAT SALES of FRUIT TREES, &c., on the Premises, Perry Hill, Cliffe, near Rochester, on WEDNESDAY, October 21st, and WEDNESDAY, November 18th, 1896.

Catalogues of the Auctioneers, 67 and 68, Cheapside, E.C.

SALES BY AUCTION.

MONDAY, TUESDAY, WEDNESDAY, THURSDAY, and SATURDAY NEXT.

DUTCH BULBS-DUTCH BULBS

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., as above, at half-past 12 o'Clock precisely each day—

GRAND IMPORTATIONS OF DUTCH BULBS

FROM LEADING GROWERS,

in the finest possible order, and specially lotted to suit both large and small buyers. A large quantity of

FRENCH FORCING BULBS, LILIUMS, PALMS, &c.

On view mornings of Sale, and Catalogues had.

WEDNESDAY NEXT.

GREAT SALE OF BULBS, SHRUBS, AND PLANTS.

FROM GHENT.

Specimen LATANIA BORBONICA, KENTIA BELMOREANA, ARECAS, 200 AZALEA INDICA, well set with bud, FICUS ELASTICA, a variety of DRACÆNAS, &c. Also a Selection of

ENGLISH GROWN PALMS.

FROM HOLLAND.

Two Importations of Small Decorative Shrubs, including BOX, AUCUBUS, RHODODENDRONS, EUONYMMUS, ABIES, CYPRESSUS, &c. for In or Out Door Cultivation. STANDARD and PYRAMID FRUIT TREES, ELM TREES, LILACS, GREEN HOLLIES. Several Hundred DWARF ROSES to Name, AZALEA MOLLIS, &c.

Also

A Special Collection of Fine HYACINTHS, specially selected for Glasses and Pots, and in large and small lots. Rare NARCISSUS, Beautiful TULIPS, DAFFODILS, &c., &c.

FROM FRANCE.

Ten Thousand Early White ROMAN NARCISSUS, Paper White NARCISSUS, Improved Variety, GLADIOLI The Bride, FREESIA REFRACTA ALBA, LILIUM CANDIDUM, LILIUM HARRISII, and other Bulbs for early forcing. ANEMONES, VALLOTAS. CARNATIONS, 1000 SPIRÆA JAPONICA and Varieties, IRIS, SNOWDROPS, &c.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY NEXT, October 7, at Half past Twelve o'Clock precisely.

On View morning of Sale, and Catalogues had.

DUTCH BULBS-DUTCH BULBS

SALES NEARLY EVERY DAY TILL THE END OF DECEMBER.

MR. J. C. STEVENS begs to announce that he has arranged with several of the first Nurserymen in Holland to Continuously Supply his Sales, during the present season, with only really First-class Bulbs, of the best quality.

Feltham Hill, Feltham, Middlesex.

TO MARKET GARDENERS, FRUIT GROWERS, NURSERYMEN, and OTHERS.

MR. R. J. STEEL is instructed by Mr. A. W. Smith to SELL by AUCTION, on the Premises, as above, on THURSDAY, October 8, 1896, at 11 for 12 o'Clock noon, about 60,000 FRUIT TREES (3 years old), comprising Apples, Pears, Plums, Cherries, and Peaches, all of the choicest and most prolific kinds. The Apples consisting of Early Julians, Worcester Pearmain, Manx and Kentish Codlins, Stirling Castle, Warner's King, Duchess of York Favourite, Duchess of Oldenburg, Quarrenden, Cox's Orange Pippin, Ecclinville. The Pears—Williams' Bon Chrétien, Hessel's (Pitmaston Duchess), and Calabas. The Plums are chiefly Czar, Monarch, Victoria, Pond's Seedling, Rivers' Prolific, Gisborne's, and Belle de Septembre. The Peaches are Barrington's, Hale's Early, Royal George, and Dr. Hogg. The Cherries are Morello. The above stock will be lotted to suit all Buyers.

May be viewed seven days prior to Sale. Catalogues of the Auctioneer, Broadway House, Hanwell, and Boston Gardens, Brentford.

WANTED to RENT or LEASE a few Glasshouses near London, suitable for Orchids.—F. L. S., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, SECOND-HAND ROCHFORD BOILER and 4 inch Pipes. Particulars to—Mr. CLARKE, Queen's Park Market Nursery, Northampton.

ABOUT Six Acres of FREEHOLD LAND, old pasture, with rich yellow loam, admirably suitable for Horticultural Purposes. Within Two Minutes of Railway Station, and close to main Road. Fine open position, ten miles north. Portion may remain on mortgage if required.—Full particulars from MARK GILBERT, Auctioneer, Enfield Highway, Middlesex.

LARGE COLLECTION

OF

ORCHIDS

TO BE SOLD PRIVATELY,

Land Required for Building Purposes.

ABOUT 3000 PLANTS,

COMPRISING ABOUT

600 Specimen Cypripedium insigne,

100 Specimen Cymbidium Lowianum,

50 Specimen Læ ia purpurata,

50 Specimen Cœlogyne maxima Chatsworth, &c.,

500 Cattleyas, including Percivalliana, gigas, Mendeli, Trianæi, Labiata, autumnalis, and others,

200 Odontoglossum citrosmum.

CYPRIPEDIUMS—

Hirsutissimum, Callosum, Spicerianum, Barbatum, &c.

ODONTOGLOSSUM CRISPUM,

and many other Orchids, all established, and in the pink of health.

A GREAT MANY IN BUD OR FLOWER.

Gentlemen forming Collections, or adding to, can do so at exceedingly low prices.

On view—

CUMBERLAND PARK NURSERIES,

WILLESDEN JUNCTION, LONDON, N.W.

OLD-ESTABLISHED SEED BUSINESS for SALE. In good Business Centre. Stock and Fixtures at a low valuation.—F. O., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

NURSERY PREMISES, consisting of well-built House, large Conservatory, 3 Greenhouses, Stable, Carpenter's Shed, &c. The Freehold to be Sold. For full particulars apply to MARK GILBERT, Auctioneer, Enfield Highway, London, N.

FOR SALE, or TO BE LET, on Easy Terms, a well-established NURSERY and FLORIST'S BUSINESS, eight Glasshouses, all heated and stocked, an Acre of Land; a low price for a quick settlement. Apply—R. B., 2, Bowen Villas, Wembley, Harrow.

TO BE SOLD, as a Going Concern, an Old-established NURSERY and FLORIST BUSINESS, with JOBBING BUSINESS attached. In good locality, near Glasgow. Convenient to two stations. Stocked with general Nursery Stuff, Greenhouses, Frames, Implements, &c., &c. All in good condition. Price £380. Full information given.

Address L. M., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, London, W.C.

SEED, FLORIST, and NURSERY BUSINESS; genuine old-established. Small Market town; splendid Seed trade. Shop best position; small Nursery and Garden, four Greenhouses, &c. Price, including stock, &c., about £195. Splendid opportunity. Low rents. Good reason for disposal.—J. H., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FLORIST, NURSERY, and MARKET GARDEN BUSINESS, beautifully situated near Bath and Bristol, and capable of extension. Good Dwelling-house, Stabling, Piggeries, and Orchard (about 12 acres in all). Rent low. Extensive area covered with glass, and properly heated. Abundant supply of water flowing through the premises. Two Railway Stations near. Purchase or Partner.

CLEMENT GARDINER, 14, John Street, Bristol.

Fifty Nurseries, Market Gardens, Florist and Seed BUSINESSES to be DISPOSED OF.

MESSRS. PROTHEROE AND MORRIS' HORTICULTURAL REGISTER contains full particulars of the above, and can be obtained, gratis, at 67 and 68, Cheapside, London, E.C.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

CORDON PEARS, APPLES, &c. — Well-spurred Fruiting Trees, 5 to 7 feet.

WILL TAYLER, Hampton, Middlesex.

EXHIBITIONS.

BRIGHTON CHRYSANTHEMUM SHOW.

NOVEMBER 10 and 11.

Entries close November 4. Schedules and particulars of THE SECRETARY, 87, Western Road, Brighton.

LEAMINGTON, WARWICK AND DISTRICT CHRYSANTHEMUM SHOW.

At LEAMINGTON, NOVEMBER 19 and 20, 1896.

£100 IN PRIZES.

Schedules and Entry Forms now Ready, of the Secretary *Advertiser* Office, 76, Parade, Leamington.

SPRING WATER FOUND by the use of HAZEL ROD or STEEL SPRING.—Apply to T. K. D. MEREWEATHER, South View House, Bedminster, Bristol.

EVERY GARDENER should send post card for NEW ILLUSTRATED LIST of TEAK-WOOD RECEPTACLES for growing Plants, Ferns, and Orchids; cheaper than pot ware.—C. E. WEST, F.R.H.S., Roundhay, Leeds.

PEAT.—Excellent Brown and Black Fibrous, for Rhododendrons, American Plants, &c.

Sample bag, 2*s.* 6*d.*

F. STREET, Heatherside Nurseries, Camberley.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free.

P. McARTHUR, The London Nursery, 4, Maida Vale, London, W.

ROYAL SOVEREIGN STRAWBERRY, knocked out of 60's, well rooted excellent stuff, 6*s.* per 100; out of Thumbs, 5*s.* Also several STOVE PLANTS, very cheap. Send for List.

ROBERT CROSS, Worstead, Norwich.

ALLINGTON PIPPIN.—The finest new Dessert sent out for thirty years.

Maidens, 5*s.*; 2 yr., 7*s.* 6*d.* each; larger to 21*s.* each

GEORGE BUNYARD AND CO., Maidstone.

Distributed in November.

5,200,000 BULBS and ROSES.—A Lady writes:—"Your Bulbs are a marvel of cheapness. Please send 1000 best Tulips at 21*s.*" (Trial solicited).—SELLENS, Bulb Grower, Coventry.

HARDY FERNS.—Ten varieties, massive roots, for Outside Planting; 50, 3*s.* 6*d.*; 100, 6*s.*; 1000, 50*s.*; SPHAGNUM MOSS, Large Crowns, 4*s.* 6*d.* per 3 bushel sack; 5 sacks, 20*s.*—J. BYRNE, Fellside, Kendal.

TO MARKET GROWERS.—About 5 bushels of EARLY MARROW PEAS (Ne Plus Ultra type) fit to gather middle of June.—Apply Mr. B. SKIPWORTH, 40, Queen Victoria Street, E.C.

STRAWBERRY.—ROYAL SOVEREIGN is acknowledged the best for forcing and field, in cultivation as early as Noble, more productive than Paxton, and flavour well nigh equal to British Queen.

Fine plants 20*s.* per 100, warranted true. Special price to the trade, and for large quantities.

H. CANNELL AND SONS, Swanley, Kent.

GEMS of ENGLISH GROWN NARCISS, &c. VERY CHEAP! OF BEST QUALITY!

Pheasant Eye, Pseudo or Lent Lily, 1*s.*; Double White, 2*s.*; Albus Stella, 2*s.*; Single Incomps., 2*s.*; Double Incomps., 3*s.*; Double Daffodils, 3*s.*; Cynosure, 3*s.*; Burbidgei, 3*s.*; Princess of Brabant, 3*s.*; Princeps, 3*s.* 6*d.*; Rugilobus, 4*s.* 6*d.*; Leedsi amabilis, 6*s.* 6*d.*; Orange Phœnix, 7*s.* 6*d.* per 100; Sir Watkin, 3*s.* 6*d.* per dozen. Aconites, Large Yellow Crocus, Star of Bethlehem, Single and Double Snowdrops, at 1*s.* per 100. Cash with all orders. Satisfact on guaranteed.

G. YORKE, Bulbist, Retford.

STRAWBERRIES, Strong runners.—Royal Sovereign, 2*s.* 6*d.* per 100; Sir Joseph Paxton, 1*s.* 6*d.* per 100; Vicomtesse H. de Thury, 1*s.* 6*d.* per 100.

RASPBERRY CANES.—Superlative, 6*s.* per 100; Carter's Prolific, 3*s.* per 100; Semper Fidelis, 3*s.* per 100; Hornet, 3*s.* per 100. Special quotations for large quantities. Carriage paid on orders of £1 value.

JOHN CHIVERS, Histon, Cambridge.

FERNS AND DECORATIVE PLANTS!—(TRADE):—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 12*s.* 100; ditto, large, in 48's, 10 best selling sorts, 6*s.* doz.; strong seedlings, 6*s.* 100, 50*s.* 1000; Adiantum cuneatum, in 48's, for cutting, 6*s.* and 8*s.* doz.; ditto, for making large plants quickly, 16*s.* and 20*s.* 100; Cyperus, Aralias, Grevilleas, Begonias, Geraniums, and Solanums, in 48's, 6*s.* per doz.; Marguerites, Mignonette, Chrysanthemums, and Erica gracilis, in 48's, 9*s.* per dozen; Ficus, Palms, Dracænas, Crotons, and Bouvardias, in 48's, 12*s.* per dozen; Lists free. Packed free. Cash with order.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

GENERAL NURSERY CATALOGUE

For AUTUMN, 1896.

Specialties: English Yews, English Hollies, Aucubas, Specimen Conifers, Standard Roses, and General Nursery Stock. New Violets, &c. Also Dutch and Forcing Bulbs.

CATALOGUES post-free on Application.

FREDERICK PERKINS,

NURSERYMAN, REGENT'S STREET, LEAMINGTON.

TO DISPOSE OF, 2 ARAUCARIA excelsa, 12 feet; 4 large PALMS, from 5 to 7 feet; what offers? Address GARDENER, North Cray Place, Foots Cray, Kent.

HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.C. Prompt cash.

CARNATIONS.—Mrs. Reynolds Hole and Mrs. Muir, strong layers, 12s. 6d per 100, free on rail. F. W. BRADLEY, New Road, Peterborough.

TO BE SOLD, a very fine CAMELLIA TREE, double white, full of buds. Stands about 8 feet high, in new box, which takes to pieces, and is fitted with angle-irons, screws, and wedges. Price £3 10s., or offers—Apply, 194, High Road, Balham.

THREE Splendid SPECIMENS of VARIEGATED ALOES, in fine condition, planted in tubs. The Aloes measure about 7 feet high and across, and are probably 30 years old. Will be sold much below value, owing to want of space.—A. HOLT, Oaklands, Leamington.

MALMAISON CARNATIONS, in 4-inch pots, 50s. per 100; Germania, Reynolds Hole, and others, strong layers, 18s. per 100.
J. LITTON, Grosvenor Cottage, Bath.

BOX'S BEGONIAS, for quality and quantity, are unequalled; obtained highest award for Begonias at Temple Show. Exhibition of 2 acres in bloom till end of September, at West Wickham Nursery, near Station, Mid Kent, S.E.R. A visit solicited.—JOHN R. BOX, Croydon.

LOVELS' YORKSHIRE STRAWBERRIES. Prepared Runners from Maiden Plants:—Thury, Paxton, President, and others.
Sample packet, 6d.; 100, 4s. 6d., carriage paid for cash. List.
W. LOVEL AND SON, Strawberry Farm, Driffield.

Important to Mushroom Growers.

CUTHBERT'S SPÉCIALITÉ MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5s.
R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

STRAWBERRIES. — STRAWBERRIES.—All the leading varieties, in strong runners and in pots, ready for immediate delivery. Descriptive Catalogue on application.
BULBS.—The best procurable, at low prices. Catalogue free on application.
RICHARD SMITH AND CO., Worcester.

50,000 EUONYMUS, Green and Golden, all splendid bushy plants.—GREEN: 12 in. to 15 in., at 30s. per 100; 15 in. to 18 in., at 40s. per 100; 18 in. to 21 in., at 55s. per 100; 21 in. to 24 in., at 75s. per 100; 25 in. to 40 in. at special prices.
GOLDEN: 5 in. to 12 in., at 3s. to 8s. per dozen. Cash with order. J. J. CLARK, Goldstone, Brighton.

MALMAISONS.—Princess of Wales (deep Pink), beautifully Clove-scented (the queen of Malmaisons for cut flowers and decorations), fine plants, 12s. per doz.; Malmaisons, Blush, 9s. per doz. BORDER CARNATIONS (Selfs), Picotees, Flakes, and Bizzares, the finest named vars. extant, my selection, 6s. per dozen.
CHAS. A. YOUNG, Floral Nursery, West Derby nr. Liverpool.

BEGONIAS of the newest and most superb type, including many rare varieties. Double and Single, for Conservatory or Bedding. See B. R. Davis' Descriptive CATALOGUE, free. A handsome coloured plate of Six Double Varieties and a Treatise on Cultivation, free for 1s.
B. R. DAVIS, Yeovil Nurseries, Yeovil, Somerset.

To Nurserymen and Others.

TO BE DISPOSED of, the COLLECTION of CONSERVATORY and GREENHOUSE PLANTS, consisting of Dracænas, Azaleas, Camellias, Palms, Genistas, Ferns, Fuchsias, Lilies, auratum and others; Geraniums in store pots; Begonias, Gloxinias, Primulas, Cinerarias, &c. On view Monday and Tuesday next, October 4 and 5.—Apply, the GARDENER, Muswell Hill Villa, Muswell Hill, N.

Hyacinths, Tulips, Crocus, Lilies, &c.

C. G. VAN TUBERGEN, Jun., Haarlem, Holland. Wholesale CATALOGUE now ready, and may be had free on application to—
Messrs. R. SILBERRAD AND SON, 25, Savage Gardens, Crutched Friars, E.C.
N.B.—Many new, rare, and interesting plants and bulbs will be found in this Catalogue.

Kentish-grown Fruit Trees, Roses, &c.

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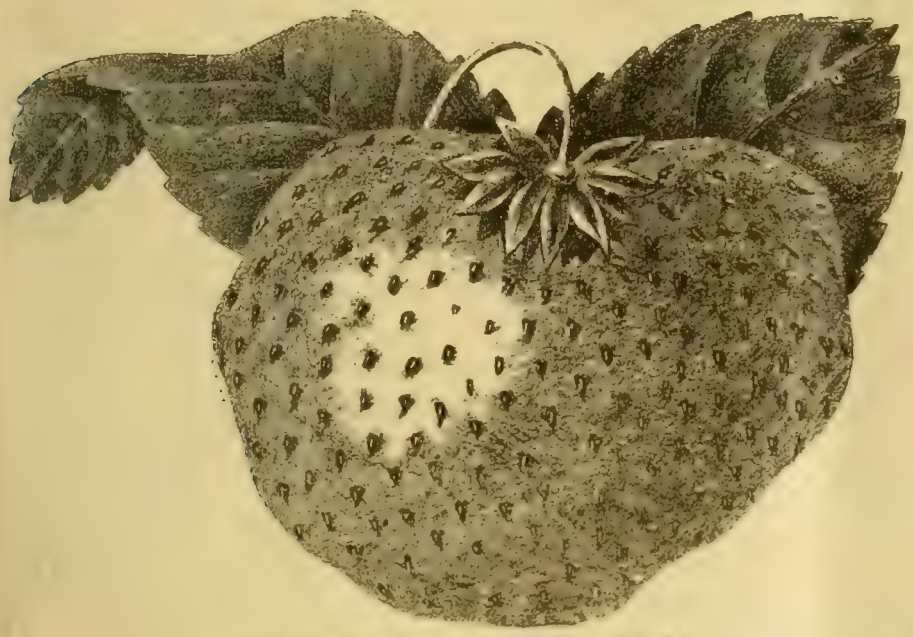
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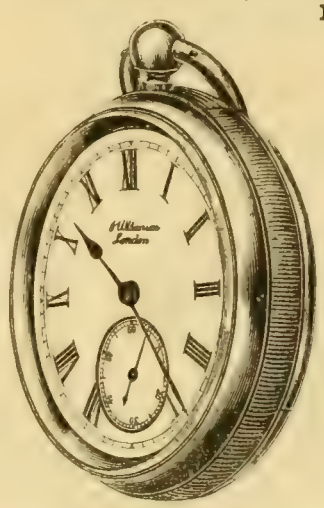
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THE

Gardeners' Chronicle.

SATURDAY, OCTOBER 3, 1896.

BADEN-BADEN.

AFTER the lapse of a few years I again find myself in this favoured spot. There are few towns which I like better than Baden-Baden, and after a rather long run on the Continent, it seems to me still to hold its own, and can bear comparison with other localities of the sort. But, of course, my attraction to this part of the world does not come from the richly-wooded hills, or the bright streets and villas, or the old Schloss, or anything else that might be named, as it does from the Botanischer Privat Garten, and the well-known genius who presides over it, and to whom we are all indebted for so many of the attractions which our gardens possess. His many friends in England will be glad to know that Herr Max Leichtlin seems to me to be very much as he was a few years ago, when I last had the pleasure of seeing him. At any rate, his interest in his garden is quite unabated, his activity seems to be just the same, his friendliness and willingness to help one in every way is what I have known it to be for many years past; and I hope and believe that this centre of interest for all the lovers of flowers has a long existence before it, and that he will yet gather in from his borders multitudes of rare seeds with his own hands for many years to come, and send forth, if it be possible, even grander, and brighter, and more interesting things than we have yet had from him. But a word about the garden and its ornaments at this season of the year may, perhaps, be acceptable to those who have not seen it of late.

It should be remembered that the year is hastening onward towards the close. There are patches of yellow in the woods, the Walnut-tree beneath my window has just been stripped of its load, and autumn asserts itself on every side in a way which cannot be mistaken. This is far from being the time when one would choose to visit Max Leichtlin's garden, or expect to find very much of blossom in it, but I felt certain that even now I should not come in vain, and that expectation has been verified. For one thing, let me say the Kniphofias are such as I have never seen elsewhere. K. Nelsoni is of great value, because it blossoms the latest of all, and it is certainly one of the loveliest and most elegant of them. K. natalensis is the most highly-coloured of the lot; K. Triumph has a kind of bright yellow candelabra-like habit of flowering; and a small yellow one which is not very tall, and has not as yet been named, struck me very much indeed, and is certain to please. But perhaps I may as well say at once, that the most striking plant in the garden just

now is Coriaria nepalensis—it was so entirely new to me. Max Leichtlin says it has been in full beauty since last July, and is likely to be so till the frost sets in. The crystalline, deep yellow fruit is attractive in the highest degree, and when the statement is added that the shrub is quite hardy in this part of the world, it will be seen that this acquisition from the Himalayas is of great value, and will be much sought after.

There was a new Hedysarum in the borders which I liked very much; Trachelium rumelianum is a nice little flower, and I saw many specimens of Campanula mirabilis, of course not in blossom just now, from which great things are expected. Liatris cylindracea is still very nice, but I am told it is far from the best; I think it is L. graminifolia that Leichtlin praises the most, but its time had gone by. Thalictrum Delavayi has no need of mention from me, but I never saw such fine specimens as there are here, and there seem to be two varieties which differ very much in the foliage, but are in other respects alike. Some Lobelias are still very attractive. L. fulgens rosea and L. f. violacea correspond with their names, and they brighten up the borders exceedingly; they differ from what I have as yet come across. Calceolaria alba should not escape notice, it will be a valuable little shrub if only it is sufficiently hardy. In one of the houses I saw an Agapanthus, which throws all others into the shade; it rejoices in the name of A. maximus var. Krelagei; and while any Agapanthus is good, this must be put in the first rank of all, where autumn flowers are looked for. Close by it was a very large Belladonna Lily, Amaryllis Belladonna rosea perfecta, a beautiful thing in its way. But I could extend my list of plants and bulbs which are in blossom, even now, to a very great length. Sternbergia macrantha is in all its glory at present; I suppose it is one of the finest of Mr. Whittall's many introductions—the only draw back that it has is, that it is naked stemmed, and blossoms without the leaves. Gerbera Jamesoni seems to be quite at home with Max Leichtlin, though it is strange to hear from him that it has not done well lately in the way of blossoming, because of the continuous wet. I have a plant at Ryde which must be four or five times as large as any which are here; and though very robust and strong, it did not blossom well this summer in one of the hottest and driest places that could be conceived. If sunshine in one locality puts it out, and rain in another, what are we to do with it? My plant did splendidly in the summer of 1894 and 1895, but it has quite failed this year; and I hear from my gardener that it has done nothing since I left home, some six or seven weeks ago, though it is in a very robust and healthy condition.

I might weary your readers if I mentioned everything that interested me this morning. Scabiosa Hookeriana is a novelty which has seen its best for this season. I think Max Leichtlin said it had been a puzzle to him for fifteen years. He has two or three good Delphiniums which have not as yet found their way into commerce; one is a sort of dark claret colour, which had not at all begun to fade. I noted flowering plants of Galanthus Olgæ Reginæ, but it is nothing more than G. nivalis, with a very precocious disposition, which makes it outstrip all its compeers in earliness; it is, nevertheless, well worth possessing, for by its aid all lovers of Snowdrops (and who is not a lover of Snowdrops ?) may cover three out of the four quarters of the year with their favourites, and only be without them when there is quite a glut of other flowers. Old friends turn up here in multitudes, though I miss a good many of those which I have known before. Onosma albo-roseum, Omphalodes Luciliæ, Polygonum spherostachyum, Arnebia echioides, Pelargonium Endlicherianum, Primulas without number; Aubrietias, and such like plants abound on every hand. There is an Aubrietia which I want some day to see in blossom very much, for it is called the Beauty of Baden; and if it be that, what a beauty it must be? And this Beauty of Baden has almost entirely refused to yield any seed at all. But Max Leichtlin has conquered it; and from one single seed which he espied he has raised a plant which has a very curious look about it, and is certainly very different from its parent. It has not had time to blossom as yet, but who can say what it will be?

I wish I had time to spare, and could linger on here for month after month. What might not one learn under such conditions as are found here? and with such a master as this? How I learnt that he could do nothing with one plant till he kept it cool by covering the ground with Polygonum vaccinifolium, and then all the trouble disappeared. How another (Iris Hartwegii, which has also bothered me till now) must be moved at one season of the year, and only at that one; how this difficulty may be met and that triumph may be secured can be learnt only here, so far as I know. I said to my friend as he was guiding me over his terraces and pouring out experience as he only can do it—"I wish to goodness you would write a book and let the world a little more into your wonderful secrets." His answer was: "I am only an apprentice." I thought to myself I should be quite satisfied to be an apprentice to an apprentice if I could only get to know the tithe of what you know, and could apply my knowledge as well. *Henry Ewbank.*

New or Noteworthy Plants.

ACALYPHA SANDERI, *N. E. Brown* (*n. sp.*)

This is a very beautiful species of Acalypha, quite distinct from any other at present in cultivation. Most, if not all, of those that are cultivated are grown for their foliage, but the charm of this novelty resides in its long, drooping, female flower-spikes, which are dense and bushy, like a squirrel's tail on a small scale, and of a beautiful, bright, rose-madder colour, effectively contrasting with the uniform bright green of the leaves. Undoubtedly it is a very distinct and attractive plant, and will probably prove to be one of the most striking novelties of next season. It was discovered growing near the sea in the Bismarck Archipelago, by Mr. Micholitz, when collecting in that region for Mr. Sander. Mr. Micholitz states that it is a sun-loving shrub of strong growth, very floriferous, and that the beautiful flower spikes last a long time in perfection. At his request I have great pleasure in attaching to the plant Mr. Sander's name. The following are its botanical characteristics.

A vigorous shrub, attaining a height of 10 to 15 feet. Leaves spreading, with pubescent petioles, 2 to 2½ inches long, and blades 5 to 5½ inches long, 3 to 3½ inches broad, ovate, acute, or shortly acuminate, rounded at the base and emarginate at the insertion of the petiole; the margin variably serrate, with obtuse teeth, that are large or small, or sometimes almost wanting on the basal half of the leaf; upper surface bright green and sparsely hairy, under surface paler green and nearly glabrous, except along the midrib and base of the principal nerves, which are more or less pubescent. Male flowers not seen. Female flower-spikes axillary, densely many-flowered, drooping, the peduncle ¾ to 1½ inch long, the flowering part 4 to 8 inches long, and ½ inch in diameter when fresh. Bracts minute, scarcely half a line long, ovate-acute, bearing clusters of three to five sessile flowers in their axils. Bracteoles very minute. Perianth-segments half a line long, ovate-acute, green, ciliate, with white hairs. Ovary half a line in diameter, globose-trigonous, green, densely covered with stiff white hairs. Styles three, divided to their base into numerous long, filiform stigmas, of a bright rose-madder colour, drying brown. Native of the Bismarck Archipelago.

Possibly the plant is dioecious, as, so far as I am aware, only female flower-spikes appear to have been produced on the introduced plants, the stock of which is in the hands of Messrs. F. Sander & Co. *N. E. Brown.*

Lælio-Cattleya × Schilleriana, *Schofield's variety* (*new var.*).

This is one of the most beautiful of the race of hybrids resulting from the natural hybridisation of Lælia purpurata and Cattleya intermedia which I have seen. By far the greater part of the L.-C. × Schilleriana in gardens appear to have come from C. intermedia hybridised with L. purpurata, but like the variety figured in the *Select. Orch.*, i., t. 6, as Lælia gigantea, whose first flowers I had the pleasure of seeing, this one is without doubt from Lælia purpurata and Cattleya intermedia. Indeed, it might be described as approaching closely to L. purpurata in size and showiness, but with a change of form, mostly observable in the labellum, wrought by the influence of the other parent.

The flower is much broader in the petals than ordinary varieties, and the gorgeously-coloured lip is fine in form, and surpasses that of any other variety which I have yet seen. The sepals and petals, which are each about 3½ inches in length, are silvery-white tinged and veined towards the edges with pale rose. The nearly-circular front lobe of the lip is close on 2 inches broad, and of a rich blending of violet, ruby-red, and crimson, colours which also appear on the extended side-lobes, but on which they fade off to a purplish lilac tint both inside and outside of the upper edge. A broad band of deep purple colour marks the centre of the lip, with primrose-yellow, changing to white at the sides. It flowered with G. W. Law-Schofield, Esq., New-Hall-Hey, Rawtenstall, Manchester (gr., Mr. Shill), and as the plant is a very weak one, it may be expected to improve *James O'Brien.*

METHODS OF PROPAGATION,

(*Continued from p.* 331.)

Training.—The fan-like form of training is the only one used for Peaches, Nectarines, and Apricots, and for most kinds of Plums in this country. As the name implies, in such trees the branches radiate from a common centre, and are formed by heading back the maiden fruit tree close to the bud or graft, and when fresh shoots are formed, training them into their places by means of wooden frames made of stakes firmly inserted in the soil, so as to make a diagonal pattern, like some light temporary fence. To these stakes the shoots are tied with raffia. As the natural tendency of a tree is to grow upwards in a line from the root, and carry all the strength into this central stem, the trainer has to keep his lower branches very low indeed, if possible, at right angles to the axis of his tree, letting the others follow upwards and outwards, till the tree is finished, but avoiding a central stem used in horizontal work. By this method the danger of crowding is obviated, and the sun and air are able to reach every portion of it, which is necessary to the ripening of the wood, and therefore to fruitfulness.

Bush and Pyramidal Forms.—The training of trees to occupy positions in the orchard and garden, independent of the support of a wall or fence, is much more simple, and the pruning-knife is the sole aid, upon the judicious use of which depends the formation of the required tree. Taking a maiden tree which may have been obtained from bud or graft, we will proceed to make a "bush" tree of it. If from

a bud, it will probably have but one shoot; this must be headed back to three or four eyes, which will soon burst into growth, and should then be prevented from growing towards the centre, and from crossing each other, the object being to form an open or bowl-shaped tree. When the laterals have grown from 2 to 3 feet, and are partially ripe, they must be stopped, in order to induce them to throw short spurs, such as may eventually produce fruit. Let the operator, however, secure an outside bud to terminate the shortened shoot, as this will serve to keep open the young tree, and prevent branch crowding. This kind of tree is used very largely by fruit-growers in the suburbs of London and other large towns, where they allow a crop of Beet, Turnips, or even Potatos, between the trees; while in rural fruit-growing districts, bush-fruits and Strawberries are generally grown between the rows of permanent standard trees, until the latter become so large as to require all the room.

Pyramids are formed, on the other hand, with a central shoot, from which shoots should extend outwards all round, making the foundation of the tree. This is achieved by heading back the central axis or shoot, and encouraging the formation of lateral ones, the uppermost being trained to secure the upward growth of the tree; while by leaving the terminal bud on the right of the tree one year, and the next one on the left, a comparatively erect central bole is secured. Nurserymen, as a rule, do not further train pyramids, preferring to sell them at this period of growth, so that the purchaser may finish the work in his own garden. There is too great a tendency now to demand a finished tree, called in the catalogues a fruiting tree, and nurserymen, therefore, sell many trees which have already fruited in the nursery; but this practice is not the best for the future well-doing of the tree, and skilled gardeners prefer young trees.

Standard Trees are obtained from the nurseries generally when they are three or four years old, and are formed by encouraging the growth of one central shoot, forming eventually the bole, but the height from the ground-line to the branches varies in different counties; in Kent it is 5½ to 6 feet, while in the midlands and north 5 feet is the maximum. When the required altitude is reached, the shoot is stopped or headed back; this excites the dormant buds, and three or four of them are allowed to grow freely, forming the head, while those below are permitted to remain for the purpose of thickening the bole, being generally stopped to two or three leaves. These spurs are not removed until the tree is thick enough to stand without a stake, or until the tree is sold. Modifications have been made of the standard form of training by a well-known Kent firm, and so amateur's standards are obtained. These are simply standard fruits on dwarfing stocks—Apples on the Paradise stock, Pears on the Quince stock, and Plums on the Myrabelle and Sloe, and perhaps Cherries on the Mahaleb.



Fig. 71.—Acidanthera bicolor: flowers white, with a purple-coloured blotch.

Instead of these being kept short by early pinching and pruning, they are encouraged to run up standard high; and the laterals, which are almost always produced by trees on these stocks, are pruned back to two or three buds, as is done in the formation of cordon trees. It follows, therefore, that fruiting spurs are formed the whole length of the stem or bole, and later, there is a good fruitful head in addition. Probably this form of tree will become very popular with amateurs who have small gardens. The necessary after-treatment of standard or amateur standard trees is to plant carefully, avoiding deep planting, unless in very light soils, and to make the trees thoroughly secure against wind by staking. Plant as early in the autumn as you can, even if a few leaves still hold on to the branches, and the following spring cut back each shoot to three or four buds, and just above an outside bud. By such treatment the head will be kept open, which is very essential in all fruit trees, especially those standard trained.

After planting, give a liberal mulching of partially-decayed dung, that from the cow-yard being preferable, and let it remain all the winter. In the spring just fork it under the soil, but avoid disturbing the roots in doing so.

There are many other methods of training used, especially on the Continent, which one English firm has endeavoured to make popular in England. However, most gardeners have quite enough to do without engaging in "fancy-work," which I as one of the old school must call these methods of training. *Experience.*

(*To be continued.*)

ACIDANTHERA BICOLOR.

This is a pretty member of the Iridaceæ, from the more mountainous parts of Abyssinia and the Zambezi country. It was described by Hochst, in *Regensb. Flora*, 1844, p. 25, but until a few years ago, corms appear never to have been introduced into this country, although the plant has been cultivated to some extent in America. It flowered at Kew, we believe, in 1892, and this was no doubt the first time in England. The globose corm is from ½ to 1 inch in diameter, and enveloped with fibres, and the foliage resembles that of the less robust section of Gladiolus. The stem of the flowers shown in fig. 71 were about 15 inches long, but they would become longer if cultivated in a greenhouse. Each spray bears from four to six widely-expanded flowers. The perianth-tube is creamy-white and slender, and about 4 inches long. It is divided into six oblong-acute segments, which, in the specimen figured, were 1½ inch long and ½ inch broad in the centre. The five lower segments are stained with blotches of purple at the base, from which the almost erect one at the apex is free.

Messrs. Veitch & Sons, Chelsea, who exhibited flowers at the last meeting of the Royal Horticultural Society at the Drill Hall, when a First-class Certificate was awarded the plant, inform us that A. bicolor is hardy at Coombe Wood, and in similarly sheltered places it will be a useful and pretty addition to this class of bulbous flowering plants. In most situations, however, it will be likely to succeed if the corms be lifted and stored during the winter, and in spring planted-out in a warm border. It would be valuable also in a cold greenhouse in 8 or 9-inch pots, which would contain several corms, and consequently a considerable number of pretty and sweet-scented flowers.

FOREIGN CORRESPONDENCE.

BEGONIAS AT FERRIÈRES.

The collection of tuberous-rooted Begonias at Ferrières includes the best French varieties up to date. In the middle of September the plants were at their best, and the flowers equalled in size a good Camellia bloom. It may be worth while to name a few of the finest as a guide to readers of the *Gardeners' Chronicle*, who may desire to add to their collection some of the best continental varieties. I will name the

best first, and the rest in order according to their merit. Albert Crousse is a very compact growing plant, flowers abundant, double, pink, each bloom measures 5 or 6 inches across, and by far the best of all; Camille Flammarian is very vigorous in habit, flowers double, very large, and peduncles rather long, colour of flowers salmon-pink; Doctor Feltz is a vigorous grower, flowers double, colour rich bright red, but darker in the centre of the flower; Amitié is a rose-coloured one and double; Triomphe de Nancy has immense double flowers, these are straw-coloured and very attractive; Normandie grows vigorously, and has a fine appearance, the flowers are double and very large, colour pink; Gloire d'Echouché has extra large dense flowers of a pale pink hue. The single flowering varieties are also of great merit, and some of the flowers from plants raised from seeds this season measure 18 centimètres (7 inches) across, and the colours are very fine. Great care is taken each season when fertilising the flowers to keep together those of the same shade of colour. The seed was sown in heat about the end of January. They were pricked-out, and afterwards planted in frames in April, and were planted in their present position about a foot apart towards the end of June. *A. C. C.*

THE WHEAT CROP OF 1896.

To find a harvest which began as early as the present one, we must go back to the year 1868, a period of twenty-eight years. In 1868 we began to cut our Wheat on the 14th of July, this year we commenced on the 18th, our usual time on this farm for beginning harvest being about the middle of the first week in August. There is a considerable agreement between the Wheat crops of these two remarkable years, which I shall refer to later on. After an exceedingly hot and dry September, October began with a heavy rainfall during the first fortnight, 2 inches having been measured the last two weeks; and the first three days of November being fairly dry. The first week in October was hot, the remainder of the month was cold; altogether the weather was very suitable for the sowing of Wheat, and the seed was got in under very favourable conditions. November was a very warm month with a good deal of rain; December was cold with about an average fall of rain. From the beginning of January to nearly the end of February, the weather was unusually warm, and also very dry. March was a very warm month, a good deal of rain fell during the first week, some in the second week, and in the third week nearly 2 inches fell. Except upon light land, no spring corn could be sown during this month. April was warm, and although more or less rain fell every week, the quantity was but small. At this period, when the Wheat began its active growth, its appearance was highly favourable, the great fear was that it was in too luxuriant a state to bear much rain. Fortunately the month of May, which was both hot and very dry, and consequently suitable to the Wheat, quite destroyed the prospects of the hay-crop. June was a very hot month, with an excess of rain during the first half, and a deficiency during the last two weeks. There was some excess of temperature in July, with a deficiency of rain, and as the weather did not break up until after the middle of August, the crop was secured in excellent condition in most of the great Wheat-growing districts. Altogether, the season from beginning to end may be considered to be highly favourable for the Wheat; a good seed-bed, a warm and dry winter, and a hot and dry summer, while the rainfall in June, chiefly in the early part, which amounted to 2¼ inches, was a great benefit to the Wheat, preventing the grain from ripening too rapidly, and giving us a crop which, for quantity and quality combined, has rarely been exceeded. Although the rainfall during this harvest year, beginning with October and ending the middle of August, was considerably deficient, but we have already more than made up the deficiency, no less than 7½ inches having fallen during the last five weeks.

The following table shows, in the usual form, the produce of Wheat on the selected plots in the experimental field at Rothamsted for 1896, which is the fifty-third year of the successive growth of the crop on the same land. It also gives, for comparison, the average produce of the same plots over ten, thirty-four, and forty-four years, 1852 to 1895 inclusive:—

Years.	Unmanured, Plot 3.	Farmyard Manure, Plot 2.	Artificial Manures. Plot 7.	Plot 8.	Plot 9 (Plot 16, 1885, and since).	Mean.	Mean of Plots 3, 2, and 7, 8, 9 (or 16).
Bushels of Dressed Grain, per Acre.							
Present year, 1896	16¾	44	37½	44½	37½	39⅓	33½(1)
Averages:—							
10 years, 1886-95...	12	39¾	34	37½	35⅞	35⅞	29½(2)
34 years, 1852-85...	13½	33⅛	32⅝	36⅝	36½	35⅛	27⅝(3)
44 years, 1852-95...	12⅞	35	33⅜	36⅛	36⅛	35⅛	27¾(4)
Weight per Bushel of Dressed Grain in Pounds.							
Present year, 1896	61⅜	64	63⅝	64¼	63⅜	63⅞	63⅛
Averages:—							
10 years, 1886-95...	60⅛	61⅜	61⅛	61	60½	60⅝	60⅞
34 years, 1852-85...	58	60⅛	59⅝	59	58⅝	59⅛	59⅛
44 years, 1852-95...	58½	60⅜	60	59¼	59¼	59⅜	59½
Total Straw, Chaff, &c., per Acre, Cwts.							
Present year, 1896	11¾	44¼	33⅜	45¼	35¼	37⅝	31¼
Averages:—							
10 years, 1886-95...	8¼	35½	30⅞	38	36½	35⅛	26½
34 years, 1852-85...	11¼	31¼	33⅜	40⅜	42	38¼	27½
44 years, 1852-95...	10½	32¾	33	40⅛	40¾	38	27⅛

(1) Equal to 35¼ bushels at 60 lb. per bushel.
(2) Equal to 29½ bushels at 60 lb. per bushel.
(3) Equal to 27 bushels at 60 lb. per bushel.
(4) Equal to 27½ bushels at 60 lb. per bushel.

The permanently-unmanured plot gives a yield of 16¾ bushels per acre, which is very much over the average yield of ten, thirty-four, or forty-four years. The farmyard-dung, and the three artificially-manured plots all give a high yield. It is in regard to the quality of the Wheat, as shown by the weight per bushel, that this crop gives such favourable results. In two instances the weight of the bushel reaches 64 lb., and on referring back to our results since they began in 1844, I find no record of a weight of 64 lb. in any one of these five experiments. Our crop being threshed so soon after it has been harvested, would show a lower weight per bushel than if it had been allowed to remain in the stack some months. For so dry a year the amount of straw is large, being at the rate of nearly one cwt. for each bushel of Wheat. In 1895, when we had a good yield of Wheat, the straw was very short—but straw is, at the present time, a very important item in a Wheat-crop. Taking it altogether, farmers may be congratulated in having obtained so good a crop of Wheat. In *The Times* of August 17, 1868, I gave the results of our Wheat-crop of that year, the table of results being similar in all respects to the table of this year. The harvest commenced on July 14—several days earlier than the harvest of the present year. The temperature of July, 1868, was considerably higher than that of 1896: the records of the Royal Observatory at Greenwich, give for July twenty days, when the temperature reached 80° (Fahr.), five days in which it reached 90° (Fahr.), and one day on which it exceeded 96° (Fahr.). The Wheat of that year ripened too fast, and was not in quality equal to the Wheat of the present year; still, there is a considerable similitude between the crops of the two years. The permanently-unmanured land yielded, in 1868, 16⅝ bushels per acre; and in 1896, 16¾ bushels. The highest artificial manure gave, in 1868, 46½ bushels; and in 1896, 44⅛ bushels; while the mean of all the plots in 1868, calculated at 60 lb., gave 34⅝; and in 1896, 35¼ bushels. It is rather remarkable that, after the removal of twenty-eight crops of Wheat upon the same field, to find so close an agreement in two crops grown under somewhat similar climatic conditions. At the weight per bushel of 63⅛ lb., the mean of our plots gives a produce of 33½ bushels per acre; and if we adopt the standard weight of 60 lb., the produce would be 35¼ bushels per acre. On account of the very high weight of the British grain this year, it makes very little difference in the available crop of the country, whether we adopt as the average yield 33½ bushels at 63⅛ lb., or 35¼ bushels at 60 lb., the difference calculated one way or the other in the crop of the country would not amount to much more than one-third of a million quarters. In all our estimates of the acreage yields of our crops, a bushel is our standard, whatever may be the weight of corn it contains. In adopting the government weight of 60 lb. per bushel, in good seasons like the present, our acreage yield must always appear too high, as it is quite certain that the crop of the country does not amount to thirty-five bushels per acre.

Taking the average population of the United Kingdom over the harvest year ending August 31, 1897, as rather over 39½ millions, at six bushels per head, our requirement to feed then would amount to nearly 30 million quarters of Wheat. Of this we may say our home produce will supply rather more than 7 million, leaving nearly 23 million to be supplied by imports. Last year we imported 22⅓ million quarters of Wheat and Wheat-flour as Wheat, and it is said that we reduced the stocks of foreign Wheat in warehouse to the amount of 2 million quarters. Owing to the very high quality of our crop of this year, it is quite probable that a much larger portion than usual will be sold as bread corn.

In 1894-95 we imported over 3 million quarters of Wheat beyond our requirements, the consequence of which was a considerable fall in price, and a large accumulation of stocks in the warehouses. Most of this has now been used up, and should the imports in future not exceed our requirements, we may expect that prices will improve. So long as Great Britain is the only market for the surplus Wheat of the world, we must expect that prices will go down, until it does not pay a nation to grow Wheat for export, and it would almost appear that this point had already been approached in some countries, if we may judge from the decline in their exports. *Sir J. B. Lawes, Rothamsted, Sept.* 24.

KEW NOTES.

KENDRICKIA WALKERI.—Although described by Dr. Thwaites as one of the most beautiful of Ceylon plants, it is only recently that this scandent Melastomad has been successfully introduced into English gardens, a batch having been raised at Kew from seeds received two years ago from the Ceylon Botanic Gardens. Some of these seedlings have lately been distributed in England and elsewhere. It is described by Sir Joseph Hooker as a climber, ascending to the top of the highest trees, and when in blossom tinging the forest red. The stems creep up the trees like Ivy does, by means of numerous aërial roots; the leaves are opposite with short petioles, and ovate or oblong blades 1½ inch long, fleshy, the margins clothed with glandular hairs, and the surface with whitish dots, as in some Sonerilas. The arrangement of the leaves and habit of the stems change when they reach the summits of the trees, somewhat analogous to the change observed in Ivy, when it can no longer climb higher. The flowers are large, and are borne in terminal umbels; calyx urn-shaped, rose-purple; petals, four, fleshy, nearly an inch long, coloured bright red. The plants at Kew have grown freely, but they are as yet only in the climbing stage. Kendrickia is a monotypic genus, confined to Ceylon, and, in botanical relationship, not far removed from Melastoma.

KICKXIA AFRICANA.

A description of this new African rubber-tree, together with figure and particulars as to its economic value, were published in the *Kew Bulletin* last year, p. 241. Seeds of it have since been received from Lagos, and from these a batch of plants has been raised at Kew, some of which have already been distributed to the Colonies and India. The tree is wild and apparently abundant in some parts of west tropical Africa, and it is described as one of the most beau-

tiful trees in the forests of Lagos, where it forms straight, smooth stems, 60 feet high, averaging 12 inches to 14 inches in diameter. Each tree yields from 10 to 15 lb. of rubber, which is obtained by tapping the trunk in the rainy season. The raw rubber has been valued in England at 2*s.* to 3*s.* per lb. Judging by the behaviour of the young plants at Kew, this tree grows very rapidly, and as the rubber obtained from it is of considerable commercial value, its distribution from Kew to our Colonies and India is likely to be productive of good results in years to come. According to information given in the *Kew Bulletin* for March and April last (on p. 76), the total exports of this rubber from Lagos last year amounted to over 5,000,000 lb., of the value of nearly £270,000.

Eugenia malaccensis.

The Malay Apple, Jambosa malaccensis of gardens is a handsome stove shrub when grown as at Kew, where, in the Palm-house, it has attained a height of 12 feet. The plant, as seen at Kew, is abundantly branched, and furnished with large, oblong, glossy green leaves. It flowers two or three times a year, and each time the crimson blooms are succeeded by crimson-coloured egg-shaped fruits, 3 inches long, which have a soft, juicy, edible pulp. According to Sir Joseph Hooker, there are many varieties cultivated in different parts of the tropics for the sake of the fruits. Here it is an ornamental plant rather than for its edible fruits that it deserves cultivation, both flowers and fruits being attractive. In this country the fruits are insipid. The Kew plant grows in a shallow bed of rich soil in a sunny position along with Coffee-trees and the Champaca Michelia Champaca). It ripens seeds, from which plants are readily raised, and these grow to fruiting-size in about four years.

Diospyros kaki

is again fruiting freely in the Succulent-house at Kew. Evidently this plant is easily managed if treated similarly to the Camellia, but affording it all the sunlight and air possible during the summer. The fruits are as large as middle-sized Peaches, bright scarlet when ripe, and if eaten when the pulp is soft they are decidedly palatable. The Kew plant is about 6 feet high, with sturdy branches, and ovate, leathery glossy-green leaves, as large as a man's hand. It is planted in a bed of gravelly soil, and receives a mulch of cow-manure every year, in the spring. The fruits remain upon the plant a month or more after they are coloured, and are very ornamental. I wonder if Mr. Rivers has ever tried this plant in pots, like other fruits? The fruits of the Kaki, or Japanese Date Plum, are grown in the south of Europe for the Paris market, where I am told they realise what may be called fancy prices.

Passiflora edulis.

This is a variable species, and some of the forms are less fructiferous than others, although all appear to flower freely. One variety in the Water Lily-house at Kew has flowers almost as large again as the type, and the corona-rays are of a bright purple colour; the leaves also differ from the ordinary form in being larger and less uniformly lobed. It is worth including among stove-flowering climbers. The free-fruiting variety has been, and is still bearing a good crop of egg-shaped, purple fruits. The species is grown here and there chiefly as an ornamental plant, but it is worth more attention as a fruit-producing plant of easy culture, the pulp of the fruit being so deliciously flavoured that it might be used in a variety of ways for flavouring. It is known as the Mountain Sweet Cup. P. laurifolia, the Water Lemon, with orange-yellow fruits; and P. mali formis, the Sweet Cup, with ovate acuminate leaves, and green and yellow fruits, are two other species which find favour in some tropical countries on account of their delicious fruits, but although they grow well and flower at Kew, I have never seen them in fruit.

The Cotton Plant,

when properly grown, is not without attractions as a stove shrub. A group of plants in the Palm-house, and another in the Succulent-house, at Kew, are now flowering and seeding freely. The plants are 4 feet high, furnished with short horizontal branches, and palmately-lobed, hairy leaves; the flowers are like those of Hibiscus, cupped, cream-yellow, and 2 inches long; the pods containing the seeds, enveloped in cotton, are egg-shaped, 2 inches long, when mature hard, and green, finally bursting and displaying the cotton enveloping the seeds. The Kew plants are all forms of Gossypium herbaceum, which furnishes the varieties cultivated in India, known as Indian Cottons, G. barbadense being the source of the varieties known as the American Cottons. The seeds were sown at Kew in March, and raised in a tropical house; the plants are potted on as they require it, the final shift being into 8-inch pots. They were grown in a moist warm-house, as near the glass as possible, and are allowed plenty of sunlight. They require careful watering, anything like excess causing them to turn yellow, and the flower-buds to drop off before opening. Fresh plants are raised each year. *W. W.*



Fig. 72.—Randia maculata: flowers coloured purple and white.
(As growing in the Royal Botanic Gardens, Edinburgh.)

RANDIA MACULATA.

This showy plant belongs to the Natural Order Cinchonaceæ, named in honour of Isaac Rand, formerly Prælectus of the Botanic Garden of the Society of Apothecaries, at Chelsea. The genus consists of about ninety species of erect or climbing shrubs, inhabiting the tropical parts of Africa and Asia.

The species depicted in our illustration (fig. 72), and better known in gardens as Gardenia Stanleyana, is figured under that name in the *Botanical Magazine*, t. 4185. The flowers, very fragrant, consist of an extremely long slender tube, cylindrical, dark purple in colour, dilated above, and opening into a bell-shaped mouth; the limb, of five broadly-ovate, spreading obtuse segments, is purple and white without, pure white within, and is covered (except at the margin) with oblong dots of a deep purple hue. The flowers are produced singly from the forks of the branches, and when fully grown are about 9 inches long, but several months intervene between the time of their first appearing and their full development. The leaves are spreading, subcoriaceous, oblong, and set on short petioles, and quite entire. A plant was exhibited, from Kew, at a meeting of the Horticultural Society of London, in March, 1845. (See *Gardeners' Chronicle*, March 8 of that year, p. 152.)

Although like Gardenias, of easy cultivation in a stove, Randia maculata is a plant which is seldom seen outside of botanical gardens; and the illustration of an example of it about 7 feet in height which we now afford our readers, came from the Royal Botanic Gardens, Edinburgh.

THE APPLEY TOWERS GRAPES.

Lady Hutt and Appley Towers Grapes raised by Mr. Myles a good many years ago, at Appley Towers, Isle of Wight, are seldom seen in good form, but we may hope to inspect good sample bunches soon, and amongst others, Mr. Bowerman, gardener at Hackwood Park, Hants, has them. The first-named variety is a superb-looking Grape, the latter not so large this year, but the Vine is likely to throw better ones another year. The variety was worked on a Vine Muscat of Alexandria two years last spring, consequently it has made three annual growths, and the rod has reached the

top of the house. It carries six bunches, which average three pounds weight each, of handsome form, though oddly each has a shoulder. This leads to the inference that the single shouldering is characteristic of the variety. The berries are large, rounded, and clear in colour, indeed the bunches almost look like white Alicantes, and they need two or three weeks' more time to finish. How far they will do that has yet to be seen. If, however, they presently put on an amber tint they will be attractive. In a class for any other white, Lady Hutt, when well grown, should be a strong feature. The Appley Towers Vine is less vigorous, but it carries several handsome bunches, which somewhat resemble Gros Maroc in form of berry. They are colouring well. It is hoped that these Isle of Wight-raised Grapes, the products of a single "berry," will justify their so far good reputation, and become worthy of wider cultivation. *A. D.*

THE CURRANT PLANTATIONS AROUND PATRAS.

On August 15 a friend and myself started from Athens on a visit to Patras to see the Currant harvest. We left Athens at 4 o'clock in the morning, riding to Corinth on our bicycles, being 25 kilomètres on our way before the sun rose. After sunrise we made all speed towards Corinth, at which town we arrived at 10 A.M. Some very fine scenery was passed on the way, especially where the road winds along the side of a precipice, on one side of which is a sheer descent into the sea, and on the other a steep acclivity several hundred feet high, clothed with Pines to the top. Higher up the side of the precipice, on a similar ledge, the railway from Athens to Corinth winds, both high-road and railway being good specimens of modern engineering.

On arriving at Corinth we found that the road went only a short way beyond the town, and there was no road to Patras; as the train was leaving for Patras in thirty minutes, we decided to travel the remainder of the way by rail. Soon after leaving Corinth, one is in the midst of the vineyards, whose produce being mostly of a small, white kind, are dried. The railway skirts the sides of the mountains, which are broken by narrow ravines, the sides of which are clothed with tangled masses of wild Olives, evergreen and prickly Oaks, Oleanders, Arbutus Unedo, tall-growing Ericas, and various dwarf-growing trees, with a few Pines, all matted together with Smilax aspera, wild Vines, Clematis orientalis, C. vitalba, an Asparagus, &c. In places where the mountains drop and form low hills, or where there is a piece of level ground between the base of the mountains and the sea, Olives and Lemon-groves, mingled with patches of Vines, come right down to the seashore.

At Ægion, about 100 kilomètres from Corinth, the mountains recede from the sea, leaving a broad belt of gently-sloping ground, and at once a plunge is made into the Currant-vineyards, which continue onwards to Patras itself, and round the coast for many miles; the peasants were busy gathering the fruit, and laying it in the sun to dry, forming a very interesting scene in their white dresses amongst the dark green of the Vines.

We arrived at Patras about 4 P.M., and stayed there the night, in the morning riding out to Rion, a few kilomètres out of Patras. It is from here, and also from Ægion, that the best Currants are supposed to come. On arriving at Rion we went to the house of General Hadjyannis, a large cultivator, owning much land, who gave us a cordial welcome.

The Vines planted consist of canes of the previous year's growth, and these when trimmed are put into trenches about 1 foot wide and 2 feet long, dug at a distance of from 3 to 3½ feet apart each way, varying in depth from 1 foot near the seashore, where there is plenty of moisture, to 2½ or even 3 feet on the slopes at the foot of the mountains, where the Vines require watering by irrigation, but which is not necessary near the seashore. When planting the canes, the men give them a slight twist to split them in places, as they say the canes then root more readily. The base of the cane is then placed at one end of the narrow trench, laid along the bottom, and brought to the surface at the other end of the trench. This is to get as much rooting surface below-ground as possible. The trench is then filled in and the soil well trodden, and the top of the cane is then cut back to two or three eyes above the surface of the ground. Planting may be done at any time between the fall of the leaf and the beginning or middle of March (Greek style, which is twelve days behind our calendar); still, the end of January, February, and the beginning of March is considered the best time for planting. The young Vines do not make much growth the first year, and do not produce fruit till the third year.

As soon as the leaves on fruiting Vines have fallen, the canes are cut down to within 1 foot of the old wood, and the Vine is then cut round through the bark with a saw near the surface of the ground. I cannot quite understand the exact influence this has on the Vine, but that it affects the commercial value of the Vines will be seen from the following:—One season General Hadjyannis had a plot of Vines left uncut, and the results, to say the least of it, were not very gratifying, as the year before the experiment this plot yielded 12,000 lb. of dried fruit, whereas the year of the experiment, when the fruit was gathered, this plot only yielded 1500 lb. of dried fruit. The following year, on returning to the old system of cutting through the bark with the saw, the yield was 6000 lb., and in the following years the crop was up to the average. After the bark has been cut, the soil from between the rows is drawn up around the Vines in something the same style as Potatos are earthed-up in England, this being to loosen the surface, and allow the water to penetrate more readily to the roots of the Vines. The Vines have to be watered by irrigation, where there is not sufficient surface-moisture. In the month of March the Vines receive the final pruning, being cut back to two or three eyes.

When the buds begin to swell, the ground is dug over and levelled, the Vines receiving no more water until the following winter, except, of course, what they may receive from an occasional shower. The Vines now require very little attention until the flowering stage, when they are carefully gone over, and each bunch dusted with flowers-of-sulphur to prevent mildew; of course, should the spring be wet and cold, a close look-out is kept in case of mildew appearing on the foliage, which, if it made any headway, would destroy the season's crop. The only other disease they are troubled with at Rion appears about the time the fruit is turning colour; it commences as a small black spot on the berry, and soon after this appears the berry shrivels up and falls off. On examining some berries infected with it, I found them to be full of a dark brown dust, which led me to think that the disease is caused by some kind of fungus. The berries examined were ordinary Grapes, the Currant-grape not being so liable to the disease. Sometimes this disease does not appear for several years.

In the month of August the fruit is ripe and ready for picking; after being cut it is carried by mules and donkeys to the drying-grounds near the house, where it is spread out to dry on a prepared sloping piece of ground plastered with cow-dung. The reason this is used is because it dries and forms a clean surface, free from cracks and dust. General Hadjyannis told me that he and most of the large growers use large wooden trays shaped something like hand-barrows, to lay the fruit on, in preference to the sloping banks of soil, because, in case of rain coming on during the drying time, they are more convenient, as they can be stacked one above the other, and covered with a tarpaulin; whereas on the ground the rain is liable to penetrate to the fruit and spoil it, even when covered.

Drying the fruit takes from nine to fifteen days, according to the state of the weather. When dry the fruit leaves the stalk very readily, all of it is picked over by hand and the larger stalks removed; it is then placed in small winnowing machines worked by hand, which separate the good fruit from the bad, and clean out the smaller stalks. The fruit is then the familiar Currant, known to everyone; it is now packed in the boxes as seen in the shops at home, and is then quite ready for export. The boxes in which the Currants are packed are chiefly made in Patras, the manufacture giving employment to a large number of men.

After a very pleasant day we returned to Patras, staying there the night, spending the next day in looking round the town, which is pleasantly situated at the foot of the mountains. We paid a visit to some of the Currant plantations on the other side of the town from Rion, on the road to the ancient Olympus. On making enquiries we were told that the crop this year is well up to the average, but rather late on account of the backward spring.

We left Patras at 8 P.M. on Monday, by steamer, going up the Gulf of Corinth, passing through the Corinth Canal into the Gulf of Ægina, arriving at Piræus, the port for Athens, at 6 A.M., well pleased with our visit to Patras; the green vineyards and wooded mountain slopes being a pleasant change to the country around Athens, which is very arid and barren-looking at this time of the year. *Thos. Honey, Rue Kifissia, Athens.*

FLORISTS' FLOWERS.

CULTURAL NOTES ON CHRYSANTHEMUMS

No time ought to be lost in placing the bulk of the plants intended for the production of large blooms under cover. Many gardeners think that the plants by being left out of doors two or three weeks after the petals become visible, are retarded in their development; but this is mistaken practice, for when the calyx has burst, it is useless to think of checking the further expansion of the blooms. Much better then, when the flowers have reached this stage, to place the plants under glass, and allow them to flower. Much of the damping of blooms complained of in some seasons is traceable to the plants being kept outside too late after the florets have begun to unfold. Early removal from outside is a very good way of hastening on such plants as have set their buds a little too late to admit of the blooms being in perfection on a given date. The locality, too, in which a grower is situated has to be considered; if it be low-lying, and probably damp, early removal to a glass-house is necessary, for the reason that early frosts are more to be feared than in high, and consequently drier, places. Before housing, every plant should be rendered quite clean, and free from every kind of insect. Let no mildewed example be housed with clean ones, as, under the conditions prevailing in a house, the fungus is sure to spread, and work much mischief. As a cure for mildew, thoroughly wet every leaf on both sides with the flowers-of-sulphur and quicklime mixture, so often recommended in these pages. For the information of new readers, I will repeat it here. Place 2 lb. of sulphur and 2 lb. of quicklime in 10 quarts of water, and boil for twenty minutes. For syringing on the plants use two wine-glassfuls of the mixture to four gallons of clean cold-water. A syringe with the jet affixed causing a single stream is best for applying the liquid, as by placing the fore-finger over the orifice the stream may be directed upwards and spread over the plant just as may be required. A light, airy, span-roofed house is the best structure in which to flower the plants; but owing to lack of such a house, the Chrysanthemums are placed beneath the shade of Vines and Peach-trees in forcing-houses, or of climbing plants in the green-house or conservatory. Before the plants are housed, all surplus shoots should be removed from the Vines and Peach-trees, so as to admit as much light and air as possible, and the plants themselves should not be crowded together; and air should be afforded night and day. In what way the plants shall be arranged is a matter requiring a good deal of consideration. A sloping bank formed of them is a good one, both for observation, convenience of watering, and otherwise attending to the plants. If exhibiting is a point which has to be considered, it is prudent to arrange the Japanese varieties by themselves, as fire-heat may be necessary for these whilst the blooms are developing; besides, the flowers are improved, the colours brighter, and the florets come out clearer and more regularly than is the case in unheated houses. Place the plants as near to the glass as possible, as this will

prevent the footstalks of the blooms becoming drawn and weakly. Should the weather continue dry and warm after the plants are housed, alight syringing overhead, at least once daily, will do good. Extremes of drought, or of moisture in the air, as well as at the roots, do not favour fine blooms or healthy green foliage. Continue to administer plant-food steadily and regularly, but avoid the excessive use of any kind of stimulating food, the preservation of the roots in a vigorous condition being a point of much importance. It is seldom that a plant will require watering more than once a day, and not always so often, evaporation being slow at this season. Water should be applied only in the forenoon, and in damp or foggy weather the amount of air admitted should be less than in clear, bright weather, and the hot-water pipes should be kept warm day and night, the aim being the maintenance of a buoyant atmosphere in the house, and a steady temperature of 48° to 55°. Plants whose buds are late in developing should be stimulated with sulphate of ammonia, given in liquid form at the rate of half-an-ounce to one gallon of water. Green-fly attacks the expanding blooms, and must never be allowed to establish itself amongst the florets or on the leaves. An attack of green-fly, if not very severe or long-neglected, may be got rid of by fumigating the plants with nicotine in the form of XL All vaporiser or with tobacco-paper, and it is a good plan to fumigate the house twice or thrice on consecutive nights.

The plants growing against walls should now receive their final training; the recently-formed shoots being sufficiently long to be made secure to the wall, either by nails and shreds, or what is more simple, by a piece of wire run along in front of them and made fast here and there to the wall. *E. Molyneux.*

BOTANICAL ADDRESSES AT THE BRITISH ASSOCIATION.

(*Concluded from p. 375*)

The section met in the forenoon on Saturday, September 19, at the University College, Dr. Scott in the chair.

Dr. Gustav Mann communicated the results of experiments carried on by Miss Lily H. Hine on the changes in the tentacles of Drosera rotundifolia, produced by feeding with albumen, in the form of partially-boiled white of egg. Lantern-slides illustrating the changes observed at various intervals were exhibited.

Mr. D. Morris, assistant-director of the Royal Gardens, Kew, contributed a paper, which, in his absence, was read by Mr. Seward, on "The Singular Effect produced on certain Animals in the West Indies by Feeding on the Young Shoots, Leaves, Pods, and Seeds of the Wild Tamarind or Jumbai Plant (Leucaena glauca, Benth.)." The properties of this plant had received little or no attention in this country. It is commonly found along roadsides and in waste places in tropical America. The plant was much more plentiful in the Bahamas than in Jamaica; it was, in fact, distinctly encouraged in the former islands as a fodder plant. The people were fully aware of the singular effect it produced on horses, causing them to lose the hair from their manes and tails. It also affected mules and donkeys. Its effect on pigs was still more marked. These animals assumed a completely naked condition, and appeared without a single hair on their body. Horses badly affected by Jumbai were occasionally seen in the streets of Nassau, where they were known as "cigar-tails." Such dilapidated animals, although apparently healthy, were considerably depreciated in value. They were said to recover when fed exclusively on corn and grass. The new hair was, however, of a different colour and texture, "so the animals were never quite the same." One animal was cited as having lost its hoofs as well, and in consequence it had to be kept in slings until they grew again and hardened. The effects of the Jumbai on horses, mules, donkeys, and pigs were regarded as accidental—due to neglect or ignorance. The plant was really encouraged to supply food for cattle, sheep, and goats. The latter greedily devoured it, and were not perceptibly affected by it. It would be noticed that the animals affected were non-ruminants, while those not affected were ruminants. The probable explanation was that the ruminants, by thoroughly mixing the food with saliva and slowly digesting it, were enabled to neutralise the action of the poison and escape injury. The seeds probably contained the deleterious principle in a greater degree than any other part of the plant.

Professor Trail, F.R.S., exhibited a number of floral diagrams of the Polygonaceæ, each one showing some variation in the arrangement of the floral organs.

On Monday the section met at University College, the chair being taken by the President, Dr. Scott.

Professor Bower, F.R.S., stated the result of his investigations into the number of spores contained in the sporangia of various types of Filicineæ.

Professor Chodat, of Geneva, discussed the relationship of the various groups of green Algæ, and illustrated his remarks by an elaborate series of black-board drawings. He dwelt especially on the variability of the thallus and modes of reproduction of such forms as Pleurococcus, Volvox, &c. He concluded with a review of the facts observed, and their importance in determining whether or not there exists any affinity between these groups of Algæ and the lower mosses and ferns.

Mr. W. H. Lang, M.B., B.Sc., gave an account of some peculiar cases of apogamous reproduction in Ferns. From the results obtained from cultures of normal forms of Nephrodium Filix-mas, it appears that apogamy stands in no definite relation to cresting. Cultures of crested varieties of other species produced young plants of normal development at first, but after nine months apogamously-developed plants were produced in some cases. Possibly in these cases the prolonged cultivation of unfertilized prothalli is a more important factor than the cresting of the parent plant.

The two last papers led to a discussion on the alternation of generations.

Professor Bower contended that the examples brought forward by Mr. Lang were abnormal, and as such not a fit subject for strict argument as to the origin of alternation.

Dr. Scott, in replying, said that the antithetic theory of the alternation of generations, if it meant anything, meant that a new generation, the sporophyte, was interpolated, and was not a modification of anything pre-existing. This view he protested against, and said there was no evidence to show that the two generations are distinct. He maintained that apogamy is reversionary. In some cases this mode of reproduction is more efficient than the normal method, and the number of cases in which it occurs is increasing.

Professors Magnus, Hartog, and Zacharias also criticised Professor Chodat's remarks.

In the afternoon, in the presence of the President, Sir J. Lister, Mr. Thiselton-Dyer, F.R.S., director of the Royal Gardens, Kew, delivered a lecture on "The Geographical Distribution of Plants." He said that places where certain plants are found growing are not always places to which they belong, or the places which suit them best. Uniformity of climate and other conditions cannot account for the character of the vegetation in various parts. No flora is so widely distributed as that of the British Isles, and there is no species which is absolutely peculiar to the islands. The British flora is only a part of a larger flora extending over the northern part of the old world, and known as the flora of the palæarctic region. This region extends from the polar lands to North Africa. In it the common character of the flora can be recognised, though in travelling from north to south the species change. The same difference in species occurs with change of altitude. Latitude and altitude are in this way interchangeable terms. The flora of the northern part of the new world is included in the nearctic region, which extends from the polar regions to Mexico. The trees of this region are like those characteristic of the palæarctic region. The eastern European flora is not found, as would be expected, on the eastern side of America, but on the western, and American plants are found growing in Japan. With regard to tropical flora, on the high lands of Africa plants common to Europe are to be found. The flora of Australia is probably one of the most ancient, and that of New Zealand is like it, but with striking omissions. The flora of both shows a remarkable likeness to that of the Andes. The general conclusion to be drawn from the distribution of the flora is that the species progress southwards with a greater divergence latitudinally. *Extracts from the "Times."*

COLONIAL NOTES.

TYPHOON IN HONG-KONG.

Typhoons are of frequent occurrence in Hong-Kong during the latter months of the summer, although it is seldom that we get them of such violence as the one which visited us on July 29, The last one worth noticing was in October, 1894, but previous to that, there had not been a severe typhoon since 1874. The 1894 typhoon was very destructive, but the one this year appears to have been even more so. We first received tidings of it from the Spanish Consul here, who was informed of the same by cable from Manila on July 27, as follows:—"There is a depression to the E.N.E. of Manila, in the Pacific, not very far off the East of Luzon." On the following day the same gentleman kindly supplied the additional telegram from Manila: "The depression reported yesterday to the E.N.E. is a typhoon of great violence. It is now tearing across the north-east part of Luzon, and its course seems to be S.S.E. to N.N.W." The same day the Hong-Kong Observatory officials hoisted a red drum, indicating that the typoon was believed to be more than 300 miles east of the colony. On this date the barometer read 29·61 at 4 p.m., and was still falling. The previous day's reading at the same hour was 29·66. The next day, the 29th, the following notice was issued from the Hong-Kong Observatory: "To-day, at 8.15 a.m., the black drum (typhoon within 300 miles, and to the east of the colony) was hoisted. At 9.5 a.m. one gun was fired (strong gale expected). At 10.30 a.m. the typhoon centre appeared to be about 250 miles S.E. of Hong-Kong, moving in a N.N.W. direction. Strong N.E. to S.E. gale is expected here. The black south cone was hoisted at 10.30 A.M." At 4 P.M. the barometer read 29·10, and the Observatory gun was fired at 5.45 P.M., indicating that a typhoon was expected here. Such were the warnings we had of the storm, and very timely they proved to be. When the gun is fired once, it is taken as the signal to make speedy preparations for a gale. Residents in the colony shut up their houses and bar all windows and doors. The captains of vessels in the harbour move their craft to safe anchorages. In the Botanic Gardens we were soon at work moving plants to sheltered positions, closing up houses, rolling up shading, and making everything secure that was likely to be damaged. By 5 P.M. we had done all that was possible to be done, and the only thing was to await the result. The following few items of the progress of the typhoon may be of interest: At 9 A.M. (on the 29th) the sky became overcast and the wind began to rise, with rain falling at intervals. The force of the wind kept increasing all day, so that by 6 P.M. a strong N.E. gale was blowing. After this it was increased to typhoon force, and between 9.30 P.M. and 10.30 P.M. it was blowing at the rate of 103 miles an hour as registered by the anemograph at the Hong-Kong Observatory Soon after midnight the violence of the wind began to abate, and by daylight the typhoon had passed to the west of the colony. The lowest reading of the barometer was 28·87. On the 30th a notice was issued from the Observatory saying that the centre of the typhoon had passed some distance to the South of Macao. The amount of damage done in the gardens is almost irreparable. It will take thirty years at any rate before they are in the condition they were before the typhoon. Should there be any more severe typhoons during that time, it is quite impossible to say when they will regain their

beauty. In the 1894 storm, many of the largest trees were blown down, and now a great many more have met with the same fate, about sixty altogether. This is not counting shrubs and herbaceous plants, many of which were blown clean out of the ground. Fortunately the typhoon was accompanied by very little rain, otherwise the damage would have been much greater. Trees and shrubs which have been left standing are in a mangled condition, the beauty and symmetry of most of them being entirely gone. Anyone going through the gardens at the present time could easily imagine that it was winter-time in England, as there is scarcely a leaf to be seen. An aviary in the gardens had its roof taken off, and most of the birds escaped. Outside of the gardens many large shade trees were uprooted, and much damage done to others. Houses were unroofed in all parts of the colony, and contractors will have a busy time of it for some months to come. In many instances chimneys were lifted off and dumped clean through the roof on to the bedroom floors. Much damage was done to shipping in the harbour, as several vessels dragged their anchors and collided with one another. It is said that one vessel alone will cost 7,000 dollars to put her in thorough repair again. As far as the police have been able to find out, upwards of fifty Chinese were drowned in the harbour through the capsizing of their boats ; so that altogether the 1896 typhoon has left many traces behind which will be long remembered by the inhabitants of Hong-Kong. *W. J. Tutcher.*

Cultural Memoranda.

PHRYNIUM VARIEGATUM.

I find many growers have failed to do this plant satisfactorily this season. Being in a hurry to get the plants in early, they have been started before their usual time, and although at first the variegation has shown well, they have quite run out before they were large enough for use. The best way to ensure keeping this useful plant in good character is to take off the suckers or young shoots soon after they get above the ground. They may then be potted in some light sandy compost, and will soon start into growth again, and do not have time to get too vigorous. While plants frequently divided will retain their variegation well, plants grown on without disturbing the roots, will almost invariably run out until they become almost wholly green. *A. Hemsley, in "American Florist," September* 12, 1896.

The Week's Work.

THE ORCHID HOUSES.

By W. H. White, Burford, Dorking.

Shading, &c.—Dendrobiums, Cattleyas, Epidendrums, Cyrtopodiums, Catasetums, Schomburgkias, the deciduous Calanthes, and all terete-leaved Orchids should be exposed to the sun's rays as much as is possible. The whole collection of pseudo-bulbous kinds will be benefited if plenty of light be admitted to the plants. There is no other period when the plants appreciate direct sunshine as now. The growth made early in the season by Aërides, Saccolabiums, Vandas, Renantheras, and Angræcums also requires exposure to the sun for several hours each morning, and all shading may shortly be dispensed with. The sun may still, however, be too strong for Phalænopsis, Bolleas, Pescatoreas, Cypripediums generally, Phaius, Angræcum Ellisii, A. citratum, A. Sanderianum, A. pellucidum, Anectochilus, Cœlogyne Cumingii, C. asperata Lowii, and C. Veitchii, and they should therefore be shaded independently of the other occupants of the house. Some of the Oncidiums, Odontoglossums, Masdevallias, and other cool-growing Orchids may be injured by exposure to extra sunlight.

Pests.—Thoroughly cleanse the houses of insect pests by fumigating them on two successive evenings with the XL All vaporiser. Look carefully over the newly-potted plants in the cool-houses each evening, in order to entrap any slugs that may have been brought in with the sphagnum-moss used in the potting compost. To the same end use as traps some young Lettuce-leaves, pieces of Potato, bran, &c.

Miscellaneous Plants.—The dwarf-growing Lælia pumila and its varieties now throwing up their flower-spikes should be removed from the cool-house to a light position in the intermediate-house, and liberal supplies of water at the root will be necessary until growth is completed, when the plants may be repotted if this be necessary. Small shallow pans are more suitable than pots or baskets, and only a small quantity of peat and moss is requisite for the plants to root in. Plants of Miltonia vexillaria that have been in the cool-house during the summer should be placed in the Cattleya or intermediate-house, but they will require an abundance of fresh air. The following Orchids should also be removed to an intermediate temperature as the nights become colder : Miltonia Phalænopsis, Masdevallia tovarensis, M. Wendlandiana, M. ionocharis, and all Masdevallias of the Chimæra section, also Odontoglossum Krameri, O. cirrhosum, and O. Harryanum. In the cool house, plants of Oncidium varicosum are sending up strong many-branched flower-spikes, and it should be remembered that these plants quickly exhaust themselves if allowed to retain their flower-spikes too long. It is advisable to cut the spikes immediately the flowers are fully expanded, and if they be placed in water will remain fresh for a considerable period. Oncidium concolor will not require quite so much water as when in full growth ; and the compost should be kept just merely moist until the flower-spikes appear. Oncidium Krameri and O. papilio prefer a light position in the East-Indian house ; they may be grown in baskets or pans with a very small quantity of material to root in, and they should be suspended near the roof-glass. It is advisable to remove the flower-spikes from these plants as soon as they have produced three or four flowers.

THE KITCHEN GARDEN.

By Charles Herrin, Gardener, Dropmore, Maidenhead.

Cauliflowers — Plants from August-sown seeds may now be pricked-out into suitable quarters. Where hand-lights are provided for wintering them out-of-doors, the plants may be placed in these. In such case the land should first be well prepared by deeply working it, as this position will be a permanent one for the majority of the plants. A moderate dressing of half-rotted dung may be dug into the top spit also. Make the ground firm by treading when dry enough, and place the hand-lights in lines, leaving about 1½ foot between them. If these be about 18 inches square, six plants may be wintered in each : one at each corner, and two central ones, the latter being eventually transplanted. After planting, a little lime or soot should be scattered among the plants. If hand-lights are not to hand, a supply of plants may be kept through the winter in cold frames. Spread on a hard bottom about 4 inches of moderately-stiff soil containing some old Mushroom-bed manure. Level and make it moderately firm, then prick-out the plants at 5 to 6 inches apart. A number of plants may be potted-up in 3-inch pots, and wintered in similar frames. Keep the lights partially closed until the plants are partly established, but expose the plants afterwards at all times when frost is not present. If the spare plants be planted in sheltered corners, they may stand the winter if it be not very severe. Cauliflowers of the Autumn Giant type now heading-in should be protected from slight frosts by having the outer leaves twisted over the heads ; growth has been very rapid during the past month, and will be very susceptible to injury from frost should this set in early.

Cardoons. — For blanching these, some sweet hay-bands are very suitable, and they should be bound carefully, and not too tightly around the stems. Blanching may also be done with brown paper bands, afterwards earthing-up the stems with soil.

Mushrooms.—Beds should now be prepared in the Mushroom-house, the manure for which should have been thoroughly prepared by frequently turning it over, and be in a state of dryness. If the manure be ready, take it into the house, make the beds, which should be thoroughly well beaten, and insert the spawn. The spawn used should be fresh and of the best quality obtainable. A good brick is thoroughly permeated with white cotton-like threads, and all dark-looking ones should be rejected. Break up an ordinary-sized brick into about eight pieces, and insert the pieces flat-wise 6 inches apart just below the level of the surface of the manure, beating them in firmly with the hands. Should there be any doubts as to the heat remaining moderate, the beds may be left for a few days before soiling over. Insert a stick, and after twenty-four hours if this feels but comfortably warm to the hand, the bed may be cased over to the depth of half-an-inch with loamy soil that has been passed through a half-inch sieve, and afterwards well beaten down with a spade.

General Work. — Advantage should be taken of dry days to continue the earthing-up of Celery. Where the tops are tall and likely to peak down, tie up the leaves of each head with a piece of matting. Walks should be cleaned, and Box-edging may be relaid if necessary. Clear away old Pea and Bean haulm, and any weeds and rubbish that exist, and burn them in an out-of-the-way place. The sticks should be bundled up and taken to the wood-yard. Should frost appear probable, gather all Runner Beans which are ready for use ; they will remain fresh and good for ten days, if laid out thinly in a cool shed.

THE FLOWER GARDEN.

By Hedley Warren, Gardener, Aston Clinton, Tring.

Deciduous Trees and Shrubs —Planting-time having arrived, any operations required in planting, lifting, and replanting should be pushed forward with despatch. If shrubs are purchased from a nursery, it is prudent to select those of moderate size of their kind, as these are removable with more safety than larger ones, and much is saved in railway charges and cartage. In digging out deciduous trees on the place, much of the soil about the roots should be retained, and although this is contrary to what is usually done, the good effects are apparent the first season in the strength with which the buds open. When trees are removed from a distance, not much soil can be kept about the roots, but care should be taken, however, to enwrap the roots in damp straw or mats.

Late-blooming Roses.—Although Roses were injured by drought, many Teas and H.-P.'s are giving good flowers, and in some instances these are finer than the first ones. Some varieties appear to be less affected by drought than others, viz., the H.-P.'s : Captain Christy, Duchess of Bedford, Duke of Teck, John Hopper, Mrs. John Laing, La France, Ulrich Brunner, Alfred Colomb, and François Michelon. Teas : Madame Bravy, Jules Finger, Edith Gifford, Rubens, Madame Hoste, Madame Caroline Kuster, Madame Lambard, Marie Van Houtte, Souvenir de S. A. Prince, Anna Olivier (very good), The Bride, Catherine Mermet, and Bouquet d'Or. Although many others are flowering, the above-named varieties afford the best display of bloom.

General Work.—The recent gales have done much damage, as well as littered the garden with leaves, &c., and the amount of sweeping and clearing-up entailed will in most places be very considerable. Dahlias and other tall plants have suffered greatly, and the quantity of bloom on the plants will be much curtailed. It will be necessary to make safe by broad strands of matting all shoots of the Dahlias not actually detached from the plants, making them as presentable as circumstances will allow. The mixed flower borders, now past their best, should be afforded a general tidying, and be planted or partly re-furnished with Wallflowers in variety, Canterbury Bells, both single and double-flowered ; Alyssum, Sweet Williams, biennial Stocks, and other hardy plants for flowering in the spring and early summer. Besides the above, small patches, &c., of early and late-flowering bulbs may be planted. The lawns, if in good condition, should still be kept somewhat closely cut, thereby saving much trouble and time in sweeping up the tree-leaves. Gravel walks that may have been hoed and left in a rough condition for a few days may now be raked level and rolled. Even if no fresh gravel be added, the walks after such a loosening up and rolling will be greatly improved in appearance. Preparations should soon be made for refilling the flower-beds with bulbs and spring-flowering plants. Where the beauty of the plants has departed in a bed or beds, the operation of digging, manuring if necessary, and planting with the above, should be undertaken without delay. Seeds of hardy annuals may be sown, and as many of the plants pass through an ordinary winter unhurt, it is an advantage to have flowers earlier and larger than spring-sown ones.

FRUITS UNDER GLASS.

By W. Pope, Gardener, Highclere Castle, Newbury.

Mid-season Grape vines. — In Vineries from which fruit has been cleared, the Vines will be the better for a little attention being paid them at the present time, sub-laterals being removed, and the main

laterals shortened somewhat, but not so much so as to remove the principal leaves, as on their preservation the complete development of the buds for next year depends. A free circulation of air is necessary in such vineries, and if there is doubt about the wood being thoroughly matured in time, a small quantity of artifical heat should be afforded for several weeks. The spent mulching on the borders should be cleared off them, and as much of the surface-soil taken away as possible without disturbance of the roots, and a top dressing of freshly-cut loamy turf, with a small quantity of Thomson's or Bentley's Vine-manure and some charcoal applied. If the loam is close and heavy, it should be mixed and used when in a fairly dry condition, and only a moderate quantity of water afforded to those Vine-borders which are in the vinery, the outside ones needing no water. If the vineries are used for storing plants during the autumn, a wooden trellis should be placed on the surface, and the plants placed on it.

Later-keeping Grapes.—These being now quite ripe, a dry moving air should be maintained as a means of preventing the decay of the fruit, which surely takes place in a stagnant state of the air. The warm air also brings out the sugary constituents of the fruit, an essential point in thick-skinned late-keeping varieties. Artificial heat should be afforded during dull weather, and also at night, with a slight amount of air admitted constantly by the upper ventilators. A temperature of 50° to 55° at night should be allowed, with a rise of 5° to 10° in the daytime. The inside borders should not be allowed to get very dry. When affording water, the mulching should be drawn aside, and returned over the soil when the job is finished. Choose a fine, bright day for affording water. Young Vines planted in the spring should now have the laterals removed, taking care, however, in doing so, to preserve the principal leaves intact; and to let the Vines be exposed to light and air, so as to ripen the wood.

Pines.—The plants of Cayenne and Black Jamaica now swelling their fruits should be supplied when dry with weak guano-water; and a moist, genial state of the atmosphere maintained. Where the soil has sunk much in a pot, a top-dressing of turfy loam and horse-droppings in equal proportions may be put on the top, pressing it well round the stem of the plant. Sprinkle the foliage and the surface of the plunging material occasionally on fine days, when the house is closed, which may be sufficiently early to allow the interior warmth to rise to 85° or 90° for a time. If the recently-potted suckers have started to make roots, they must be placed in pots of 8 inches in diameter without delay, and in these the plants will remain till the spring. A bottom-heat of 90° to 95° should be maintained for rooted suckers till the roots have permeated the soil. A sturdy condition of the plants may be ensured by ventilating the pit freely whenever the weather is favourable for the purpose, a bottom-heat of 80° being steadily maintained, and water and weak liquid-manure afforded when required. The plants should be examined twice a week, to ascertain their condition as regards root-moisture. Be sparing in the use of the syringe.

PLANTS UNDER GLASS.

By Jno. McIntyre, Gardener, Woodside, Darlington.

Hard-wooded Plants that are still out-of-doors should be housed, without delay, presuming that previous directions for cleansing them have been carried out. The best structure for a collection of hard-wooded flowering plants is a dry airy house, in which there is sufficient heating apparatus to prevent frost entering. Avoid, as far as possible, mixing them with soft-wooded plants, except when the plants are in flower.

Winter and Spring-flowering Bulbs.—Continue to pot-up batches of Hyacinths, Tulips, Narcissus, and other Dutch bulbs, or the entire stock may be potted at once and plunged in ashes. By growing them afterwards in different temperatures a succession of bloom may easily be obtained. Plunge them in ashes or other finely-sifted material, and cover the crown of bulb with river sand, to prevent the growth from rust at the stage when it first appears from the bulb. The bulbs will be ready for removal from the ashes when they have made 1 inch of growth, and it is essential that they be not suffered to remain longer, in which case the growth becomes weakly. When they are taken from the plunging material, place them in cold frames where they may be protected in severe weather, and remove batches of them into heat as required. The earliest plants of Roman Hyacinths may be put into heat at once for furnishing flowers in November. The old double yellow Narcissus Telamonious plenus is a most useful bulb for growing in pots to use as decorative plants. Well-ripened bulbs may be easily forced to produce flowers at Christmas, and they are very free-flowering. Pot-up at once as many bulbs as will be required, and plunge similarly to the others. It is well to use both 5-inch and 6-inch pots, putting eight or ten bulbs in each, filling in with any ordinary rich compost. About six weeks is necessary to bring them into flower. Lilium Harrisii should be treated much the same as Hyacinths, but in my experience it is more tender than most bulbs, and should not be allowed to become frozen.

Cinerarias.—Do not permit the plants to become pot-bound, but shift them into larger pots as soon as this is needful. The compost should consist of loam, leaf-soil, and dried cow-manure, adding about one-fourth part of sharp river-sand. Pass the cow-manure through a ½-inch sieve. For the present, keep the plants in cool, airy frames, but remove them to a house when mats do not form sufficient protection against frost. Some of the plants should be ready for their final shift into 5-inch pots, in which size they flower much earlier than others with more root-space. When the plants are approaching the flowering-stage, they may be fed with a weak solution of sheeps'-dropping.

Pelargoniums. — In order to obtain very early plants, a few of these may now be cut hard back, and when they have commenced to break afresh shake them out of their pots, and re-pot them into a size smaller, using a compost of good rich loam two parts, leaf-soil and river-sand one part each. Pot them firmly, and spray them over with the syringe until roots have formed. A low span-roofed house or warm pit is well adapted for their culture.

Herbaceous Calceolarias should now be moved from 3-inch pots into larger ones. A compost of rich fibrous loam, and a sprinkling of sharp sand, is the best for them. Keep them as cool as possible, in frames containing ashes, taking care to elevate the plants near to the roof-glass. One of the commonest reasons of failure in the culture of Calceolarias is due to the plants becoming attacked by aphis; on the first appearance of this pest, they should be fumigated gently on two or three successive nights. If fumigated strongly the plants are liable to injury, and care should be taken that all the foliage is thoroughly dry before commencing this operation.

THE HARDY FRUIT GARDEN.

By G. Woodgate, Gardener, Rolleston Hall, Burton-on-Trent.

Walnuts should be left upon the trees until the nuts leave the husks naturally; they will then be freer from stain. When the nuts appear to be ripening, give the trees a good shake occasionally until the whole of them are secured, and the nuts will be uniformly matured. Have them thoroughly well dried, and afterwards pack them into tubs or large jars, and cover each layer of nuts with a layer of silver-sand and a sprinkling of salt. They may then be stored in a dry and cool place.

Raspberries.—If any new plantations be necessary, the ground should be well trenched; at the same time work into it a heavy dressing of manure. In soils of a light nature, plenty of well-rotted manure will be required, but heavier and retentive soils should be afforded manure which is only partially decomposed, and at the same time add plenty of mortar-rubble. The site chosen should be one that is perfectly free from Couch-grass and Corn-bine (or as the latter is often called Lap-love and Bindweed), the roots of which are very difficult to eradicate from the fibrous roots of Raspberries. Of varieties, one of the best is Superlative. It is hardy in constitution, a heavy cropper, and in ordinary seasons it produces good fruits until the middle of September. Carter's Prolific, and Northumberland Fillbasket, may also be recommended. Of the yellow fruiting kinds, Magnum Bonum, White and Yellow Antwerp are the best. Autumn-fruiting varieties include October Red, and October Yellow. Raspberries may be trained in various ways, but, for general purposes, the espalier treatment is the most convenient. For this mode of training, the rows should be not less than 4 feet apart from each other, and they should run north and south, the plants being 2 feet distant from each other in the rows. Light iron hurdles, having two horizontal bars, are capital supports for training the canes to, and if given an occasional coat of paint or black varnish, they will last for a number of years, and present at all times a tidy appearance.

Fruit Gathering. — This will still require close attention in order to harvest the fruits when in a dry condition. Any Morello Cherries, or red and white Currants that still hang upon the trees should be frequently examined, as they are apt to decay during wet weather.

THE APIARY.

By Expert.

Feeding the Bees.—The showery weather last month is causing bee-keepers much trouble and expense, it having been impossible for the bees to gather nectar, consequently the stores have diminished very much, and many hives which would have withstood the winter without artificial aid, will now require a few pints of syrup to enable the inmates to make up for the loss of honey. The feeding should be done as quickly as possible, to allow them to seal over the combs before cold weather sets in; unsealed combs fermenting, and causing dysentery. In feeding, keep the bees well supplied with syrup till they have sufficient to winter upon.

A good many hives of driven bees will be found (even after being well fed) to be in a weak state, owing to the bad season, in which case it is advisable to join them to another lot that may require strengthening, after taking away the queen from the weaker lot, as it pays much better to keep one strong hive through the winter than two weak ones, if you even manage to get the latter through the cold weather. In uniting bees, be as expeditious as possible, as at this time of year the brood, if exposed, will get chilled before uniting; and do not omit to dust both lots of bees with flour, otherwise they will fight, and many will be killed. When feeding, place plenty of quilts over the feeder, to afford warmth, and encourage the bees to take the food down, or they may be inclined to cluster in the centre of the frames instead of taking down the syrup; if this is carefully seen to, many hundreds of bees may still be hatched out, which will be found a great advantage in the spring.

Candy.—A cake of candy placed in each hive over the brood-nest, on the top of the frames, whether they are a strong colony or not, is a sure preventive of starvation in the winter, when there is no chance to examine the hives. I find the following receipt (Cowan's) is the best for making candy, viz.,—Put about three quarters of a pint of water into a tin saucepan or fish-kettle; let this boil, then add 6 lb. of the best white sugar; keep boiling, and stirring the contents to prevent burning. To ascertain if it be sufficiently cooked, dip a finger into cold water, and then into the boiling syrup, and back into the water—if done it will be found crisp and brittle; and having placed a piece of paper in some saucers or soup-plates, pour the candy into these, place on the frames with the paper adhering; this will prevent the quilt getting sticky. Be sure the sugar does not burn in the boiling, as this will be very injurious to the bees, and no amount of boiling will make it set hard. For stimulating food, stir into the syrup when boiling 1 lb. of Pea-flour.

Quilts.—These should always be cut of the exact size to cover the frames without turning them up at the sides; cheap stair carpet, about 4*d.* per yard, or felt, make good coverings; and some bee-keepers recommend American cloth for the first quilt, and then wrap up with three or four extra blankets or carpets, chaff, &c. A cheap and good plan is to purchase a few old Government blankets; cut these to the proper size, and sew three together, with glazed naphthaline sprinkled between each piece; this will keep them warm, and the naphthaline will keep the wax-moth away, and also help to prevent any disease appearing amongst the bees. In cases where straw skeps are used, see that they are well protected with wire netting or other means from the ravages of mice and rats, which are great enemies to bees in the winter.

A New Viburnum.—In the *Botanical Gazette*, U.S.A., W. Dean and B. L. Robinson describe and figure a new species of Viburnum, apparently closely related, on the one hand, to V. dentatum, L.: and on the other to V. pubescens, Pursh. The plant was discovered by Mr. Demetrio, near Cole Camp, Benton County, Missouri, in July, 1894. It is distinguished from V. dentatum (which it most resembles in foliage) and V. Molle by its longer and much more compressed fruit and seed. It differs from V. pubescens very decidedly in foliage, having much more orbicular, deeply cordate, and much longer petioled leaves, which are also of a larger size than any of the related species. It has been named V. Demetrionis.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the PUBLISHER.

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—53°.

The Fruit Show.

THE third annual exhibition of British-grown fruits, under the auspices of the Royal Horticultural Society, may be described, equally with its predecessors, as a satisfactory one. We say this without implying that the exhibition that has been opened but a few hours since is equal in extent to the one held last autumn. That exhibition and this one have been held under very opposite circumstances indeed. Rarely is it our privilege to experience such a wonderfully good fruit season as that of 1895, nor must we expect the average exhibition to be equal in quality to the one then held. As we have said, the circumstances this season have been unfavourable, to the production of hardy fruits, and to substantiate this, we may refer our readers to the remarks upon the crops with which we were favoured by our correspondents, and which were published a few weeks ago. But it is the autumn especially that has been adverse to the exhibition of fruits grown in the open, for the winds and storms that have prevailed during September have been, in a measure, phenomenal.

It is due in a large measure to the conditions of September weather that there are fewer collections of fruit staged on this occasion, and this is the weak point in the display. Competition is less keen and numerous. As to the quality of the fruit upon the tables, generally, there was little to which exception could be taken. Apples are not quite such splendid fruits as those of '95, but in many instances, this season, they have assumed a capital colour. Pears are better represented than Apples, and in the classes the competition is better, but we believe there is not a single dish of Williams' Bon Chrétien in the show, a circumstance due to the early character of the season. Grapes are of average quality; some of the bunches are such as give a fruit-grower considerable pleasure to view, and among these the unequalled variety Muscat of Alexandria is well shown.

There are considerable exhibits from the trade of an honorary character, but there appears to be a growing indisposition to enter the competitive classes on the part of many nurserymen, which may involve at a future time the making of arrangements that will offer to the trade a greater measure of recompense than they may at present expect.

In the compilation of the schedule, we regret that the classes which last year were framed with the object of attracting exhibits of dried and bottled fruits, have been wholly omitted. Sir T. LAWRENCE, in a speech he made at the Crystal Palace last year, drew attention to the importance of the question of preserving, by means of drying, that portion of a year's fruit crop that may be in excess of the immediate demand. We are convinced that Sir T. LAWRENCE was right in taking such a view of the matter, and at all times and seasons this question should be pressed upon the attention of horticulturists in this country. Of course, we are aware that there has been little response on former occasions to the invitation for dried fruits; but, perhaps, that is the more reason why the efforts should be continued.

There is one detail in the management of the exhibition that calls for approval. On the exhibitor's card, in each instance, there appeared, in addition to the number of the class, a cutting from the schedule, which in print clearly set forth the conditions and requirements of the class.

This afternoon the lecture was upon "the importance of British fruit-growing from a Food point of view," and on Friday and Saturday there will be lectures and discussion upon "The Cider and Perry Industry," and "Gathering, Storing, and Profitable Utilization of Apples and Pears."

Before we conclude, we desire to express the regret that most of our readers feel that Mr. HEAD, who is usually so active at horticultural displays at the Palace, is lying seriously ill at his residence. Mr. HEAD, who has recently sustained a most serious operation, has the sympathy of all horticulturists who know him.

Street Planting.

A GREAT deal has been done of late years towards the embellishment and sanitation of our towns by the planting of trees in the streets, and by the conversion of town squares into gardens. Of the great benefit that has accrued, of the immensely improved aspect of our towns, there cannot be the slightest doubt. It is even questionable whether the merely decorative part of the business is not in some cases overdone, and whether, when the space has been properly laid out and planted, the cost of decoration (as apart from maintenance) might not fairly be left to private munificence; and the pockets of the ratepayers, to this extent, relieved of the demands made upon them. There is another question which requires consideration—How far, or for how long a time, is this tree-planting likely to be successful in the future?

Some of the trees planted in our streets, when properly looked after, look well enough now. But how long will they continue to do so, or to improve? The answer to this question must necessarily be vague and indeterminate, but, at the same time, there can be no question that the decay and ultimate death of most of these trees must occur at a period long anterior to the average age of the particular kind of tree. This premature failure is due, we believe, not so much to unfavourable conditions of the atmosphere, except, of course, in the vicinity of chemical works, as to faulty methods of planting. Take, for instance, the trees on the Thames Embankment. They were originally planted too closely, and no thinning has ever been carried out. Planes come under the category of forest trees in the sense that they are trees of the largest size, and, therefore, they are not suitable for narrow streets or for confined spaces, where they must naturally encroach too closely on the houses, and deprive the inmates of light and a free circulation of air. But on the Embankment there are no houses, and the trees have by annual curtailment been so far kept within bounds, and their shape, as far as clipped trees go, is not unpleasing. But the endurance of these trees, great as it is, will come to an end some day from starvation and root-suffocation. A space covered by a grating is, it is true, placed round the base of each tree, and through that space water and air (meaning oxygen) are supposed to find their way to the roots; but as every physiologist knows, the minute root-fibrils and root-hairs which take up the water and the matters required for the nutrition of the plant are not placed near the base of the trunk, but some distance off, where they can avail themselves of the drip from the leaves. The most active and the most important parts of the roots, from this point of view, are sealed up beneath flagstones, hard Macadam, or impermeable asphalte. True, the roots will, as we all know, travel in search of moisture and make the best of circumstances, but in our streets where are they to go? Where will they find the requisite moisture?

Diffusion and capillary action, no doubt, render all important service in these cases, but there must come a time when these agencies will fail, when the soil will become "sour," destitute of life-giving oxygen, and exhausted of its nutritive properties. A tree manages by leaf-agency to manufacture and to store in the bark so much nutritive matter, that it will for a time and to a certain limited extent, be comparatively independent of its roots. This is probably one reason why we occasionally meet with trees which manage to exist for years under the most unfavourable conditions. We remember two cases which we have known for a half of a century, the one is a Maple, originally an inmate of some garden, but now so placed that the pavement comes close up to the trunk without any interval, whilst the finer roots are under the hard roadway, where water and air can with difficulty penetrate, but where gas from leaky pipes finds a passage, as is evidenced from the blackness of the soil when disturbed. This particular tree has not much increased in size for years past, but it manages to live on, and is in a healthy condition. The other case is a Laburnum, of some fifty or sixty years of age. Its trunk is completely buried up to the level of its lowest branches by 15 feet of soil, stones, and rubbish—and yet the tree is quite healthy. In this case the feeding-roots are doubtless several feet or yards it may be away under a lawn. These two instances, and especially the first one, seem to conflict with our previous vaticination. Nevertheless, it seems clear that it can only be a question of time, and that the life of the tree will be materially shortened. In any case no planter will question the propriety of affording to the roots an adequate supply of water and air, with ample drainage, so that no stagnation and consequent gradual suffocation of the roots may occur.

The Parisians had the start of us in embellishing their streets, and they carry it out even now on a scale beyond anything we attempt. They have accumulated experience as to what trees to plant in particular localities, how to plant them, in fact, how best to put the trees into such a position as best to adapt themselves to the "environment" surrounding them.

In former years we have had occasion to note the splendid publications on the plantations in Paris by ALPHAND, BARILLET DES CHAMPS, ANDRÉ, and others, but a smaller and more handy volume was needed, and this has now been supplied us by Mr. CHARGUERAUD.*

The work has been published under the auspices of the Prefect of the Seine, and our County Council would do a useful service by causing the book to be translated. It deals with avenue or street-planting, giving ample details of the method of planting, the species of trees to

* *Traité des Plantations d'Alignement et d'Ornement dans les Villes et sur les routes Départementales.* Par A. CHARGUERAUD. Ouvrage orné de [illegible] gravures. (Paris: ROTHSCHILD, 1896.)

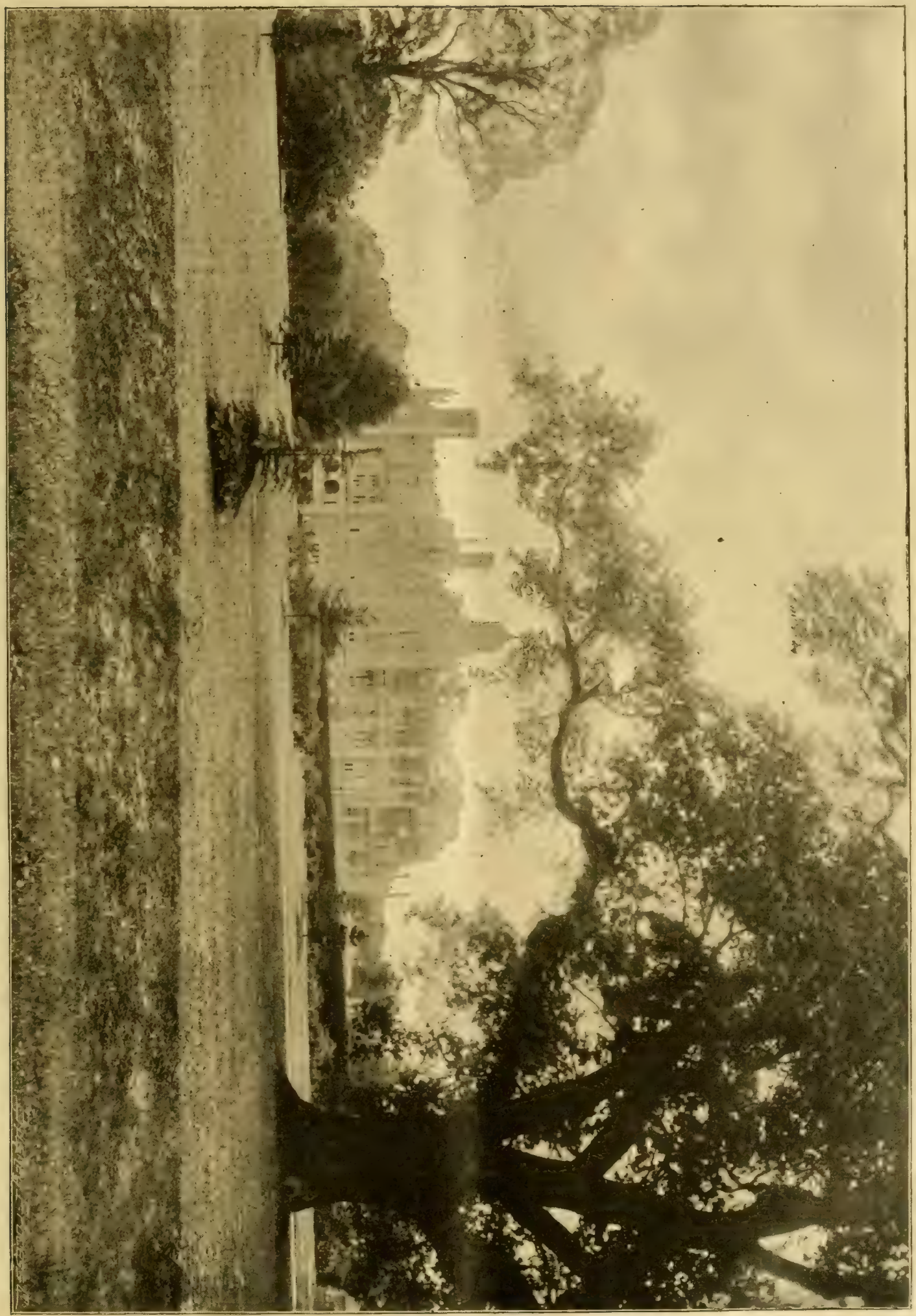


FIG. 73.—FLIXTON HALL, NEAR BUNGAY, SUFFOLK, THE RESIDENCE OF SIR HUGH E. ADAIR, BART. (SEE P. 403.)

be selected, their management, the diseases and injuries to which they are subjected. Under this latter heading we fail to find mention of the injury from heavy steam-rollers, such as we saw some years ago in a street in the west of London. The number of street trees in Paris is given at 122,877, of which 26,000, in round numbers, are Planes, 17,000 Horse-Chestnuts, 15,000 Elms, 9000 Ailanthus, 6000 Sycamores, 4000 Maples, 4000 Robinias, 2000 Limes, 1000 Paulownias. The other species used are numerous in kind, but the numbers of individuals are small; thus we are astonished to find only 12 Poplars mentioned (p. 249), 4 Ashes, 1 Catalpa, 1 Oak, 1 Mulberry, 1 Sophora. The figures apply to street trees (*arbres d'alignement*) only; but even allowing for this circumstance, we suspect some error in the enumeration, if not, our neighbours do not avail themselves of their resources.

The second part of M. CHARGUERAUD'S volume is devoted to planting along the roads in country districts, and deals not only with trees for shelter and firewood, but also with fruit-trees. We have heard enough of the objections on the score of marauding boys. With a proper selection, sufficient might be grown to satisfy the stomachs of the thieves, and yet leave a large margin over for culinary or manufacturing purposes, for, of course, no one would plant under such circumstances the choicest varieties.

We need not discuss this matter further, but in conclusion strongly commend M. CHARGUERAUD'S volume to the notice of our readers.

THE NATIONAL CHRYSANTHEMUM SOCIETY.—A largely-attended meeting of the General Committee took place at Anderton's Hotel, on Monday evening last, Mr. B. WYNNE in the chair. After the transaction of preliminary business, the following resolution was carried by acclamation: "That the President, Sir EDWIN SAUNDERS, be requested to convey to Her Most Gracious Majesty, the QUEEN, the heartfelt congratulations of the National Chrysanthemum Society upon Her Majesty's long and prosperous reign, which has now exceeded in duration that of any previous monarch of this country. The Society also desires to assure Her Majesty of the loyalty and devotion of the numerous members, not only in this country, but in all parts of the world." The Secretary laid upon the table the index of a new Register of Members which had been prepared, and which contained the names and addresses of 834 members; and further stated that there were 134 societies in affiliation. He also announced that he had just completed the third Minute-book, and they had now in their possession the continuous records of the Society for the past thirty-five years; the earlier records of the society have been unfortunately destroyed by fire. Those in their possession dated from the annual general meeting of members held on December 12, 1861. The financial statement made by the secretary showed that the sum of £371 19*s.* 6*d.* had been received during the first half of the present financial year, and the Special Jubilee Fund amounted to £282 17*s.*, in addition to £201 given as special prizes. The chairman said that a further sum of £100 was required to ensure a financial success to the Jubilee celebration, and exhorted the members to use their best endeavours to obtain that sum. It was resolved that the annual dinner take place at Anderton's Hotel on Thursday, November 26, and that on this occasion the representatives of the gardening press should be invited. Forty-seven new members were elected, including three Fellows, the secretary announcing that since February 1, nine Fellows and 129 ordinary members had been elected. Among the members elected on this occasion were Signor A. SCALARNDIS of the Royal Gardens, Mouza, Italy; and M. COUILLAID, Registrar of the French National Chrysanthemun Society. Four societies were admitted to affiliation, including the French National Chrysanthemum Society, the secretary announcing that it was the twenty-sixth society affiliated since February 1.

EALING GARDENERS' ASSOCIATION.—The eighth annual meeting of this body was held on the evening of Tuesday, September 29. From the yearly report then submitted to the members, it appears that the Association is in a flourishing condition. There has been a satisfactory increase both amongst the honorary and ordinary members. The meetings (some twenty-five in all) held in the Session 1895-96, were well attended, the papers and the useful discussions resulting therefrom were of a high order of merit, and the prizes offered at stated periods by gentlemen resident in Ealing and the neighbourhood (added to those offered by the Association), for table plants and flowering plants, brought out keen contests, thus adding considerably to the attractiveness of such meetings. A very laudable practice, favourably referred to in the report, is in vogue here, the setting apart of certain evenings during the Session for the discussion and answering of questions collected at previous meetings on various matters appertaining to gardening, the difficulties encountered, &c., on which information is desired. By this method of procedure, much useful knowledge resulting from varied experiences, is obtained; indeed, a night's questions may be described as a series of short, concise, pithy papers, and put into practical form, as the experience gained in every-day practical work connected with the garden and its varied surroundings. Question-night is an institution that deserves imitation by kindred societies. Regret was very properly expressed that the prizes for essays on gardening subjects had had but a poor response, and the younger members especially were earnestly urged to enter such competitive lists more keenly in the future (when prizes will be again offered), as a means of carrying out one of the chief aims of the association, viz., the encouragement of mutual improvement. The association also remembers the claims of the Royal Gardeners' Orphan Fund; for on Sept. 24 the Secretary, Mr. WALTER ROBERTS, paid into the Fund of that worthy charity the sum of £15, the result of a collection at a smoking concert; and when matters are finally adjusted, it is anticipated that there will be a balance of a few more pounds to hand over to the Fund. The receipts during the session, 1895-96 amounted to £67 9*s.*; expenditure, £60 13*s.* 6*d.*; leaving a balance of £6 15*s.* 6*d.* in hand. A good list of papers has been secured for the forthcoming session, 1896-97; and thanks were accorded to this journal at the meeting under notice for its references to the work of the Association during the preceding session; and also to the chairman, S. A. SEWELL, Esq.

LIME IN PLANT CHEMISTRY.—In a recent issue of the *Annals of Botany* (Vol. X., No. 37) P. GROOM gives an account of some experiments on the function of calcium in plant chemistry. It is well known that plants will not thrive unless supplied with a small amount of calcium in their food; one of the symptoms of mal-nutrition when this element is absent being the accumulation of starch in the tissues. More than twenty years ago BOEHM came to the conclusion that one of the functions of calcium was to assist the carrying of carbo hydrates. Working subsequently on the same subject, A. F. W. SCHIMPER showed that, in plants which normally contain crystals of calcic oxalate, oxalic acid is a bye-product in the building up of proteids, and that, in the absence of calcium, acid potassic oxalate accumulates in the leaves and buds and acts as a poison. He concluded that the calcium served to neutralise this salt, but played no fundamental part in the conduction of carbohydrates, since these were proved to travel without a corresponding movement of calcium. GROOM suggests that the choking of the tissues with starch may be due to the fact that potassic oxalate arrests the change of starch into sugar, and shows by experiment that the diastatic action of extract of malt upon arrowroot-starch is hindered by even very dilute solutions of the acid salt; also that the same substance retards the process of the change of starch into sugar in the living leaf of the Canadian water-weed (Elodea canadensis); and further, as the soluble oxalate accumulates, that the manufacture of starch is retarded, and, finally, the protoplasm is killed. The possibility of the diastatic action in plants, which, like Oxalis, normally contain a considerable amount of acid potassic oxalate in solution in their leaves, is explained by the fact already elucidated by GIESSLER, that the salt is stored in the epidermis, not in the assimilating tissue. GIESSLER suggested that the object was protection from snails and the like, but GROOM thinks, from his own experiments, that the protective significance is at most secondary, and that the primary reason of the superficial storage of the oxalate is because its presence in the underlying tissues would derange the metabolic processes. *Natural Science.*

VARIETIES OF CEDAR.—It is not generally known that the term Cedar in commerce is not a generic one. The pencil Cedar is, strictly speaking, Juniperus virginiana, but J. bermudiana is also used for the same purpose, the wood of the two trees being practically indistinguishable. The Cedar of Lebanon, Cedrus Libani (Barrel), and its two varieties, the African Cedar, C. atlantica (Manetti), and the Indian Cedar, C. Deodara (Loudon), do not appear to be distilled for oil. Other trees known as Cedars are the West Indian White Cedar, Tecoma leucoxylon (Mark), the American Red Cedar, Thuja occidentalis (Linn.), the Californian White Cedar, Libocedrus decurrens (Torr.), the New Zealand Cedar, Libocedrus Bidwilli (Hook.), the Australian Red Cedar, Cedrela toona (Roxb.), and the West Indian Cedar, Cedrela odorata. The last is of interest, as being the wood of which cigar-boxes are made. It is also largely used for cabinets, wardrobes, &c., in the West Indies, since insects have a strong dislike both to the colour and the taste of the wood. It would seem, therefore, that the volatile oil, of which Messrs. SCHIMMEL obtained 3 per cent., would be more valuable than that of Juniperus virginiana as an insectifuge. The waste wood from the manufacture of cigar-boxes could easily be utilised for this purpose. The oil has a specific gravity of 0·915, and boils between 265° and 270°, and has an optical rotation of 5°·053 in 100 mm. tube. *Mr. Hart, in "Bulletin Botanical Gardens, Trinidad."*

AGARICUS CAMPESTRIS.—If we may judge from the numerous communications received from residents in the country, the weather is extremely favourable to the growth of the common edible Mushroom, and doubtless of many other fungus of which, of course, the laity take no cognizance. It would seem that great heat, followed by abundant rains, are the necessary conditions of an abundant year.

ORCHIDS UNTRUE TO NAME.—It may be of interest to Orchid dealers and fanciers to allude to a case which was noted in the *Orchid Review* for the present month. A case came before his Honour, Commissioner KERR, at the City of London Court on Tuesday, August 4, the plaintiff being Mr. D. B. RAPPART, Promenade, Liscard, Cheshire, and the defendants, the executors of the estate of the late Mr. G. D. OWEN, Selwood, Rothesham. The former gentleman purchased at the auction sale of this well-known collection, several choice and valuable species and varieties, part of which, upon flowering, proved untrue to name, and of little value; and not feeling disposed to stand by such a bargain, he made an application for the high prices paid to be refunded. This request being met by refusal, the plaintiff decided to bring an action to recover his rights. For the plaintiff, there appeared two well-known experts, who testified to seeing the plants in flower, and that they were not true. A third expert also appeared, who could testify that no variety of Orchid would alter its character by changing into another variety. Verdict for the plaintiff with costs. Generally speaking, mistakes of this kind are acknowledged by the seller, and compensation in some form or another given, and had the defendants been well advised, the case should not have been allowed to come into court.

Lifting the Roots of Street Trees.—*Garden and Forest* for August 26 gives the following on this subject, which may afford a hint to town surveyors and others. Sometimes when the grade of streets or grounds is to be raised, it is desirable to elevate the trees at the same time. Near Philadelphia, according to *Meehans' Monthly*, trees 50 feet high, and with trunks 18 inches in diameter, are lifted with very little check to their growth in the following way. A trench is dug around a tree so as to leave a ball of earth, and when it is dug to the proper depth, the earth is spaded from under the ball on one side, and a block set under the roots as a fulcrum. Two guy ropes are then attached to the tree, one on the side where the block is set, and the other opposite it. When the rope toward the block is drawn, the tree is tilted, and the mass of roots is lifted up on the opposite side. Earth is then packed under the elevated roots, and then the rope on that side is drawn. This lifts the roots on the block side, and more earth is placed there. In this way the tree by being swayed backward and forward, having earth thrust under it at each tilt, is soon elevated as many feet as is needed, and stands on the summit of a firm mound of earth.

The New Cemetery at Douglas, Isle of Man.—We learn that the 1st prize offered by the Town Council of Douglas, Isle of Man, for a plan for laying out the new borough cemetery has been awarded to Messrs. Wm. Fell & Co., nurserymen, of Hexham. The grounds consist of about 12 acres, and fine views of Douglas Bay are obtained from them.

Smithsonian Institute.—The death of Dr. Goode, and the absence of Professor Langley from the United States, prevented the fiftieth annual meeting of the trustees of the Smithsonian Institution (which was to have been held on September 7), from taking place. This was the first time in the existence of the institution that the annual meeting had failed to be held.

Dr. Trimen.—We regret to learn from the *Ceylon Observer* that Dr. Trimen, the Director of the Ceylon Botanical Gardens, is somewhat seriously ill.

A New Chrysanthemum Publication.—*Le Chrysanthème* is the title of the first number of the quarterly report issued by the French National Chrysanthemum Society. From it we learn that the first Conference to be held under the auspices of the society will take place at Bourges on November 7. It is interesting to record that a special notice has been sent round to the various raisers reminding them that a registrar has been appointed, and asking them to submit the names of their new seedlings for approval so as to avoid the duplication of names. *Le Chrysanthème* contains a list of the officers and committees of the society, and a list of memoirs. The rules as passed at the general meeting in January are given, a translation of the Jubilee circular of the National Chrysanthemum Society, and several other articles are also included.

Ornamental Plants of New South Wales.—Mr. J. H. Maiden, the successor of Mr. Ch. Moore in the Directorship of the Sydney Botanic Garden, has done good service in drawing up a descriptive catalogue of "Some New South Wales Plants worth cultivating for Shade, Ornamental, and other Purposes." It was published in the *Agricultural Gazette of New South Wales*, and has also been issued separately. Primarily intended for the use of the citizens of New South Wales itself, it will be found useful in other parts of the world; and it is all the more valuable from being based on the practical experience of the author, who has long been an experimental cultivator. A priced catalogue is given of seeds sold by a "Sydney firm," with size, colour of flowers, and native names. This is followed by a systematically-arranged, descriptive enumeration of a selection of native plants. The most valuable part of this work consists of particulars of the soil and situation in which the plants grow naturally. Some of these particulars will doubtless come as a surprise, though none the less welcome, to gardeners who have unsuccessfully attempted the cultivation of some of the plants in question. Certain plants, we are informed, grow and thrive in fine sand, others in leys, others in swampy ground. Not less valuable are the selections of plants for various purposes, such for instance, as trees for street-planting, plants for the sea-side, sand-binding, and other purposes. We may add that this little publication is issued from the Government printing press at Sydney.

Collections by Children on Behalf of the Gardeners' Royal Benevolent Institution.—In view of the recent correspondence in the *Daily Telegraph* as to the "good" and "bad" manners of children, it is a pleasing sign, as well as an encouraging feature, to find that some young people whose parents are connected with gardening, take a loving and active interest in the cause of charity. Here is a case in point, which we are glad to notice: Frances Parker, aged 9, the daughter of the well-known gardener at Goodwood, has forwarded to the secretary of the Gardeners' Royal Benevolent Institution the sum of £1 5*s.*, which she had collected in aid of the old people. We hope that little Frances Parker's worthy example will be followed by many other little folks, and with similar success. Our charities will never lack support so long as the rising generation are inculcated in the principles of benevolence.

The British Association.—The excursionists in the Isle of Man were on Monday, September 28, favoured with fine weather. The botanists drove to various places in search of specimens, including Snaefell Mountain and Bullamoar. At the latter place, which is low-lying, they inspected the fine collection of coniferous plants and other exotics. The archæologists visited the ancient forts at Ramsey, and the geologists drove to Peel, and inspected the red sandstone rocks. At night the excursionists dined at Douglas, when the Lieutenant-Governor (Lord Henniker) was their guest.

The Weather.—It is to be feared that much damage has been done in parks and gardens by the destructive gale, accompanied by rain, which visited the southern and western parts of the United Kingdom in the early hours of Friday, September 25. In London there was a very rapid fall in the barometer, followed by an equally rapid rise. In Ireland the direction of the wind was northerly, and in the western part of the Channel westerly. In some places extensive floods are reported.

The American Agricultural Budget.—The total amount set forth in the Appropriation Act for the United States Department of Agriculture for the fiscal year ending on June 30, 1897, is 3,255,532 dols., or more than £650,000 sterling. Taking some of the items which apply to horticulture and agriculture especially, we find the largest is 883,772 dols. for the weather bureau, followed by 750,000 dols. for the agricultural experiment stations, and 729,440 dols. for the bureau of animal industry. The sum of 150,000 dols. is assigned to the division of seeds, for the purchase, propagation, and distribution of such valuable seeds, bulbs, trees, shrubs, Vines, cuttings, and plants, as are suitable for cultivation in the various parts of the United States. The division of statistics receives 145,160 dols., of which 10,000 dols. "may be expended in continuing the investigations concerning the feasibility of extending the demands of foreign markets for the agricultural products of the United States, and to secure as far as may be a change in the methods of supplying tobacco and other farm products to foreign countries." The sum of 29,500 dols. goes to the division of entomology, and the same amount to the division of chemistry. This is closely followed by 28,520 dols. for the division of forestry; 27,560 dols. for the division of biological survey (hitherto called the division of ornithology and mammalogy); 26,500 dols. for the division of vegetable physiology and pathology, "of which so much thereof as may be directed by the Secretary of Agriculture may be applied to the investigation of Peach yellows, Californian Grape-disease, root rot and blight of Cotton, Pear blight, and the diseases of Citrus fruits, and the remedies therefor;" 23,800 dols. for the division of botany; and 22,500 dols. for experimental gardens and grounds. The division of agrostology receives 18,100 dols., and the division of soils 15,300 dols., both of these divisions making their first appearance in an Appropriation Act. The division of accounts and disbursements gets 16,300 dols., and the division of pomology 12,500 dols.; 7,000 dols. go to the library, 5,400 dols. to the museum, and 5,000 dols. to fibre investigations. There also a sum of 15,000dols. is for nutrition investigations, with provision for co-operation between the Department and the experiment stations. *Times, Sept.* 28.

FLIXTON HALL.

This fine Elizabethan mansion (fig. 73), with its beautiful gardens and well-timbered park, the seat of Sir Hugh E. Adair, Bart., has long occupied a distinguished position in East Anglian landscapes. The park consists of about 500 acres, and has quite recently been largely added to, thus linking on the fine old timber to the modern groups, belts, and clumps that first meet the visitor's eye on entering the park from the Hammersfield Lodge. These groups, which are mostly planted with the Black Austrian Pine, Pinus Laricio, Larches, Spruces, &c., have, under suitable cultivation and timely thinning, developed into good-sized shapely trees. Most of these belts and clumps of young Firs and other trees are lighted up with a fringe of Laburnums, Cratægus in many varieties, and other flowering trees and shrubs, which greatly add to the effect by contrast with sombre-hued Firs, while hardly interfering with their growth and uses as screens and shelter.

The older portions of the park abound with fine timber, chiefly Elm, Beech, Sycamore, spreading Horse-Chestnuts, the latter in magnificent blossom at the time of my visit; and Oaks of magnificent stature, and clean straight boles. On the north side of the mansion, which has recently undergone extensive alterations, including a massive facing of stone, an avenue of enormous Sycamores, planted in double lines, evidently of great age, extends for more than half a mile. Its width is 60 yards, and this avenue afforded a welcome retreat in such burning weather as that of the past summer. Near the avenue stand some notable specimens of Pinus ponderosa, 60 to 70 feet high, the remains of a large number that have been destroyed by the gales to which East Anglia is peculiarly subject. The numerous Oaks at Flixton are magnificent specimens of a fine quality of timber. On the land lying between the mansion and the home farm, sufficient timber might be found to rebuild the British navy on the old lines, should the whirligig of fashion ever again commit our national defences to wooden walls [!], and the owner be found willing to devote his Oaks to such patriotic purposes. It would seem that a long line of proprietors have regarded the Oaks at Flixton in the light of much-prized heirlooms, excellent in their way for enriching and adorning the estate. The present owner, who is in his eighty-first year, has entered with extraordinary zeal and energy into the improvement of the mansion, the gardens, and the estate generally; but, so far as could be learnt, no improvement must involve the sacrifice of a single Oak out of the many thousands that exist there.

Within the pleasure-grounds there stands alone a very notable Oak, which forms the boundary of three parishes, which at one yard from the ground measures 16 feet in girth, and is fully two centuries old. Near this is one of the finest plants of Berberis vulgaris ever seen by the writer. This grand old hardy shrub has been uprooted from many a copse and hedgerow, on the strength of a statement that it fosters the spread of mildew. This is the more to be regretted as we have few shrubs that are more beautiful in tender leafage, in blossom, and in its drooping bunches of berries, and bronzy foliage in the autumn. A fine Mulberry tree of probably 300 years old forms another interesting link with old times; although many of the so-called new creations, of which a newly-built retaining wall, nearly three-quarters of a mile long enclosing the gardens and grounds, are others.

The planning, re-arranging, furnishing, and planting of the gardens at Flixton reflect much credit on all those who are concerned in them, namely, Sir Hugh and Lady Adair, and their talented gardener, who has been at Flixton for about twenty-six years. Sir Hugh, while taking an interest in all branches of gardening, is specially partial to coniferous trees; and I noticed some nice specimens were getting up of Abies Pinsapo, A. bracteata, A. Webbiana, A. Veitchi, Pinus Cembra, P. excelsa, Librocedrus decurrens, Cupressus Lawsoniana, C. L. var. lutea, Sequoia gigantea, Cedrus Libani, and Abies Douglasii. Among deciduous trees and shrubs were Acer Leopoldi, A. Negundo foliis variegata, Prunus Pissardi, purple-leaved Birch, Cytisus Laburnum, Cratægus of various species and varieties, Persian, white-flowered and other Lilacs; golden-leaved Privets, as standards and as bushes. Several beds of Rhododendrons have been planted; and the dividing walls of the garden are well clothed with Roses, Clematis, and other beautiful plants, as well as with the too-seldom-planted Berberis stenophylla and Cotoneaster Simonsii.

At the end of May last the bulbs, which had flowered in the geometrical and other parterres, were mostly in the sere and yellow leaf, and the summer bedding-plants were not yet planted. But in the herbaceous perennial borders, in which Lady Adair takes great interest, a capital collection of healthy plants in great variety was observed, notable among which were those welcome plants Alyssum saxatile, Phlox prostrata, and Iberis sempervirens, early-blooming Delphiniums, and Pæonies.

Two handsome conservatories are attached to the mansion, and these were well furnished with large specimens of Camellia japonica, Lapageria rosea, and L. r. alba, Orchids, some very choice Gloxinias, and a magnificent Eucharis grandiflora, Begonias, and numerous other subjects. The plant-stove was filled with a capital collection of the older favourite tropical plants, together with numerous others of modern introduction. These stove-plants are very successfully cultivated, and I remarked good examples of Allamanda, Rondeletia, Franciscea, Mayenia erecta, Medinella magnifica, Croton, Dracæna, Gardenia, Ixora, Clerodendron fallax, C. Kæmpferi, besides foliage plants, and some remarkably fine specimens, smothered in bloom, of the beautiful and fragrant Tabernæmontana coronaria.

A choice, if small, collection of Orchids is being got together, and quantities of Chrysanthemums, Salvias, Carnations, and other flowers are also grown for decorative purposes. Miss Joliffe and Winter Cheer being the varieties of the Carnation grown in the largest numbers.

Tea Roses have here what they deserve in every good garden, a house to themselves, where under proper treatment, and a tentative kind of pruning, which consists of the hard cutting-back of each shoot as the flowers are removed, a continuance of bloom from November to May, or even longer if such be desired, is obtained.

Surrounding the mansion and pleasure grounds is a large piece of ground enclosed with ornamental wire fencing, largely used as a nursery for such Conifers as Pinus austriaca, P. Laricio, Cedrus Deodara, C. atlantica, Abies Douglasii, and many others. Grapes are remarkably well done at Flixton, as are also Peaches, Nectarines, Cucumbers, Melons, Tomatos, &c. A good many thousand bedding plants are employed in furnishing the geometrical parterres, and as material for filling vacant spots in the herbaceous borders. About six years ago a new kitchen-garden, of about 2 acres, was laid out at some considerable distance from and entirely out of sight of the mansion. This was fully furnished with promising crops of vegetables, while the walls, and the borders alongside of the chief walks, were planted with fruit trees trained in a variety of methods. The borders on each side of one of the central walks are planted with pyramidal Apple trees of nice shape, which are well cropped; espalier Apples and pyramidal Pears occupying a corresponding position on each side of another walk. The walls are being rapidly furnished with carefully-trained Peach, Nectarine, Apricot, Pear, Cherry, and Plum trees. The somewhat heavy soil suits all sorts of fruit remarkably well. By the simple expedient of planting different kinds and varieties of fruit on a variety of aspects, Mr. Fisher succeeds in improving the quality and extending the season of many of the Pears and other fruits. The varieties of Apricots mostly grown at Flixton are the Shipley, Roman, Large Early, and Kaisha. The older varieties of those of the Peach and Nectarine are those chiefly grown. A part of the south wall is occupied by Marie Louise, Beurré Diel, B. Rance, B. Hardy, Huyshe's Prince Consort, Doyenné du Comice, and Ollivier de Serres Pears. Some part of the west wall is planted with such Pears as Winter Nelis, Beurré Sterkmann, General Todleben, Williams' Bon Chrétien, Josephine de Malines; while Clapp's Favourite, Thomson's and Bergamotte d'Esperen are grown on the wall facing east; and Williams' Bon Chrétien and Beurré Giffard on the wall facing north. Cherries and Plums are also planted on north and east walls. All of the Pears are worked on the Quince stock, and they are models of good training, and very fertile.

Gooseberries, Currants, Raspberries, and Strawberries were of great promise this season; and while the bolting of Cabbages was a common occurrence, it is worthy of note that of the two popular varieties, Ellam's Early and Enfield Market, grown side by side, not one of the first, nor many of the second bolted. The walks in the kitchen garden are edged with the blue Staffordshire tiles, and the coping of the walls with the same kind of material is as unique as it is effective. Flat tiles projecting as eaves about 6 in. from the top of the walls materially help to ward off frost. The water supply of the gardens is abundant, pipes and hydrants being found in almost every part of them. I would add, in conclusion, that in these days of agricultural depression when so many private gardens are being starved, it was refreshing to meet with a gentleman of the olden time who willingly affords every possible assistance to his talented gardener, Mr. Harry Fisher, in the making and improving of the garden. Mr. Fisher, I am proud to say, was one of my first pupils in East Anglia. *D. T. F.*

Home Correspondence.

HEDGEHOGS.—It would be interesting to know if any of your correspondents have proved that hedgehogs will eat the large beetles that infest most Orchid and other warm plant-houses. We have found them to do so, when live beetles were put into a covered box with the hedgehog. We have had two of these animals in our Orchid-house for some time, and were led to try the experiment by perceiving when looking round of an evening that the beetles got fewer in number. *H. J. C.*

PERENNIAL ASTERS AS POT PLANTS.—It may appear to some almost absurd to suggest that Michaelmas Daisies make good and useful pot-plants, and yet they do, as Mr. J. Hudson is showing in Gunnersbury House Gardens at the present time. Having a fairly good collection, he thought he would strike cuttings of some of them in the early part of the summer, and having a bed of soil in a frame, he placed them therein until they were rooted, and then potted them off, placing three or so in a 32-sized pot, and then plunged them among the plants in one of his Strawberry beds. These struck plants are now growing nice heads of bloom, and as a matter of course they vary in height according to the height to which the variety grows. These miniature plants are coming in very useful just now to replace in the borders the annual Asters, which have gone down sadly before the rains, as they invariably do, being only fair weather subjects. But some of the dwarfer-growing sorts are in the plant-houses, and one especially, named Patulus, is truly charming, the plants from 6 to 9 inches in height, and having, for their size, quite large heads of bloom, looking like miniature Cinerarias. Some knowledge of the varieties is necessary in order to select those having the largest and finest colours, these being the more effective. The height at which the variety grows does not so much matter, because they come in useful in mixing with other plants, and some of the taller forms would mix well with Chrysanthemums. *R. D.*

SWEET PEA CUPID.—"A. M.'s" experience of this new Pea is similar to my own. Outside it has been a complete failure round here, all the flowers dropping off before opening. Under glass it was a success, which leads me to believe that the climate of Scotland, so unlike the country of its origin, is too cold and damp for its development. It would be well if others who have grown it would record their experience, so that both buyer and seller may be on their guard. *Michael Cuthbertson, Rothesay.*

PELARGONIUMS AND BEGONIAS.—"An Old Hand" was, no doubt, in a satirical mood when he wrote on this subject in a recent issue. If written since the heavy rains began, he must have been highly favoured if Pelargoniums gave better bloom than Begonias. I have rarely seen the former so thoroughly demoralised all through the month of September as this year. On the other hand, Begonias have, amongst ordinary bedding plants, been almost the only ones affording bloom. No doubt Begonias will be employed for bedding purposes much more largely in future years, especially since they can now be purchased as dry tubers at reasonably cheap prices. If sweet-scented plants are desired, would not a number of handsome cut-leaved Cape Pelargoniums, planted thinly on a carpet of Musk, or of dwarf Heliotrope, give all that was desirable? Such beds would suffer very little indeed in a wet autumn such as we are now experiencing. *A. D.*

A NEW IDEA IN ORNAMENTAL GARDENING.—The above heading may appear sensational, but however new ideas, useful ones and otherwise, from time to time suggest themselves to the mind, and peoples' tastes vary so much; moreover, novelty is sought with such earnestness in these days that a little divergence from the old time may be pardoned. Hobbies are carried to such an extent in horticultural and other pursuits, that I venture to make public the following suggestion. Some people spend thousands of pounds on Orchids, some their hundreds of pounds on rockwork or American gardens, but I think my garden would prove more interesting, more beautiful, and less expensive in maintenance than any of the above. Of late I have visited many private gardens and nurseries, and have been so delighted with the flowering shrubs and trees, and also with the variegated varieties of some, that I am convinced a garden consisting exclusively of flowering trees and shrubs, both evergreen and deciduous, and a garden of variegated and handsome foliage, berried trees and shrubs, would be most enjoyable. I was struck with the beauty of a large Gum-cistus bush, some 12 feet high, which I recently saw at Portsmouth growing in a small garden. In nurseries there are many small specimens of such species, and a few larger ones. Until some trees and shrubs have attained a considerable size, their beauty is not developed; take, for instance, the Venetian Sumach, the Judas-tree, the Acers, or the Tulip-tree, &c. How beautiful this season have been the Golden Elder, the Acers, double-flowered Thorns, Almond, &c.; and now in the autumn the bright scarlet and yellow berries of the Mountain Ash. In recalling to mind some of the nooks contained in some of the more extensive gardens of which I have had charge, I remember a visitor's surprise when a mass of Gueldres Rose, Pyrus, Berberis Darwini, Lilac, &c., came suddenly into view, although they had passed without notice the same kinds of shrubs and trees before amongst other evergreens. Now a garden planted entirely with flowering trees and shrubs; and another one containing species with variegated and coloured foliage, with berried trees, &c., I think, would be charming and interesting. There would be something to admire each day in the year, from the common Gorse and Broom to the stately Magnolia. Some of the most telling I would plant in groups to produce effect, and others should occupy borders varied in shape, so as to form recesses, prominent positions, and curves, and others again as single specimens. A garden of some 4 or 5 acres or more, tastefully laid out and planted in the above manner, would have a grand effect. There are very many suitable places to be found in some large establishments for such a garden. Many gardens possess an arboretum and pinetum, the former interesting, the latter stately and pleasing, but both of them lack the daily variation that would be seen in the garden I propose. In some old disused kitchen gardens there are walls still standing, and at the foot of such many really beautiful shrubs might be planted. The trees remarkable for their foliage or berries I would prefer to have by themselves in a separate garden. It was my intention to give a selection of such trees and

shrubs, but I found the list too extensive. I should like to see the above ideas carried out, and would feel a pleasure in assisting such an effort, if commenced with spirit. I would ask those who are apt to cavil at a new idea to well weigh these suggestions before they criticise them. We want more variety in the formation of gardens, and I have attempted to suggest a means of obtaining it. *Edward Bennett, Queen's Road, Egham.*

CHASSELAS VIBERT.—In a house of Frontignan Grapes at Gunnersbury House, this variety, which apparently produces the largest bunches under glass, is also praised by Mr. Hudson as being a good outdoor variety. Amateur gardeners often enquire for a Grape which they can grow in a cold house, and in all probability Chasselas Vibert might meet their requirements. It lacks the high quality of Dr. Hogg, Grizzly Frontignan, and Chasselas Musque ; but it is yet very pleasant to the palate—sweet and sprightly. Mr. Hudson said that, in a favourable season, the flavour of the fruit grown in the open air is good. *R. D.*

PROFESSOR J. J. KING.—As an old pupil of this worthy man, whose death will be deplored by those who knew him intimately, may I crave space for an eulogistic word or two concerning him. He was one of Nature's gentlemen, genial and gentle, always ready to explain and go over the ground again and again to any of the students under his care ; his face beaming with satisfaction when he found us interested and enthusiastic. In our botanical rambles in Clydesdale, o'er moor and marsh, or crag or torrent, he was a most delightful companion. Simple in manners, unaffected, and even careless in dress, he led our little forays by Bothwell Woods or through Campsie Glen, calling a halt now and then to demonstrate a fact or draw a comparison, and the student was, indeed, a dullard, who was not wiser at the end of the journey than at its beginning. Going through a clachan one Saturday afternoon, about twenty of us, with our vasculums on our backs, Mr. King (who carried an extra large vasculum) was addressed by one of the yokels, and asked if he would give them a tune, supposing that his botanical outfit was some kind of musical instrument. He once obtained for me from his brother, who, I believe, was at the time (in 1881) British Vice-Consul in Chili, some native Potatos of a species which had never been known to take the Potato disease. I sent them to a friend in Ireland for trial. The first year they escaped, although the produce was very unsatisfactory, but the second year a few diseased tubers appeared among them. When Mr. King was at Kensington in 1883, studying the higher botany, I paid him a surprise visit in the laboratory, and I can, in my mind's eye, now see the glow of pleasure that spread over his honest face when I appeared. Though fungi and mosses were his favourites, he loved botany in all its branches, and his death will be felt as a great loss to botanical students in the colleges in which he taught. *Andrew Hope.*

LATE POTATOS.—These, it is feared, will have suffered somewhat from the late rains, especially in low-lying districts, or where the soil is retentive. About Uckfield the crop is not, as a rule, so heavy as that of last year, although some of the varieties have turned out fairly well, with but very few diseased tubers. It seems to me that Potatos generally are not planted sufficiently early to enable the tubers to complete their growth before they are checked by frosts : hence the poorness of the crops. Growers well know that when the haulm is cut down by spring frost, the crop is sure to be a light one ; but if they could hit on that happy medium whereby injury in the spring, or at too early a date in the autumn, could be averted, yet planted in time to complete their growth while the soil was warm and dry, the tubers would doubtless be of a better flavour. With so much rain of late, the lifting of the crop cannot take place for some considerable time on stiff land, and it is to be feared that the tubers left in the ground will suffer. There are many varieties of Potatos in cultivation, and gardeners would do well to grow only the best. Those who have to meet a large demand need to grow such as give a good crop of fair-sized tubers, which is of far more importance to them than show varieties, whose evenness of outline is perhaps their chief recommendation. I fear that in the matter of judging Potatos at shows, the judges are apt to err on the side of mere appearance. Potatos, as a rule, in private establishments, are served up as dressed dishes, and seldom plain cooked, and a fair-sized tuber finds most favour with the cook ; and if this can be obtained of good quality, the gardener should stick to that variety till he has proved some others to supersede it. Many varieties in a season like the present were on poor ground too small to be useful, and were fit only for sets ; while those of more robust habit that had not made their growth before the wet weather set in, have super-tuberated so much as to be worthless. Varieties of the Potato deteriorate to a considerable extent, and more so in some soils than in others ; it is therefore always advisable to obtain a change by procuring the desired varieties from fresh growers. Of the thirty varieties grown by me this season, Sutton's Flourball was best. They were planted on March 24, and lifted on September 8, that is before the moisture in the soil had time to do any serious damage ; in fact, the soil beneath the roots was at the time quite dry. I plant all of the strong growers at 3 feet apart, so that the ridges are wide. The crop of the variety mentioned was excellent, and most of the tubers, of which there from fifteen to twenty at a root, weighed about half a pound each, which would give more than thirty tons to the acre. They are of superior quality. Next to Flourball came Windsor Castle, also excellent, and the same may be said of Supreme, Triumph, Snowdrop, Marvel, Robust, The Garton, and Schoolmaster. The question is often asked, if whole or cut sets produce the best crops. My belief is that there is a great advantage in planting whole sets, as the weight of sets per acre is much less if they are selected of an even size ; but, as a rule, too little care is taken in selecting them, or to prevent growth being made before planting. I am strongly of the opinion that the amount of soil drawn up to the stems has much to do with the weight of the crop, as those which are planted shallow and have but a small quantity of soil drawn up to them were not nearly so good, or the crop so heavy, as those to which a greater amount of soil was afforded. This may, I think, be easily accounted for in a season like that of this year, with a light rainfall during the summer. With the wide deep ridges the drought affected the plants in a lesser degree. There are, moreover, various advantages in the autumn preparation of the land which is to carry Potatos, more moisture being retained in it than if spring-dug or ploughed. Farmers, as a rule, do not take this into consideration, hence the reason so many of them fail to get good crops. In most gardens the quantity of Potatos grown is limited, the main supplies being grown elsewhere, but the tubers do not usually give satisfaction to the cook, being uneven in size and mis-shapen, or they are too small. Potatos when put into store, should never be covered with hay or grass. *H. C. Prinsep.*

A HORSE-CHESTNUT TREE IN FLOWER.—As one of the vagaries of the present season, it may prove of interest to put on record the fact that at the present time, facing the roadway, and in the grounds in front of "The Chestnuts," Chiswick, is a fine Horse-Chestnut tree in flower. It is practically denuded of its foliage, but here and there some belated leaves have pushed forth. The tree thus presents a strange aspect, the bare branches showing up the birds' nests scattered about the tree. This strange occurrence is doubtless due to the wood and buds having been well ripened early in the summer, and the development of a few of the latter has been hastened by the rainy weather lately experienced. According to the statement of an old inhabitant of Chiswick, this is the third time that this particular tree has flowered in this way. *J. B.*

DELPHINIUM ZALIL.—The engraving of this plant in the *Gardeners' Chronicle*, p. 247, leads me to inquire of others their experience regarding its duration in gardens in this country. In the description of its character in the *Transactions of the Linnæan Society*, quoted in the *Gard. Chron.*, at p. 248, appear the words Herba perennis. Judging from several plants I raised from seed sown in 1894, and which bloomed in 1895, I think it is only a biennial in this country. This is unfortunate, if correct, as the pale yellow flowers look rather pretty, especially when a short distance from the observer. The spikes vary considerably in density of flowering, and the one drawn on p. 247 appears to be an exceptionally fine one. The plants do not appear to be so liable to injury from slugs as those of D. nudicaule. *S. Arnott, Carsethorn, Dumfries, N.B.*

MAIZE AS A VEGETABLE.—I grow Maize with success, and it is easier to cultivate than Cabbages. Instead of raising the young plants in heat and coddling them in pots till the weather gets warmer, I sow the seeds in the open in the last days of April or first in May, which I find gives the best and earliest results. The only difficulty that I find is in selecting the cobs for cooking. Either hard or very soft corn will not do, but something between the two. The varieties I grew this year are in their order of coming into use. Sutton's Early Dwarf Sugar, August 1; Golden Dewdrop, August 17 ; Cobbets, August 18 ; Early Six Weeks, August 24 ; Yellow Canada, September 1 ; Country Gentleman, September 10 ; and Large Flesh Colour, September 20. The first two or three varieties could be grown as a field crop in selected warm soils or situation in the warmest parts of the southern counties. But I do not write from experience of Maize as a field crop in this country ; it ripens so freely in the open garden here, that I think it would do so in a field, where by being sown in bulk, the plants would shelter each other. The enclosed are samples cut to-day, not the ripest, as they are used for consumption as fast as they become ready. [Excellent—Ed.] *Geo. Abbey, Jun., Avery Hill, Eltham, Kent.*

—— It would be helpful in re'ation to the discussion that has arisen concerning Corn-cobs, if Mr. P. M. Veitch will tell us how his cobs when gathered, are dressed, and sent to table, and how consumed ? I have been of opinion that the method of sending to table and consuming them does not meet with the approval of the English people, at home at least. Oddly enough, but a week or so since, there came to hand a letter from the extreme North-west of Canada, in which these mealies are referred to. The place is so far north that the temperature goes down to 30° below zero in winter, hence is far from being an ideal climate. The letter is dated September 4, the writer referring first to garden produce, says: "If it still keeps warm and dry we shall have Vegetable Marrows to eat in a few days, also some Cucumbers, and the Tomato-bines are loaded with green fruit. I do not care so much if they do not ripen, as I use the green fruit to pickle, it helps to make fine chow-chow (whatever that may be). We had our first feed of 'sweet corn' yesterday, and it went fine. I was saying it was a pity some one had not got a snap-shot to take my portrait, in the act of eating ; there I sat holding an end of the Corn-cob in each hand, and biting off the corn. It is a rare trouble to get the corn off, as you cannot use knives and forks at all well for the purpose." Now, if it be absolutely needful to consume these Corn-cobs in this distressingly ungainly way at table, is it probable that their consumption will ever "take on" here. That seems to be the point. I would mention that in this instance, all the things named, Maize included, were raised from seed sown outdoors in May. *A. D.*

—— The best variety of Maize to grow as a vegetable in this and similar warm parts of the country is Adams' Early, synonymous with Extra Early Adams. It grows but 3 to 4 feet high, matures quickly, cobs of a good size, milky-white, and fairly firm. Another good sort is Cory Early, which bears a reddish-coloured cob. There is a sub-variety of this one with a whiter cob. Manhattan will do very well in some years, but in a wet summer it grows very tall, and matures late. The Early Minnesota is said to be an early variety, but I do not know anything more about it. Adams' Early is the most suitable variety to grow for table in the West of England. *Andrew Hope, Exeter.*

PLANT NOTE.

MARIGOLDS AS WET WEATHER PLANTS.

The dwarf types of the French Marigold, and especially the Double French and the single-flowered Legion of Honour, make capital wet-weather plants. At the Royal Nursery, Slough, there are lines of the latter which have borne the drenching rains of the past few days without apparently affecting the brilliancy of the blossoms, for as soon as the rain ceases and the petals become dry, the flowers are as gay as ever. The chocolate-coloured forms of the double-flowered French Marigold, with their compact blossoms, formed, as it were, of a number of circles of golden-brown-edged combs, and these, too, throw off moisture readily. While the annual Asters have a wretched appearance, the Marigolds brave the rain, and will continue to do so until destroyed by frost. *R. D.*

THE SEED TRADE.

American Seeds.—In connection with the exhibition now being held under the auspices of the London Chamber of Commerce to illustrate articles of everyday supply and demand in the British colonies, a startling fact is made prominent in the department devoted to farm and garden seeds, to the effect that the United States of America conducts nearly the whole of the trade in these commodities. I feel constrained on the face of such an announcement to ease my patriotic feelings, and whilst I am bound to admit there is some amount of truth in the statement, so far as it exists, so much the worse it is for our colonies that things in this direction should remain as they are.

An idea prevails amongst seedsmen in Australia, particularly those who cater for the retail trade, that American-grown seeds are preferable in their climate to those of English origin. (I mention Australia because it is there that the Americans find their best market.) They say our seeds are so full of moisture that they will not keep. Again, they maintain that we cannot grow many of the species adapted to their warm climate, such as are so largely produced in the United States; and, thirdly, that we are unable to compete in price—an important item, from their point of view, in these times of meretricious cheapness.

As to the existence of real American seeds, I have yet to learn that the United States is entitled to be called a seed-producing country in this sense, for if we except California, a fine State only just coming into prominence, I should hardly know in what direction to go to find what could be justly called a seed farm proper. One or two of the old-established Philadelphia, New York, and Boston houses may have good breadths of a few special things under growth, but they could not help admitting that a very large portion of their "stock in warehouse" was produced in other countries. There is no denying that their climate will grow Squashes, Water-Melons, pole, Lima, and wax-podded Beans, Tomatos, and Cucumbers, but most of the garden products which the British colonist wants, go into America from other countries. All their best garden Peas come from Canada; all their choicest Cabbage, Beet, Celery, Carrot, Spinach, Cauliflower, Radish, Turnip, Lettuce, Onion, Mangold Wurzel, and Swede seeds are produced either in England or on the Continent of Europe; and it was just the same with the choicest flowers. We grant that our climate is a damp one, but if our home-grown seeds are properly harvested and treated they are the best the world produces, and will travel safely and keep as long as germinating seeds are expected to. Why is it so very many of the best families in the antipodes send regularly to England for their seeds? The answer is not far to seek.

It is hoped this brief communication will tend to correct the notion that all seeds obtained from America are American, when it is an admitted fact that the larger proportion of them are European in origin, and only one or more years older than if bought from the producing countries; and I strongly recommend our Australian friends to give this point their serious consideration. *Agri.-Horti.*

GROSS GROWTH OF WALL TREES.

A heavy rainfall after a long drought will cause fruit trees as well as other kinds of vegetation to make growth in the upper part of the crown to the detriment, in the case of fruit trees, of the lower branches, and especially is this the case with stone fruits and Figs more than other trees [because of the abundance of roots. Ed.], and it is not desirable to allow this growth to go on unchecked, as it tends to prevent the wood becoming matured. In Apricot trees this growth is often of good use, as when branches have died off from heat and drought, and other causes, and better than removal is a timely thinning of the older wood, so as to allow the new shoots to be laid in at an early date. Peach and Nectarine trees when old sometimes make a strong growth at a late part of the season, which, if it can be widely spread over the tree, greatly helps to make a presentable show, and being afforded plenty of sunshine it readily matures. After all, I do not advocate the retention of very old shabby looking trees, preferring young and handsomer ones.

As regards the gross shoots made by young trees, these should be checked early; especially strong shoots proceeding at right angles to the wall, and emerging from the main branches, otherwise fore-right shoots, which, if allowed to grow to any length before removal, cause gumming, which is not conducive to the health of the trees. Trees which make much breast-wood, or fore-rights, should be root-pruned as soon almost as the crop of fruit is taken, lifting them right out of the soil and re-planting. A few years ago there were some young Plum-trees at Sion which gummed badly, and made very gross shoots, and these were lifted the third week in September, with the result that the wood now made is firm and short-jointed, the trees crop grandly, and gumming does not occur. In some cases it is sufficient to open out a trench at a fair distance from gross-growing trees, and cut through the larger of the roots, especially those that extend downwards. When filling in the soil, old mortar or burnt garden refuse, and coal-ashes (not manures), should be incorporated with it, and brought close to the cut-root Plums go wrong from the failure of a crop of fruit, for nothing keeps growth in check like regular cropping, but frost sometimes ruins our hopes, and in such cases root-pruning or lifting are best, it being useless to use the knife on the branches. Fig trees on walls grow very freely after periods of heat, the roots revelling in the warm soil, and no tree requires more timely attention to ensure the ripening of the wood than the Fig; indeed, I pay more attention to this than I would to covering up the trees in the winter, for if the fruiting wood be well ripened frost will do less harm, unless in winters like that of 18-1895. It is much better to use the knife freely early in the season than to crowd the shoots in July and cut away when the leaf has fallen, or when giving protection. Much attention to the ripening of the new shoots and the removal of gross-growing ones is required if good crops of figs are looked for. The remarks as to lifting and root-pruning as advised for young Plums hold good with Figs; indeed, more so, and there is no better season than the present for carrying them out. *G. Wythes.*

VEGETABLES.

VARIETIES OF PEAS FOR LATE CROPS.

Mr. Hudson is carrying out, in the gardens of Gunnersbury House, a somewhat interesting trial of late Peas. A trial was made last year on a small scale, and Peas were gathered fully one week earlier than this season, which Mr. Hudson attributes to the fact that the drought had the effect of checking the early growth of the plants, and on the change of the weather the plants made a vigorous growth, but no early blossom. Some of the dwarf varieties have grown much beyond their normal height, and they are still growing. A few varieties were sown on July 7, and among them Chelsonian, which is already 6 feet in height. It is a strong grower, and free from mildew, but late in producing pods; another season it would be best to sow this variety fully one week earlier. A good crop is now forming, which may produce usable pods. Criterion, sown at the same time is quite 5 feet in height, and quite ten days earlier than Chelsonian, and it pods remarkably well. It is now fully 5 feet high, and growing freely. Prodigy is the earliest Pea, and the pods are almost ready to gather. It is cropping as well as in summer, for Prodigy is one of the best of summer Peas. Duchess is of the same type as Prodigy, but with not so large a pod, and not so desirable for late work. Autocrat, fine late Pea as it is, should have been sown one month earlier, in order to secure Peas in the first days of September. It is naturally a late podding Pea, and invaluable for exhibitions at the end of August. Some others were sown three days later, among them William I., but this variety is not so early as Prodigy by about a fortnight. Sutton's Bountiful, sown at the same time, is a very good Pea for late cropping, as is also Sutton's A 1, dwarfer in growth than the preceding, a little earlier, and certainly a capital variety for late crops; both are strong growers, and with, this year, scarcely a trace of mildew. Empress of India, another Reading variety, is a strong grower, producing well-filled green pods; and Early Giant in the same way is also a useful Pea.

In a more open piece of ground, William I., of which there were five rows, appeared to be as early as any of the others noticed, those being more or less under trees; but it had reached a height of 5 feet, and was carrying a good crop of pods. This and Sutton's A1 were sown on July 20. The first-named had reached a height of 4 feet.

The trials showed that the best varieties for late crops, are Prodigy, Sutton's A1, Sutton's Bountiful, William I., and The Duchess. One lesson taught appeared to be that naturally early varieties are the best to sow successionally for late crops, and that they should be sown in the open on slightly-raised ground; and seeing there is a tendency in late Peas to grow beyond the average height, there should be abundant space afforded between the rows. *R. D.*

SOCIETIES.

ROYAL HORTICULTURAL.

British-grown Fruits at the Crystal Palace. (*See also p.* 400.)

Thursday, October 1, *and two following days.*

The Schedule is divided into the following divisions:—Division I., containing fifteen classes for fruits grown under glass or otherwise; open to gardeners and amateurs only. Division II., containing seven classes, open to nurserymen only. Division III., containing twenty-seven classes for fruits grown in the open air; open to gardeners and amateurs only. Division IV., containing eighty-six classes for single dishes of fruit grown in the open air; open to gardeners and amateurs only. Division V., special prizes for the best-flavoured dessert Apples and Pears.

The whole of the competitive classes are given below.

Division I.—Fruits Grown under Glass or Otherwise Open to Gardeners and Amateurs only.

The first class was for a collection of twelve dishes of ripe fruit, in not fewer than six kinds, nor more than one black and one white Grape, or more than two varieties of any other kind. There were three competitors, and the winner of the 1st prize, which also included a Williams' Memorial Medal, was Lord Harrington, Elvaston Hall, Derby (gr., Mr. J. H. Goodacre). In this exhibit were very long bunches of Muscat of Alexandria Grapes, of moderate quality only, being only average in colour, form of bunch, and size of berry; much better bunches of Alicante, good Pitmaston Duchess, and Beurré Hardy Pears, Ribston and Cox's Orange Pippin Apples. Golden Eagle Peach and Monarch Plum, Countess and Hero of Lockinge Melons, and Smooth Cayenne and Jamaica Pines; a good collection, but not equal to some we have seen. The 2nd prize divided Lady H. Somerset, Eastnor Castle Gardens, Ledbury (gr., Mr. Harris), from Sir Jos. Pease, Bart., Hutton Hall, Guisborough, Yorks (gr., Mr. J. McIndoe), who was 3rd; each of these excelled in particular dishes, but we could hardly follow the judges in the manner in which they awarded the prizes.

In the 2nd prize exhibit there were Madresfield Court and Muscat of Alexandria Grapes, both moderate in quality; smooth Cayenne Pine, Sutton's Royal Favourite Melon, good in size, but somewhat discoloured; also High Cros Hybrid Melon; Pears, Pitmaston Duchess, very fine; Apple, Worcester Pearmain; Peaches, Lord Palmerston and Nectarine Morello Cherries, Coe's Golden Drop Plums, and Brown Turkey Figs.

In Sir J. Pease's collection, the Foster's Seedling Grapes were decidedly weak, and Gros Maroc is hardly a first-class variety, but the two Pines were grand; Peaches, Sea Eagle and Exquisite were very fine; a pretty Golden Drop Melon; capital Washington Apples; and Pears, Nectarines, and Plums of average quality.

The best collection of eight dishes was one from W. H. D'Arcy, Esq., Stanmore Hall, Middlesex (gr., Mr. W. Tidy). He had excellent grapes of Muscat of Alexandria and Alnwick Seedling, the Muscats being the most commendable. Peaches Late Admirable were even and good; there were Pears Louise Bonne of Jersey and Pitmaston Duchess, Apples, Ribston Pippin, and some excellent examples of Passiflora edulis. A seedling Melon of moderate quality completed the exhibit. There was one other competitor only, viz., Mrs. Wingfield, Ampthill House, Ampthill, Middlesex (gr., Mr. W. J. Empson). He had good Alicante Grapes, but the Pears, Apples, Peaches and Plums were of moderate quality only.

Grapes, &c.

Six distinct varieties, both black and white must be represented. 1st prize to Mr. Wm. Taylor, gr. to Chas. Bayer, Esq., Tewkesbury Lodge, Forest Hill, for an even set of bunches, weighty, and fine in berry, but a little wanting in colour in a few instances. Gros Maroc was large in bunch, colour weak; Trebbiano large, and well finished; Madresfield Court, good in berry, colour weak; Gros Colmar, extra fine in bunch and finish; Muscat of Alexandria, medium bunches, well coloured; and Alicante, well finished. Mr. Reynolds, gr. to Messrs. de Rothschild, Gunnersbury Park, Acton, was a close 2nd, the bunches not so heavy, but the finish was good; the varieties were Gros Maroc, extra fine berries, Muscats, well formed bunches, good in colour; Alicante, large bunches; Madresfield Court, well ripened and coloured; Buckland Sweetwater, well coloured; and Alnwick Seedling, good in bunch and colour. Mr. Goodacre, gr. to Earl of Harrington, Elvaston Castle, Derby, was 3rd, coming up close; his best being Muscat of Alexandria, Mrs. Pince's Muscat, and Mrs. Pearson, all first class exhibits, the bunches of medium size.

Grapes, three distinct varieties, two bunches of each. The 1st prize was awarded to Mr. W. Taylor, gr. to Alderman Chaffin, Bath. The bunches were large and well ripened, Muscat of Alexandria well coloured and large in berry; Madresfield Court, large but rather weak in colour; and Gros Maroc, extra infinish and size of berry. Mr. F. Harris, gr. to Lady Henry Somerset, Ledbury, was 2nd with smaller bunches; Gros Colmar was here shown in the best possible condition, the bunches large, the other kinds being Gros Maroc and Muscat of Alexandria. Mr F. Cole, gr. to Sir Geo. Russell, Bt, M.P., Reading, came third with a good exhibit, the Muscats being extra fine, and the Black Hamburgh's good.

Black Hamburghs, three bunches.—1st, to Mr. W. Taylor, for well-kept bunches, a little weak in colour, but good for the season; 2nd, to Mr. Mitchell, gr. to F. W. Fleming, Esq., Chilworth Manor, Romsey, who had two extra large bunches and one smaller, but the three were better in all other points than the first award.

Madresfield Court, three bunches 1st, to Mr. W. Taylor, Bath, the bunches large, also berries, but the colour a little weak; 2nd, to Mr. W. Taylor, Forest Hill, the bunches smaller but the colour better.

Gros Colmar or Gros Maroc, three bunches.—1st, to Mr. W. Taylor, Bath, for grand bunches of the latter kind, finer than which in bunch, berry and colour, could not be desired—a grand exhibit. 2nd, to Mr Goodacre, for Gros Colmar, splendidly coloured and fine in berry.

Alicante, three bunches – 1st, to Mr. W. Tidy, gr. to W. K. D'Arcy, Esq., Stanmore, the bunches and berries large, and the colour deep blue-black. 2nd, to Mr. W. Taylor, Bath. The bunches here were larger, but the fruit not quite so good.

Lady Downes, three bunches.—1st to Mr. W. Tidy, who staged large well-coloured bunches with extra fine berries. 2nd to Mr. A. Kemp, Coolhurst, Horsham, the colour here being deficient.

Any other Black Grapes. 1st to Mr W. Tidy, who staged well-finished large bunches of Alnwick Seedling. 2nd to Mr. W. Taylor, Forest Hill, who had Gros Guillaume unusually fine in colour and berries, but small for the variety in bunch. 3rd to W. Mitchell, for Mrs. Pince Muscat, extra fine in bunches and well-coloured. To these latter the 1st prize should most decidedly have been awarded.

Muscat of Alexandria.—1st to Mr. W. Tidy, who had large bunches of good shape, the colours of the best, whilst the berries were large; 2nd, Mr. W. F. Cole, also with large bunches, well finished; 3rd, Mr. W. Lees, gr. to A. Bevan, Esq., Trent Park, who had the best coloured bunches of any, which were likewise heavy (a very strong class).

Any other White Grapes—1st to Mr. W. Taylor, Bath, who staged probably the finest three bunches in the show, in Cannon Hall Muscat, the berries extra large and the colour deep amber (very fine; 2nd to Mr. Reynolds, who staged Foster's Seedling in admirable condition.

Figs, one dish of one variety.—There was only one exhibit, and this was from T. W. Erle, Esq., Liphook (gr., Mr. P. H. Edwards). The variety appeared to be Negro Largo.

Collections of Hardy Fruit.—In the class for a collection not exceeding fifty dishes grown entirely in the open, the 1st prize was a Gold Medal offered by the Fruiterers' Company. This was withheld, however, in the discretion of the judges, and the 2nd prize only awarded to the exhibit from Mr. A. Wyatt, Hatton, Middlesex. This collection consisted exclusively of Pears and Apples, and the fruits, though many of them were of fair size, were less clean and attractive than they should have been, many of them being considerably dashed and damaged by wind. Lord Foley, Ruxley Lodge, Esher (gr., Mr. J. W. Miller) was 3rd, who added a little variety to the collection that was wanting in the other exhibit, by the inclusion of Walnuts, Medlars, and Quinces. Other hardy fruits, however, might and should have been shown, had the weather been more propitious, as the class was by no means limited to Apples and Pears, the only limitation being that the fruit should have been cultivated in the open.

In the collection for thirty-six dishes, grown partly or entirely under glass, there was much more interest. The 1st prize was taken by Sir J. W. Pease, who had Grapes, Buckland Sweetwater and Gros. Maroc, Negro Largo and Brown Turkey Figs, Nectarines Humboldt and Byron; Peaches Bellegarde Golden Eagle, Sea Eagle, and Exquisite; Apricots Moorpark (shrivelled); Magnum Bonum and Coe's Golden Drop Plums; Bryanston Greengage, and Late Duke Cherries. Of Pears we noticed fine Beurré Baltet, Doyenné Boussoch, Doyenné du Comice, Pitmaston Duchess and Beurré d'Amanlis; Apples Bietingheimer Red, Grand Duke, Constantine and Maiden's Blush, &c. J. W. Miller, Esq., Sewardstone Lodge, Chingford (gr., Mr J. Nicholson) was 2nd, and the only other exhibitor. The whole of the fruit in this collection had been grown on pot trees on a west border, with glass protection over head only. The exhibit lacked variety, consisting only of Apples and Pears as it did, but many of these were of very fine quality, though many of them were unripe.

Division II. Nurserymen Only.

The first class in this division, which usually brings out an exhibit of great attractiveness, was this year without an entry, viz., that for a collection of fruit trees in pots.

Collection of Hardy Fruits grown partly under glass.—Messrs. G. Bunyard & Co., Maidstone, obtained 1st prize in this class with an excellent exhibit arranged on one of the square tables placed cornerwise in the transept. An Apple tree carrying a fine crop of fruit was considerably elevated in the centre, and this was surrounded by Grape vines, Fig trees in pots, and a few ornamental berried plants, &c. On the flat part of the table were placed baskets and dishes of Pears, Apples, Grapes, Figs, &c., all of exquisite appearance and quality. Some of the more noticeable of the Apples were the following: Beauty of Kent, Mère de Ménage, Calville Rouge Précoce, Ribston Pippin, Belle Pontoise, Gloria Mundi, Cox's Pomona, Lady Henniker, King of Tomkins County, Peasgood's Nonsuch, Sandringham, Fearn's Pippin, Cox's Orange Pippin, Wealthy, Akera, Lane's Prince Albert, Mother (American), Blenheim Orange, Tibbet's Pearmain, Cornish Gilliflower, Bismarck, Rosemary Russet, Braddick's Nonpareil, Beauty of Kent, Emperor Alexander, Warner's King, and Gascoigne's Scarlet Seedling. Of Pears, we noticed the following:—Doyenné du Comice, Durondeau, Beurré Jean Van Geert, Marie Benoist, Gilogil, Conference, Marie Louise, Beurré Fouqueray, Beurré Clairgeau, Pitmaston Duchess, Beurré Dumont, Directeur Alphand, President Osmanville, Beurré Rance, &c. There were also Tomatos, Figs, &c.

Collection of not fewer than 75, or more than 100 distinct varieties of Hardy Fruits, grown entirely in the open air.—Here Messrs. Geo. Bunyard were again the 1st, and only exhibitors. In the centre of the table was a square pyramid, formed of finely-coloured Apples, upon the top of which rested a large crown, composed of ornamental crabs and berries, with green leaves for a background. The table itself was laden with dishes of Apples, Pears, Grapes, Nuts, Medlar's Plums, &c. All the produce was very fine. Some of the Apples were arranged in cones, from the centre of which appeared a Croton or Dracæna.

Collection of not fewer than thirty or more than fifty distinct varieties of hardy fruits, grown in the open.—Mr. H. Berwick staged a very fine lot of produce in this class, and was deservedly 1st. There were Apples, Pears, Prince of Wales' Peaches, Almonds, Damsons, Coe's Golden Drop Plums, &c. We noticed particularly fine samples of the following Apples, The Queen, Coe's Pomona, Warner's King, Autumn Pearmain, Annie Elizabeth, Hoary Morning, Cox's Orange Pippin, Tyler's Kernel, and Ribston Pippin. The Pears were likewise of extra quality. 2nd, Mr A. Wyatt Hatton.

Collection of not fewer than thirty or more than fifty distinct Varieties of Apples.—These were grown entirely in the open air, and were arranged on a table space of about 24 feet by 3 feet. The schedule allowed foliage plants to be added, and branches of any fruit-bearing trees or bushes; none of these was used, however, by the exhibitors. The 1st prize was taken by Messrs. Geo. Bunyard & Co., Maidstone, who staged fifty dishes and baskets of very choice fruits. Some, indeed many of the varieties, were represented by very large specimens, and the colour of the greater number was exceptional. The Queen, Gold Medal, Striped Beefing, Peasgood's Nonsuch, Waltham Abbey Seedling, Bowhill Pippin, Lord Grosvenor, Cellini Pippin, Tower of Glamis, King of Tomkin's County, Hambling's Seedling, Twenty Ounce, Stirling Castle, Wealthy, Tyler's Kernel, Castle Major, Ecklinville, Mère de Ménage, New Hawthorn, den, Murfit's Seedling, Worcester Pearmain, Lord Derby, Beaumann's Reinette, Gloria Mundi, Cox's Pomona, Mrs. Barron, Lady Henniker, Warner's King, Newton Wonder, Lawry's Cornish Giant, Graham's Royal Jubilee, Grenadier, Hormead's Pearmain, Bismarck, Bramley's Seedling, Gascoigne's Scarlet Seedling, Pott's Seedling, Bietingheimer, Alexander, Winter Ribston, Stone's or Loddington, Golden Spire, Lane's Prince Albert, Foster's Seedling, Washington, Belle Pontoise, Manx Codlin, Lord Suffield, Farmer's Seedling, and Golden Noble were the varieties included, and they formed a very fine collection of varieties; 2nd, Mr. Jno. Bashan, Fair Oak Gardens, Bassaley, Newport, Mon. In this collection there were also some very fine dishes of fruit.

Collection of not fewer than thirty, or more than fifty distinct varieties of Pears, grown entirely in the open air.—No decorations were used in this class either, and the 1st prize was again taken by Messrs. Geo. Bunyard & Co. The varieties were, Souvenir du Congrès, Conference, Poire d'Anch, Madame Chandy, Grosse Callebasse, Brockworth Park, Zephirin, Gregoire, Emile d'Heyst, Marie Benoist, Princess, Doyenné du Comice, Baronne de Mello, Duchess d'Angoulême, President d'Osmanville, Comte de Flandre, Beurré Baltet, Père Gilogil, Beurré Jean Van Geert, Brown Beurré, Beurré Fouqueray, Pitmaston Duchess, Bloom Park, Beurré Bachelier, Fertility, Beurré Clairgeau, Duchess de Bordeaux, Vicar of Winkfield, Madame André Leroy, Marguerite Marrillat (fine specimens of a new Pear), Conseiller de la Cour, Beurré Benoist, Vineuse, Durondeau, King Edward, Catillac, Marie Louise d'Uccle, Fondante de Therriott, Beurré de Jonghe, Beurré Hardy, Magnate, Bellissime de Hiver, Beurré Superfin, General Todtleben, Beurré du Brusson, Uvedale St. Germain, Belle Julie, Louise Bonne of Jersey, Beurré Diel, Noveau Poiteau, Marie Louise. Mr H. Berwick, Sidmouth Nurseries, Devon, was 2nd, with a capital lot of fruits worthy of all commendation.

Division III.

Apples, dessert and cooking.—In class 23 there were four collections, the fruit generally being of fine size and good colour, bright and shapely. The 1st prize for twenty-four dishes, sixteen cooking, and eight dessert, was won by Mr. G. Woodward, gr. to Roger Leigh, Esq., Barham Court, Maidstone, who had of the former Bramley Seedling, very fine; Bismarck, Belle Dubois, Emperor Alexander, very fine; Peasgood's Nonsuch, a little uneven; Mère de Ménage, Lord Derby, The Queen, Beauty of Kent, Warner's King, Waltham Abbey Seedling, Stone's, Alfriston, Lane's Prince Albert, and Reinette du Canada; and of dessert, Ribston Pippin, Brownlee's Russet, Barnard's Beauty, Melon Apple, Washington, very good; Cornish Gilliflower, finely coloured; Cox's Orange Pippin, and Baumann's Red Winter Reinette, very fine. 2nd, Mr. W. King, gr. to J. Colman, Esq., Gatton Park, Reigate, who had, in very fine character, Warner's King, Beauty of Kent, very fine; Peasgood's Nonsuch, Golden Noble, Cox's Pomona, Irish Giant, Lane's Prince Albert, Stirling Castle, The Queen, and Ecklinville; and of dessert, Cox's Orange Pippin, Cellini Pippin, American Mother, King of Pippins, and Worcester Pearmain, all brilliantly coloured. 3rd, Mr. John Nowell, Maindett Gardens, Abergavenny, who had some very good fruit indeed.

There were also four collections of twelve dishes in class 24, eight culinary and four dessert. Mr. W. G. Pragnell, gr. to J. K. Wingfield Digby, Esq., Sherborne Castle, Dorset, was 1st, with some very good fruit. Of cooking varieties, he had Lord Derby, Peasgood's Non such, very fine; Warner's King, The Queen, brilliant in colour; Gascoigne's Scarlet, very fine; Annie Elizabeth, Bramley's Seedling, and Blenheim Pippin, highly coloured; King of the Pippins, very fine; American Mother, Cox's Orange Pippin, and Ribston Pippin. 2nd, Mr. T. W. Startup, West Farleigh, Maidstone, who had very fine dishes of Warner's King, Peasgood's Nonsuch, The Queen, Potts' Seedling, Bismarck, very good; Loddington, Emperor Alexander, and Gascoigne's Scarlet, very fine; Baumann's Red Winter Reinette, Cox's Orange Pippin, Worcester Pearmain, and Ribston. 3rd, Mr. G. H. Sage, gr. to Earl Dysart, Ham House, Middlesex, who had Peasgood's Nonsuch, Emperor Alexander, Tyler's Kernel, Ribston Pippin, and Cox's Orange Pippin.

In Class 25, for nine dishes, there were five collections, Mr. W. Slogrove, gr. to Mrs. Crauford, Reigate, was 1st, with a well-balanced collection, having of cooking varieties, Warner's King, Sandringham, Peasgood's Nonsuch, very fine; Emperor Alexander, very good; Beauty of Kent, finely coloured; Bismarck, Cox's Orange Pippin, Washington, and Baumann's Red Winter Reinette; 2nd, Mr. T. Torton, Maiden Erlegh, Reading, who had very fine Mère de Ménage, Blenheim Orange, Warner's King, Striped Beaufin, with King of Pippins, Cox's Orange Pippin, and Adam's Pearmain as dessert sorts; Mr. J. Hill, gr. to C. R. Adeane, Esq., Brabraham Hall, Cambridge, was 3rd, and he had fine Mère de Ménage, Peasgood's Nonsuch, Hoary Morning, brilliantly coloured; and good Ribston Pippins.

Cooking Apples.—In Class 26, for six dishes of cooking Apples, there were five exhibitors, Mr. G. Woodward taking the 1st prize with superb examples of Belle Dubois, Peasgood's Nonsuch, Stone's, Warner's King, Lord Derby, and Emperor Alexander; 2nd, Mr. T. W. Startup, with Warner's King, Peasgood's Nonsuch, Gascoigne's Scarlet Seedling, Pott's Seedling Belle Pontoise, and Waltham Abbey Seedling; 3rd, Mr. Lewis, gr. to Thos. Oliverson, Esq., Staplehurst, having very good Peasgood's Nonsuch and Lane's Prince Albert.

In the following class for three dishes of cooking Apples, there were eight collections. Mr. J. Bowery, gr. to H. H. Burnard, Esq., Attleborough, was 1st, having very fine Lane's Prince Albert, Emperor Alexander, and Peasgood's Nonsuch; 2nd, Mr. Geo. Goldsmith, gr. to Sir E. Loder, Bart., Horsham, with Warner's King, Hollandbury, and Lane's Prince Albert; 3rd, Mr. G. H. Sage, also with very fine examples.

Dessert Apples.—In class 28 for six dishes, the fruits were brilliantly coloured, and there were eleven competitors; the 1st prize falling to Mr. G. Woodward, with brilliant examples of Cox's Orange Pippin, Washington, Baumann's Red Winter Reinnette, Barnack's Beauty, Ribston Pippin, and Calville Præcox. 2nd, Mr. W. King, also with very fine examples of King of Pippin, Ribston Pippin, Cox's Orange Pippin, American Mother, Worcester Pearmin, and Jefferson; 3rd, Mr. Geo. Goldsmith, he having a dish of Cornish Gilliflower.

There were twelve collections of three dishes of dessert Apples in class 29, 1st, Mr. R. Edwards, gr. to G. H. Field, Esq., Beechy Lees, Sevenoaks, who had fine Ribston and Cox's Orange Pippins, and Washington; 2nd, W. F. B. Parfitt, Reading, with the same varieties. Mr. A. Kemp, Coolhurst, Horsham, was 3rd, having very good Ribstons and Cox's Orange Pippins.

There were seven collections of twenty-four dishes of dessert Pears in class 30, Mr. Woodward, with a magnificent collection consisting of Beurré Diel, Marie Benoist, Emill de Heyst, Beurré Superfin, Pitmaston Duchess, Doyenné du Comice, King Edward, Beurré Hardy, Vineuse, Durondeau Beurré d'Anjers, Passe Crassane, Josephine de Malines, Brown Beurré, Doyenné d'Alençon, Bon Chrétien, Louise Bonne of Jersey, a marvellous dish for size and colour;

Baron de Mello, Soldat Laboreur, and Winter Nelis. 2nd, Mr. J. Powell, gr. to Colonel BRYMER, M.P., Ilsington House, Dorchester, who had some fine dishes, including Glou Morçeau, Gansel's Bergamot, Doyenné du Comice, Pitmaston Duchess, Beurré Bachelier, Easter Beurré, Beurré d'Aremberg, Beurré Rance, Durondeau, Beurré Superfin, Thompson's Brown Beurré, Zepherin Gregoiré, Knight's Monarch, and Josephine de Malines; 3rd, Mr. G. GOLDSMITH, Horsham, his leading dishes were River's Princess Magnate, Pitmaston Duchess, Souvenir du Congrès, Beurré Superfin, Marie Benoist, Maréchal de la Cour, Urbaniste, Thompson's, Beurré Fouqueray, and Marie Louise.

There were five collections of twelve dishes in class 31. Mr. W. G. PRAGNELL, Sherborne Castle, was 1st, with a very fine lot of fruit, consisting of Beurré Diel, General Todtleben, Pitmaston Duchess, Duchess d'Angoulême, Maréchal de la Cour, Chaumontel, Durondeau, Marie Louise d'Uccle, Emile d'Heyst, Marie Louise, Louise Bonne of Jersey, and Doyenné du Comice. 2nd, JOHN WARREN, Esq., Handcross Park, Crawley, with Beurré Bachelier, Doyenné du Comice, Pitmaston Duchess, Beurré Diel, Durondeau, Easter Beurré, Beurré Alexander Lucas, Beurré Jean Van Geert, Glou Morçeau, Gansel's Bergamot, and Marie Louise; 3rd, Mr. W. Cotterell, gr. to Sir W. GEARY, Bart., Oxon Heath Park, Tonbridge, also with some excellent fruit, the chief varieties being Brockworth Park, Duchesse d'Angoulême, Durondeau, Beurré Bosc, Doyenné du Comice, Van Mons Léon Leclerc, and Gansel's Bergamot.

There were four collections of nine dishes in Class 32, the 1st prize going to Mr. W. Jones, gr. to J. R. BROUGHAM, Esq., Carshalton, who had a good collection, consisting of Duchesse d'Angoulême, Pitmaston Duchess, Beuré Bachelier, Beurré Superfin, Beurré Easter, Urbaniste, Maréchal de la Cour, Glou Morçeau, and Marie Louise; 2nd, Mr. G. FENNELL, Tonbridge, with a good collection also, having Pitmaston Duchess, Nouveau Poiteau, Beurré Bachelier, Doyenné du Comice, Souvenir du Congrès, Marie Louise, Beurré Brown, Beurré Diel, and Emile d'Heyst; 3rd, Mr. Geo. Wythes, gr. to Earl PERCY, who had in fine character Beurré Bachelier, Gros Calebasse, Durondeau, Soldat Laboreur, and Beurré Diel.

There were nine collections of six dishes in class 33. Mr. W. SLOGROVE, Reigate, showed excellent fruits, having Fondante de Cuerne (very fine), Duchesse d'Angoulême, Pitmaston Duchess, Doyenné du Comice, Durondeau, and a splendid dish of Louise Bonne of Jersey. 2nd, Mr. Andrews, gr. to the Hon. W. LOWTHER, Campsey Ashe, Wickham Market, who had a very fine lot also, consisting of Doyenné du Comice, Pitmaston Duchess, Beurré Bosc, Souvenir du Congrès, very fine Beurré Hardy, and Hacon's Incomparable. 3rd, Mr. W. H. Bannister, gr. to H. ST. VINCENT AMES, Esq., Westbury on-Trym, who had Souvenir du Congrès, very fine; Beurré d'Anjou, and Doyenné du Comice as his best.

There were five lots of three dishes. Mr. C. Harris, gr. to A. O. SMITH, Esq., East Grinstead, was 1st, with fine examples of Beurré Diel, General Todtleben, and Pitmaston Duchess. 2nd, Mr. T. W. STARTUP, with Pitmaston Duchess, Princess, and Doyenné du Comice; 3rd, Mr. J. W. ABRAHAM, Beckenham.

Stewing Pears.—There were seven collections of three dishes of stewing Pears, Mr. G. WOODWARD was 1st, with very fine Grosse Calebasse, Uvedale's St. Germain, and Catillac; Mr. GEO. GOLDSMITH was 2nd with Bellesime de Hiver, Catillac, and Uvedale's St. Germain; 3rd, Mr. A. COTTERELL with smaller, but clean bright fruit, having Vorulam, Vicar of Winkfield, and General Todtleben. There were seventeen single dishes in the following class, Mr. C. Ross, gr. to Captain CARSTAIRS, Wellford Park, Newbury, was 1st with Uvedale's St. Germain; Mr. H. Beames, gr. to H. W. STOCK, Esq., Rutland Lodge, Peterborough, was 2nd, with the same; and Mr. C. HARRIS, East Grinstead, 3rd, with Catillac.

Peaches.—There were three collections of three dishes of Peaches in class 37: Mr. G. WOODWARD being placed 1st, with Nectarine-Peach, Sea Eagle, and Princess of Wales, all very good for the time of year. Mr. A. Maxim, gr. to Col. H. WALPOLE, Heckfield, Hants., was 2nd, with Sea Eagle, Nectarine-Peach, and a yellow-fleshed variety, unnamed. 3rd, Mr. J. McIndoe, gr. to Sir J. W. PEASE, Bt., M.P., Hutton Hall, Guisborough, with unnamed varieties. There were seven single dishes in class 38; Mr. J. Wallis, gr. to R. SNEYD, Esq., Keele Hall, Newcastle, Staffs., was 1st, with a fine dish of Thomas Peach, a large and very late fruiting variety from Florida, of a pale yellowish-green colour. Mr. Gibson, gr. to T. F. BURNABY-ATKINS, Esq., Sevenoaks, was 2nd, with an unnamed variety; and Mr. T. Harris, Eastnor Castle, 3rd, with Lord Palmerston.

Nectarines.—There were no entries for three dishes of Nectarines, and two only for a single dish. Mr J. MCINDOE was 1st, with bright but small fruits of Byron; and Mr. G. REYNOLDS, Gunnersbury Park, was 2nd, with Victoria.

Plums, Dessert.—Of Plums there were two collections of four dishes of dessert in Class 41. The 1st prize, with Jefferson, Grand Duke, Coe's Golden Drop, and Bryanston Green-Gage, was taken by ——; 2nd, Mr. W. J. Empson, gr. to Mr. WINGFIELD, Ampthill, Beds, with Kirke's, Coe's Golden Drop, Jefferson, and Grand Duke. There were five dishes of one dessert variety, Mr. F. HARRIS, Eastnor, was 1st, with very good Coe's Golden Drop; Mr. H. C. PRINSEP, Uckfield, was 2nd, with the same; and Mr. C. HERRIN, Dropmore Gardens, 3rd, also with Coe's.

Plums, Cooking.—Only two collections of four dishes of cooking Plums were staged in Class 43. Mr. J. MCINDOE, Hutton Hall, was 1st, with good Magnum Bonum, Pond's Seedling, Diamond, and Belle de Septembre; 2nd, Mr. W. J. EMPSON, with Grand Duke, Cox's Emperor, Diamond, and Monarch. There were three dishes of cooking Plums in the class for single dishes. Mr. H. C. PRINSEP was 1st, with Monarch; Mr. G. FENNELL, Fairlawn, Tonbridge, 2nd, with Grand Duke; and Mr. A. H. Rickwood, gr. to Lady TREAKE, Twickenham, 3rd, with Imperiale de Milan, a fine purple variety, carrying a rare bloom.

Gage Plums.—There were five single dishes of these. Mr. J. Hill, gr. to C. R. W. ADEANE, Esq., Cambridge, was 1st, with Reine Claude de Bavay; Mr. J. Gibson, gr. to Prince HATZFELDT, Chippenham, 2nd, with Bray's Green-Gage, a rather large type; and Mr. C. HERRIN 3rd, with Late Transparent Gage.

Damsons, Prunes, &c.—There was but one collection of four dishes, Mr. W. J. EMPSON, Ampthill, being the exhibitor, having Prune Damson, King of Damsons, and the Yellow Bullace.

Cherries.—There were four dishes of Cherries in class 47, for a single dish, all Morellos. Mr. F. HARRIS, Eastnor Castle, was 1st, with superb fruit; Mr. C. HERRIN, Dropmore, was 2nd; and Mr. A. MAXIM, Heckfield, 3rd.

Nuts.—There were three collections of six dishes. Mr. G. CHAMBERS, Mereworth, was 1st, with Walnuts, Sweet Chestnut, Webb's Champion Filbert, Cosford Cob, Kentish Cob, and the Hazel Nut; 2nd, Mr. T. TURTON, Erlegh, with the large-fruited Late Walnut, the large-fruited Mid-season Walnut, the common Walnut, Sweet Chestnut, Web's Prize Cob, and Kentish Cob; 3rd, Mr. W. KING, having Filberts and Nuts in variety.

Quinces.—There were fourteen dishes of Quinces in Class 49. Mr. H. C. PRINSEP was 1st, with fine fruit; Mr. Mitchell, gr. to F. W. FLEMING, Esq., Chilworth, Manor, Romsey, 2nd; and Mr. G. GOLDSMITH 3rd.

DIVISION IV.

Single dishes of fruit grown in the open—Gardeners and Amateurs

DESSERT APPLES.

Allen's Everlasting, only one dish, and a very poor sample. 2nd prize awarded to Mr. H. Godden, gr. to the Hon. F. W. BURTON, Sawbridgeworth.

Baumann's Red Reinette.—Eight dishes, 1st, Mr. McKenzie, gr. to F. G. W. CORNWALLIS, Esq., Linton Park, Maidstone, a good clean sample; 2nd, Mr. G. Woodward, gr. to W. LEIGH, Esq., Maidstone; 3rd, Mr. J. Hudson, gr. to the Messrs. ROTHSCHILD, Gunnersbury.

Braddick's Nonpareil. Two lots only, a poor sample, 1st, Mr. WOODWARD; 2nd, Mr. T. W. STARTUP, West Farleigh.

Brownlee's Russet.—Four dishes, some pretty clean fruit. 1st, Mr. WOODWARD; 2nd, Mr. Bennett, gr. to T. L. BOYD, Esq., Tonbridge, Kent; 3rd, Mr. J. NOWELL, Abergavenny.

Claygate Pearmain.—Five dishes, moderate samples, 1st, Mr. PRINSEP, Uckfield; 2nd, Mr. Bannister, gr. to H. St. VINCENT, Esq., Bristol; 3rd, Mr. WOODWARD.

Court Pendu Plat.—Ten dishes. 1st, Mr. Ross, gr. to Captain CARSTAIRS, Newbury; 2nd, Mr. PRINSEP; 3rd, Mr. W. MILLS, Shoreham.

Cox's Orange Pippin.—A beautiful lot of thirty-three dishes, showing how popular is this delicious variety, for which more prizes should be given. 1st, W. King, gr. to J. COLMAN, Esq., Reigate, very handsome samples; 2nd, Mr. WOODWARD; 3rd, Mr. Mitchell, gr. to W. F. FLEMING, Esq., Romsey. Commended, Mr. STARTUP. Several others equally deserving commendation.

Fearn's Pippin.—Ten dishes, generally good. 1st, Mr. MCKENZIE; 2nd, Mr. BANNISTER; 3rd, Mr. Hill, gr. to C. R. W. ADEANE, Cambridge.

Kerry Pippin.—Six dishes only. Small, but pretty samples. 1st, Mr. STARTUP; 2nd, Mr. J. NOWELL; 3rd, Mr. Lewis, gr. to J. OLIVERSON, Esq., Staplehurst.

King of the Pippins.—Twenty-one dishes, including some beautiful samples. 1st, Mr. W. C. Pragnell, gr. to J. H. WINGFIELD DIGBY, Esq., Sherborne Castle; 2nd, Mr. W. KING; 3rd, Mr. Powell, gr. to Col. BRYMER, Dorchester.

Mabbott's Pearmain. Three dishes only. 1st, Mr. MCKENZIE, with good samples; 2nd, Mr. STARTUP; no 3rd awarded.

Munnington Pearmain.—Eight dishes. 1st, Mr. TURTON, Maiden Erlegh; 2nd, Mr. WOODWARD; 3rd, Mr. PRINSEP.

Margil.—Seventeen dishes, rather poor samples. 1st, Mr. Goldsmith, gr. to Sir E. J. LODER, Horsham; 2nd, Mr. G. H. Sage, gr. to Earl DYSART, Ham; 3rd, Mr. Spencer, gr. to H. C. MOFFATT, Esq., Ross.

American Mother.—Eight dishes, some beautiful fruits. 1st, Mr. MCKENZIE; 2nd, Mr. SPENCER; 3rd, Mr. WOODWARD.

Ribston Pippin.—Nineteen dishes; some fine examples. 1st, large, but not handsome, from Mr. Bayford, gr. to C. LEE CAMPBELL, Esq., Ross; 2nd, Mr. KEMP; 3rd, Mr. SAGE; Commended, Mr. BANNISTER.

Rosemary Russet.—Four lots only, and rather indifferent. 1st, Mr. TOLLEMACHE, Bury St. Edmund's; 2nd, Mr. STARTUP. No 3rd awarded.

Scarlet Nonpareil.—Eight lots. 1st, Mr. J. HUDSON, very handsome samples; 2nd, Mr. TURTON; 3rd, Mr. WOODWARD.

Sturmer Pippin.—Ten dishes. 1st, Mr. CHAMBERS, Mereworth, very large; 2nd, Mr. Ross; 3rd, Mr. BANNISTER.

Worcester Pearmain.—Eleven dishes; some beautiful samples. 1st, Mr. EMPSON; 2nd, Mr. GOLDSMITH; 3rd, Mr. PRINSEP.

Wytten's Pippin.—Two dishes only. 1st, Mr. GODDEN; no 2nd.

Yellow Ingestre.—Eight lots, some of small, yet very pretty samples. 1st, no name attached; 2nd, Mr. Spencer; 3rd, Mr. Ross.

Any other variety.—Twenty-four dishes in several varieties. 1st, Mr. SPENCER with big Melon Apples, of the size of Bismark; 2nd, Mr. WOODWARD, with beautiful Washington; 3rd, Mr. Slogrove, gr. to Mr. CRAWFORD, Reigate, same variety. Others good were Gravenstein, Hackwood Beauty of intense colour, Swedish Reinette, Crimson Queening, &c.

COOKING APPLES.

Alfriston.—Seven dishes, generally good. 1st, Mr. Ross, very fine samples; 2nd, Mr. WOODWARD; 3rd, Mr. NOWELL.

Bismark.—Eleven dishes, some very fine. 1st, Mr. MCKENZIE, with superb fruits; 2nd, Mr. WOODWARD; 3rd, Mr. PARFITT, Reading.

Blenheim Orange. Ten lots of this popular variety, some very fine indeed. 1st, Mr. BANNISTER; 2nd, Mr. KING; 3rd, Mr. W. H. GODDEN.

Bramley's Seedling.—Nine dishes, some very fine. 1st, Mr. Gibson, gr. to Prince HATZFELDT, Devon; 2nd, Mr. Ross; 3rd, Mr. KING.

Celini Pippin.—Fifteen dishes, some excellent. 1st, Mr. KING; 2nd, no card. 3rd, Mr. C. Herrin, gr. to Lady FORTESCUE, Dropmore.

Cox's Pomona.—Fifteen dishes, generally good, and of rich colour. 1st, Mr. KING; 2nd, no card; 3rd, Mr. HERRIN.

Duchess of Oldenburg.—Two dishes only. 1st, Mr. J. NOWELL; 2nd, Mr. LEWIS.

Dumelow's Seedling.—Thirteen dishes, some capital samples. 1st, Mr. Ross; 2nd, Mr. HERRIN; 3rd Mr. MCKENZIE.

Ecklinville Seedling.—Six lots. 1st, Mr. MCKENZIE; 2nd, Mr. WOODWARD; 3rd, Mr. Herbert, gr. to J. T. CHARLESWORTH, Esq., Nutfield.

Emperor Alexander.—Fourteen dishes. 1st, with beautiful fruits, Mr. WOODWARD; 2nd, Mr. MCKENZIE; 3rd, Mr. GOLDSMITH.

Gascoigne's Scarlet.—Six dishes. 1st, Mr. WOODWARD; 2nd, Mr. STARTUP; 3rd, Mr. Maxim, gr. to COLONEL H. WALPOLE, Heckfield Place.

Golden Noble.—Nine dishes, excellent. 1st, Mr. WOODWARD, clean and pretty sample; 2nd, Mr. HERBERT; 3rd, Mr. MCKENZIE.

Golden Spire. Five dishes. 1st, Mr. WOODWARD; 2nd, Mr. NOWELL; 3rd, Mr. LEWIS.

New Hawthornden.—Ten dishes. 1st, Mr. WOODWARD, who, however, had two weak fruits; 2nd, Mr. HERRIN; 3rd, Mr. LEWIS.

Normands Pearmain.—Three dishes only. 1st, Mr. MCKENZIE; 2nd, Mr. WOODWARD; 3rd, Mr. STARTUP.

Lane's Prince Albert.—Seventeen lots. A fine collection. 1st, Mr. C. Ross, with superb samples; 2nd, Mr. SAGE; 3rd, Mr. WOODWARD.

Lord Derby.—Nine dishes. 1st, Mr. WOODWARD; 2nd, Mr. SAGE; 3rd, Mr. STARTUP.

Lord Grosvenor.—Only two dishes, and but one good, from Mr. WOODWARD; Mr. SALMON, of Chester, getting 3rd.

Lord Suffield.—Four dishes. 1st, Mr. WOODWARD; 2nd, Mr. STARTUP; 3rd, Mr. LEWIS.

Mère de Ménage.—Some superb fruit being shown. 1st, Mr. TURTON; 2nd, Mr. Woodward; 3rd, Mr. Ross.

Newton Wonder.—Six dishes. 1st, Mr. HUDSON; 2nd, Mr. Harris, gr. to —— PEROWLEY, Esq., Croydon; 3rd, Mr. LEWIS.

Peasgood's Nonsuch.—1st to the Horticultural College, Swanley, principal Mr. F. G. POWELL; this exhibit was weighty, and finely coloured, being fully ripe; 2nd to Mr. J. MORTER, Upper Norwood, as large, but not so uniform as the preceding; 3rd to Mr. J. MCKENZIE, also a grand dish. Ten exhibits.

Pott's Seedling.—1st to Mr. J. H. SALMON, the fruits large, but rather uneven; 2nd to Mr. T. W. STARTUP, West Farleigh, whose exhibit was more uniform, and of better colour, but not so heavy. Six exhibits.

Royal Jubilee.—1st to Mr. G. WOODWARD, who had a grand dish of well coloured weighty fruits; 2nd to Mr. C. ROSS, whose fruits were of smaller size. Three exhibits.

Sandringham.—1st, to Mr. G. WOODWARD, the fruits were well coloured, solid and weighty; 2nd, Mr. W. SLOGROVE. Six exhibits.

Seaton House. The 2nd prize was awarded to Mr. TURTON, who had a very good dish, but was the only exhibitor.

Spencer's Favourite.—1st to Mr. G. WOODWARD, who showed finely-coloured, deep yellow fruits, and in good condition—the only exhibit.

Stirling Castle.—1st to Mr. W. H. BANNISTER, the fruits being large and weighty, extra good; 2nd to Mr. J. H. SALMON, who had another good dish of fruits. Five exhibits.

Stone's or Loddington Seedling.—1st to Mr. G. WOODWARD, who had a grand dish of immense fruits, in every sense perfect; 2nd to Mr. MCKENZIE, with smaller examples. Five exhibits.

The Queen.—1st to Mr. T. W. STARTUP, who had a dish of large, finely-coloured fruits; 2nd to Mr. G. CHAMBERS, Mereworth, whose fruits were quite as large, but not so well coloured. Seven exhibits.

Tower of Glamis.—1st to Mr. C. Ross, with a fine weighty dish; 2nd to Mr. G. WOODWARD, whose fruits were almost equal to the winner. Six exhibits.

Warner's King.—1st to Mr. J. MCKENZIE, who had very large fruits of extra weight, and clear in colour; 2nd to Mr. H. C. PRINSEP, who was last from point of size. Fifteen exhibits.

Any other Variety.—1st to Mr. W. MANCEY, Merstham, for well-coloured Hollandbury its only recommendation at the best; 2nd to Mr. MCKENZIE, for a grand dish of Gloria Mundi, quite the best exhibit in this class; 3rd to Mr. G. WOODWARD, who staged Waltham Abbey Seedling, this dish also was much better than the 1st prize. Twenty-six exhibits.

DESSERT PEARS.

Bergamotte d'Esperen. 1st, to Mr. A. Basil, gr. to Rev. O. S. POWELL, Weybridge, the fruits large and weighty—a fine

dish; 2nd, to Mr. W. Jones, gr. to J. R. Brougham, Esq., Carshalton, who also had a fine dish. Nine exhibits.

Beurré Bosc.—1st, to Mr. Andrews, Campsey Ashe, Wickham Market, the fruits were large, but lacked colour; 2nd, to Mr. J. Hill, gr. to R. W. Adeane, Esq., Cambridge, with riper fruits. Six dishes, and one dish of Doyenne du Comice under the name of Beurré Bosc.

Beurré Diel.—1st, to Mr. G. Wythes, gr. to Earl Percy, Syon House, who had by far the best dish, splendid clear fruits of large size; 2nd, to Mr. G. Woodward, whose dish was also of first-class quality. Sixteen exhibits.

Beurré Dumont.—No exhibit was shown true to name; two were staged—one of Beurré Rance, and another of President Osmondville; evidently there is some confusion in this Pear.

Beurré Hardy.—1st, to Mr. G. Woolward, who had a superb dish of ripe fruits; 2nd, to Mr. Andrews, who had a smaller set of fruits. Nine exhibits.

Beurré Superfin. 1st, to Mr. G. Woodward, with an equally fine dish to that in the preceding class. Eight exhibits.

Conference.—1st, to Mr. J. Nicholson, gr. to J. W. Melles, Esq., Chingford, for a dish of uneven fruits, some very good. The only exhibit.

Conseiller de la Cour.—1st, to Mr. A. Basile, with good samples; 2nd, to Mr. W. F. Bannister, for a good dish. Six exhibits.

Emile d'Heyst. 1st, Mr. G. Woodward, with a remarkably fine dish, bright and even; 2nd, Mr. Geo. Goldsmith; and 3rd, Mr. A. Basile, gr. to the Rev. O. L. Powell, Weybridge.

Fondante d'Automne.—Three dishes were staged, and as there was no trace of a 1st prize, it may be presumed it was withheld, Mr. Basile took the 2nd prize with a fairly good dish; and Mr. Geo. Goldsmith, the 3rd.

Glou Morçeau.—Of this variety there were fourteen dishes, Mr. G. Woodward taking the 1st prize, with a very good dish; Mr W. Cotterell, Tonbridge, was 2nd; and Mr. C. W. Chard, Bygrove House, Clapham, was 3rd.

Easter Beurré.—Of Easter Beurré there were 10 dishes, Mr. J. Powell taking the 1st prize with an excellent dish of fruits Mr. Woodward was 2nd with much larger but not so well finished fruits, and Mr. W. Jones, Carshalton, 3rd.

Duronteau.—Of this Pear there were 12 dishes of well coloured examples, Mr. W. G. Pagnell, Sherborne Castle, was 1st, with a magnificent dish of fruit, large in size and superbly coloured. Mr. G. Woodward was 2nd with smaller but highly coloured fruit, and Mr. W. Cotterell, 3rd.

Duchesse de Bordeaux.—Of this there were 2 dishes, but one was disqualified, and Mr. Geo. Goldsmith, Horsham, was awarded the 1st prize for a fairly good representation of the variety.

Doyenné du Comice.—Of this popular Pear there were 15 dishes, Mr. B. Calvert, Bishops Stortford, being placed 1st with a very fine dish indeed. Mr. Woodward was 2nd, and Mr. R. Edwards, (gr., H. Field), Sevenoaks, 3rd.

Josephine de Malines.—Of this variety there were sixteen dishes. Mr. C. Ross, Welford Park, was 1st, with a nice, bright even dish of fruits of fine quality; Mr. Woodward was 2nd, with fruit only little inferior; and Mr. J. Powell, Dorchester, 3rd.

Louise Bonne of Jersey.—Of this there were fifteen dishes. Some very handsome examples being staged. Mr. J. Gibson, Chippenham, was 1st with fruits of very large size, though not well finished; Mr. J. Bowery, Attleboro, was 2nd, also with very fine fruit; and Mr. T. Potter, gr. to P. Worsley, Esq., Cuckfield, 3rd.

Marie Louise. Of this popular Pear there were sixteen dishes, the 1st prize going to Mr. J. Hill, Cambridge, for a grand dish of fruits; Mr. W. A. Cook, Calne, was 2nd, with larger fruist, but not so well finished; and Mr. J Powell, 3rd.

Marguerite Marillat.—Of this variety no examples were staged.

Nouvelle Fulvie.—Five dishes were staged, the 1st prize being taken by Mr. T. Spencer, gr. to H. C. Moffatt, Esq., a very fine sample; Mr. G. Wythes, Syon House, was 2nd, and Mr. A. Basile, 3rd.

Pitmaston Duchess.—There was nineteen dishes of this Pear, many of them very fine. Mr. T. G. Powell, Horticultural College, Swanley, was 1st, with well coloured fruits 2nd, Mr. W. Manning, Upper Galton, Merstham; and 3rd, Mr. C. Harris, East Grinstead.

Seckle.—Of this variety there were six dishes. Mr. C. Ross was 1st with well-finished fruits; Mr. B. Calvert, gr. to Col. Archer Houblon, Bishops Stortford, 2nd; and Mr. J Powell, 3rd.

Souvenir du Congrès.—Of this variety there was only one dish—a very fine one from Mr. W. H. Bannister, Bristol.

Thompsons.—Five dishes of this variety competed. Mr. F. Harris, Eastnor Castle, was 1st, with fine well-ripened fruit; 2nd, Mr. C. Ross, and 3rd, Mr W. H. Bannister.

Triomphe de Vienne. Of this variety there was no representative.

Winter Nelis.—Nineteen dishes of Winter Nelis competed. Mr. R. Edwards, gr. to G. H. Field, Esq., Sevenoaks, was 1st, with a dish of good-sized fruits; 2nd, Mr. G. Woodward; and 3rd, Mr. H. C. Prinsep.

Any other Variety.—Twenty-four exhibitors competed in this class. Mr. W. Danders, Andover, was placed 1st with a grand dish of Duchess d'Angoulême; Mr. H. C. Prinsep was 2nd, with the same variety; and Mr. W. Pope, Highclere, 3rd, with Marie Louise d'Uccle.

Division V.

This consisted only of two classes, one of which was a competition for the best flavoured Apple, and the other for the best flavoured Pear. This was part of a competition that will extend for a year, to be engaged in at every meeting of the Royal Horticultural Society from July, 1896, to June, 1897. The prizes are furnished from a fund placed at the disposal of the Society by the firm of Messrs. Jas. Veitch & Son, Chelsea. On this occasion, there were eighteen dishes staged, and the 1st prize was obtained by fine specimens of Cox's Orange Pippin shown by Mr. H. C. Prinsep, gr., Buxted Park, Uckfield; 2nd, Ribston Pippins, from Mr. T. W. Startup, West Farleigh.

From fourteen dishes of Pears, the varieties lected for the 1st prize was Thompson's, grown upon a bush tree, in southern aspect, in heavy loam, upon the Quince stock, in Kent; 2nd Beurré Hardy, from a western wall, the soil heavy loam, upon the Quince stock. Both dishes were shown by Sir Wm. Leary, Bt., Tonbridge (gr., Mr. W. Cotterill).

Gardeners' Luncheon.

Some fifty or sixty gentlemen were present at the gardeners' luncheon, which was presided over by Sir Trevor Lawrence. In giving the toast of "The Queen," the Chairman alluded to the fact that Her Majesty was not only a patron of the Royal Horticultural Society, but also a frequent exhibitor, and he added that in the present year especially they would drink the toast with the greatest enthusiasm. The toast having been duly honoured—

The Chairman rose to propose the health of the Judges, who had been kind enough to give their services on the present occasion. The judging of fruit was, he said, an exceedingly difficult matter, and they would quite believe that when he told them, on information which had just reached him, that in the present show a dish of Cox's Orange Pippins had been awarded a prize as Ribston Pippins (Laughter). He only mentioned it to show how exceedingly difficult the task was, and how indebted they were to the gentlemen who undertook such labours—and that without fee or reward. The Royal Horticultural Society are indebted in many ways to the professional gardeners of the United Kingdom, and the fact that very few complaints were forthcoming concerning the awards proved that the gentlemen who acted as judges held the highest position of authority. He thought they would agree with him, and having regard to the character of the season which had been very unfavourable, the exhibits were of a highly meritorious and satisfactory character. The same, however, had to be said of the season in Italy. There they might suppose everything would be perfect, but he had just returned from the Italian Lakes, and the vintages there would prove failures, as the Grapes were rotting. What, therefore, could they expect in their own country, where gales and storms had prevailed. He hoped, however, that they would be able to satisfactorily compete with the foreigner, who always intruded his fruit upon us. In conclusion he thanked the representatives of the Crystal Palace (Mr. Gillman and Mr. Gardiner), who had done so much to make the show a success, and he coupled with the toast the name of Mr. Thomas, the Queen's gardener.

Mr. Thomas briefly responded. He said it was always a pleasure for gentlemen to undertake the work of judging where there was such an excellent variety, because they themselves could learn many a lesson. Alluding to the exhibits, he observed that he did not mean to say there was a perfect bunch of the Muscat Grapes (Alexandria) in the show, but some of the specimens he had seen more nearly approached that high standard than usual.

ALTRINCHAM AGRICULTURAL AND HORTICULTURAL.

September 24.—This is one of the great shows in Cheshire, held in the Park, Devesdale, Bowdon, where every department in connection with land was represented. There were over 3,500 entries in all. The strictly-speaking horticultural produce was laid out in a large tent by itself, and the respective classes were well filled. That for the best collection of horticultural produce was won by Miss Lord, Ashton-on-Mersey, comprising black and white Grapes, some Peaches and Nectarines, Apples, Pears, and such like, with a very good lot of vegetables, comprising Pumpkins, Cauliflowers, Onions, Potatos, Peas, Leeks Carrots, &c. The 2nd prize went to Sir F. Forbes Adam, Lymm.

For six Drumhead Cabbages, Mr. P. Rylands, Thelwall, was 1st; Mr. Pearson, Heyscroft, 2nd. For three Savoys, Mr. Wm. R. Goyle, Dunham, had a very superior lot, and so had also Mr J. Brown, Dunham; and for three Red Cabbages, Mr. T. Warburton was 1st. Sir F. Forbes-Adam, 2nd.

For three Cauliflowers there was a large competition, and a generally grand lot, chiefly of Autumn Giant, Mr. C. Thorpe, Altrincham, 1st; and Mr J. Walker, Hale, 2nd.

For six Parsnips with tops on, Miss Lord was 1st; and Messrs. J. & F. Pearson, 2nd and 3rd.

For six Altrincham Carrots there was a large competition, as we would naturally expect, Mr. J. Darbyshire, Timperley, 1st; and Mr. J. Hewitt, Hey Head, 2nd, the roots not being so large, but clean and well shaped. Mr. Jackson took the three premier prizes for any other variety with Long Red.

The Potatos formed a large exhibition of themselves, and were generally of first quality, Mr. P. Davies, Warburton, and Mr. Parker, High Peover, being 1st and 2nd with twelve coloured kidneys; and the former exhibitor winning easily with twelve white kidneys, the same grower having the best twelve round coloured, and the best twelve white.

For the best twelve Potatos of any variety introduced since 1895, Mr. J. R. Newton, Warburton, was 1st with Universal; Mr. E. Clare 2nd, with Goldfinder.

Obituary.

William Brockbank.—The death of this well-known Manchester horticulturist took place at his residence, Brockhurst, Didsbury, on the 25th ult., at the age of 66. Like his father, he became a surveyor and engineer, and in conjunction with his partner in business carried out many important works in surveying for railways, and in staking out new ones. In public matters Mr. Brockbank took a leading part, doing much in the direction of public education. He was a Governor of the Royal Institution, a Fellow of the Linnean and Geological Societies, and as a Member of the Manchester Literary and Philosophical Society he contributed many papers on botanical and geological subjects; among others, a full and detailed account of the section of earth exposed in the railway cutting between Levenshulme and Fallowfield, illustrated by diagrams of the strata, and showing the gradations from the Permian formation to those of the upper coal measures. Though in the immediate neighbourhood in which he resided he never sought official position, he yet exercised a considerable influence and interest in local affairs. In the matter of the water supply to the district, and in other things in which his personality was not seen, but on which largely the health and well-being of the people depends, Mr. Brockbank took an active although unobtrusive part. That he was often misunderstood was frequently apparent, but those who knew him best can have no hesitation in stating that under a somewhat austere exterior there beat a sympathetic heart. This was shown when he threw open his gardens and grounds for the enjoyment of those around him on Sunday afternoons; and though the privilege was abused to an extent which necessitated the withdrawal of the privilege, this latter step caused Mr. Brockbank considerable regret. He was buried in the grounds of the Friends' Meeting House at Ashton-on-Mersey.

To the readers of the *Gardeners' Chronicle* Mr. Brockbank will be known by his occasional contributions to gardening literature. Mr. Albert Mottershead, who was his gardener for the space of thirteen years, states that Mr. Brockbank was an ardent cultivator of hardy Alpine and herbaceous plants, and certain sections of florists' flowers, notably the Auricula and the Polyanthus.

The late Thomas Mellor named a grey-edged flower after him, and Mr. C. Turner, a fine alpine variety. He raised some fine gold-laced Polyanthuses, Black Cap and Black Knight in particular; and his Auriculas and Polyanthus were frequently seen on the exhibition table at Manchester, and occasionally in London. Primulas of all types found in him an ardent admirer and cultivator, and in his garden at Brockhurst he had every facility for growing these plants; the rockeries and rock borders were mostly built on a natural brow-side, which consisted chiefly of sand. He made a great hobby of Saxfrages, and raised seedlings, among them some very promising forms from McNabiana. Mr. Mottershead states he had an enormous number of species and varieties. He grew Narcissus largely also, and his experiments with them led him to the conclusion that it is possible to reproduce double varieties from seed. The Hellebores and the Leucoium were also favourites.

A vigorous controversialist, Mr. Brockbank frequently appeared in print, and controversies in which he took part generally ended in some debatable subject being placed on a more satisfactory basis. He did much towards defining the various species of the Hellebore and Leucoium. Some two or three years ago Mr. Brockbank busied himself with experiments in the direction of endeavouring to alter the colours of flowers by the absorption of aniline dyes.

Enquiry.

"*He that questioneth much shall learn much.*"—Bacon.

Plague of Cockroaches.—Will some experienced reader kindly inform "L." what can be done to exterminate a plague of cockroaches. What is the best remedy after various traps, catching by hand, poisoning with arsenic in honey, with phosphorus in butter, and with the ordinary phosphor paste, have been tried and in vain? The insects still come in apparently undiminished numbers.

VARIORUM.

PRUNING FRUIT TREES IN ITALY.—The disadvantages arising from the failure of fruit trees to produce in successive years a uniform quantity of fruit are well known to all engaged in fruit culture, and information regarding any system of cultivation that has for its object the equalisation of successive crops, especially when it is said that such system has been successful, must be of interest to them. According to Consul Seymour of Palermo, with the view of equalising the crops in the Sorrentine Peninsula, it has been shown that good results have been obtained from the following method of pruning. Prune considerably after a scarce year, cutting away some of the fruit-bearing branches, and little after a full year. This system, though the opposite of the old, seems to be in theory the proper one, for it is due to the fact that during the loaded year the tree is deprived of nourishment that might be used by it next year in the formation of fruit; and by depriving the tree of the branches which only deprive it of fruit, there will be less nourishment required by the fruit in the following year, and the tree will have more for the formation of fruit.

MARKETS.

COVENT GARDEN, OCTOBER 1.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Arums, p. 12 blooms	3 0- 6 0	Mignonette, per doz. bunches ...	2 0- 4 0
Asters, English, doz. bunches ...	3 0- 6 0	Orchids:—	
Bouvardias, per bn.	0 4- 0 6	Cattleya, 12 blms.	6 0-12 0
Carnations, 12 bun.	4 0- 8 0	Odontoglossum crispum, 12 bm.	2 0- 6 0
— 12 blooms ...	0 6- 2 0	Pelargoniums, scarlet, per 12 bun.	3 0- 6 0
Chrysanthemums, doz. bun.	3 0- 6 0	— per 12 sprays...	0 4- 0 6
— doz. blooms	1 0- 4 0	Pyrethrums, 12 bu.	2 0- 4 0
Eucharis, per dozen	2 6- 4 0	Roses, Tea, per doz.	0 9- 1 6
Gardenias, per doz.	1 0- 3 0	— coloured, doz.	0 9- 1 6
Gladiolus, coloured, per doz. sprays ...	1 0- 1 6	— yellow (Maréchal), per doz.	2 0- 4 0
Lilium Harrisi, per doz. blooms ...	3 0- 6 0	— red, per dozen	0 6- 1 0
— lancifolium, doz. blooms ...	0 9- 2 0	— red, doz. bun.	4 0- 6 0
Maidenhair Fern, per 12 bunches ...	4 0- 8 0	— Gloire, doz. bn.	4 0- 6 0
Marguerites, per 12 bunches	1 0- 2 0	— Safrano, p. doz.	1 0- 2 0
		Stephanotis, 12 sps.	3 0- 4 0
		Tuberoses, 12 blms.	0 2- 0 4

ORCHID-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Adiantum, per doz.	4 0-12 0	Heliotropes, p. doz.	4 0- 6 0
Aspidistras, per doz.	12 0-30 0	Lilac, wh. (French), per doz. bunches	3 6- 5 0
— specimen, each	5 0-15 0	Marguerites, p. doz.	6 0-10 0
Asters, doz. pots ...	3 0- 5 0	Mignonette, p. doz.	4 0- 6 0
Chrysanthemums, per. doz.... ...	4 0- 9 0	Palms, various, ea.	2 0-10 0
Coleus, per doz. ...	2 0- 4 0	— specimens, ea.	10 6-84 0
Dracænas, each ...	1 0- 7 6	Pelargoniums, Scarlets, p. doz. ...	2 0- 4 0
— various, p. doz.	12 0-24 0	Solanums, p. doz....	12 0-15 0
Ericas, p. doz. ...	10 0-12 0	Violets, Czar (Fr.), doz. bn.	1 6-
Evergreen Shrubs, in variety, doz....	6 0-24 0	— — (Eng.), doz. bn.	1 6- 2 6
Ferns, small, doz....	1 0- 2 0	— Parme (Eng.), doz. bn.	3 0- 4 0
Ferns, various, doz.	5 0-12 0		
Ficus elastica, each	1 0- 7 6		
Foliage plants, doz.	12 0-36 0		

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, cooking, in variety, per sieve... .	2 6- 3 0	Grapes, Muscat, Channel Islands, per lb. ..	0 9- 1 0
— dessert, in variety, per ½-sieve ...	2 6- 4 0	— Gros Maroc, per lb.	1 0- 1 3
Grapes, Alicante, 1st quality, per lb.	1 0- 1 3	Figs, per doz. ...	0 6- 0 8
— Alicante, 2nd quality, per lb.	0 6- 0 8	Melons, each ...	1 6- 2 0
— Hamburgh, 1st quality, per lb.	1 0- 1 3	Nuts, Cob, per lb.	0 3
— Hamburgh, 2nd quality, per lb.	0 6- 0 9	Peaches, 1st size, per doz. ..	9 0-12 0
— Gros Colmar, per lb.	1 0- 1 6	— 2nd do., per doz. ...	4 0- 5 0
— Muscats, English 1st quality per lb.	2 0- 2 6	Pears, Pitmaston, p. half-sieve ...	3 0- 4 0
2nd qual., p. lb.	1 0- 1 6	— Calabash, half-sieve... ...	4 0- 4 6
		Pine-apples, St. Michael, each ...	5 0- 6 0
		Prunes, p. ½-sieve...	4 0- 5 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Cauliflowers, 5 doz.	2 6- 3 0	Tomatos, home-grown, smooth, per doz. lb. ..	3 6- 4 0
Cucumbers, home-grown, per dz.	2 0- 3 0	— ord. kinds, do.	2 0- 2 6
Mushrooms, (Indoor) per lb.	— - 1 0		

POTATOS.

Trade for best samples firm; prices from 65*s.* to 80*s.* *J. B. Thomas.*

SEEDS.

LONDON: *September* 30.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report a strong and cheerful market; all descriptions of Clover-seeds, in consequence of the continued bad prospects for the new crops, tend upwards in value. Alsike is 3*s.* up. Winter Tares keep steady. Rye is still scarce. Higher quotations for Wisconsin Peas are cabled from America. More money is asked for English Blue Imperials. Haricots are also in the ascending scale. Canary-seed distinctly favours holders, an early and substantial advance being confidently expected. There is no alteration in either Mustard or Rape-seed. Some choice Fenugreek is now obtainable at tempting figures.

FRUIT AND VEGETABLES.

LIVERPOOL: *September* 30.—The following are the latest market quotations:—Potatos, 8*d.* to 10*d.* per peck; Asparagus, 3*d.* per 100; Cucumbers, 3*d.* to 6*d.* each; Damsons, 1½*d.* per pound; Grapes, English, 2*s.* 6*d.* to 3*s.* per pound; do. foreign, 6*d.* to 8*d.* do.; Mushrooms, 4*d.* to 8*d.* per pound. North Haymarket prices:—Potatos: Giants, 1*s.* 8*d.* to 2*s.* per cwt.; Main Crops, 2*s.* 3*d.* to 3*s.* 6*d.* do.; Suttons' Abundance, 1*s.* 9*d.* to 2*s.* 2*d.* do.; Bruce, 1*s.* 10*d.* to 2*s.* 4*d.* do.; Cartons, 1*s.* 8*d.* to 2*s.* do.; Turnips, 6*d.* to 8*d.* per dozen bunches; Carrots, 6*d.* to 8*d.* do.; Onions, English, 5*s.* 6*d.* to 6*s.* 6*d.* per cwt.; do., foreign, 2*s.* 9*d.* to 3*s.* do.; Parsley, 4*d.* to 6*d.* per dozen bunches; Cucumbers, 1*s.* to 2*s.* 6*d.* per dozen; Cauliflowers, 6*d.* to 1*s.* do.; Cabbages, 6*d.* to 10*d.* do.; Celery, 1*s.* to 2*s.* 3*d.* roll.

GLASGOW: *September* 30.—The following figures represent the averages of the past week's quotations:—*Fruit*:—Pears, 2*s.* 3*d.* per case; Apples, 6*d.* per pound; Green Gages, 5*d.* to 6*d.* do.; Tomatos, 4*d.* to 5*d.* do.; do., Scotch, 7*d.* to 9*d.* do.; Plums, 3½*d.* to 4*d.* do.; Grapes, home, 2*s.* do. *Vegetables*: Turnips, neeps) 2*s.* to 2*s.* 6*d.* per bunch; Cabbages, 8*d.* to 9*d.* per dozen; do., Red, 2*s.* 6*d.* to 3*s.* do.; Cauliflowers, English, 2*s.* to 2*s.* 6*d.* do.; do., Edinburgh, 1*s.* to 1*s.* 3*d.* do.; Parsnips, 5*s.* 6*d.* to 6*s.* per cwt.; Herbs, assorted, 1*d.* to 2*d.* per bunch; Leeks, 2*s.* to 2*s.* 6*d.* per doz. bunches; Mint, 6*d.* per bunch; Onions, Dutch, 3*s.* 6*d.* to 4*s.* 6*d* per bag; do., Portugal, 10*d.* per stone; do., Globe, 3*s.* to 3*s.* 6*d.* per cwt.; Parsley, 8*s.* to 10*s.* do.; Celery, table, 2*s.* to 2*s.* 6*d.* per bunch; Potatos, 8*d.* per stone; Carrots, 4*s.* 6*d.* to 5*s.* per cwt.; do., new, 1*s.* to 1*s.* 6*d.* per dozen; Cucumbers, 4*s.* to 4*s.* 6*d.* per dozen; Lettuces, 6*d.* to 8*d.* per dozen; do., Cos, 9*d.* do.; Radishes, 9*d.* to 1*s.* per dozen bunches; Horseradish, 2*s.* 9*d.* to 3*s.* per bunch; Beans, broad, 1*s.* to 1*s.* 3*d.* per stone; do. French, 2*s.* to 2*s.* 6*d.* do.; Mushrooms, 1*s.* to 1*s.* 3*d.* per lb.; Rhubarb, natural, 2*s.* 6*d.* to 3*s.* per cwt.; Beetroot, 7*d.* per dozen; do., new, 3*s.* 6*d.* to 4*s.* per dozen bunches; Cress, 3*d.* per basket; Brussels Sprouts, 2*s.* 6*d.* per stone.

CATALOGUES RECEIVED.

BRUANT, à Poitiers (Vienne)—Chrysanthemums, Dahlias, Stove and Greenhouse Plants, Hardy Plants, &c.

CUNNINGHAM & WYLLIE, 98, Mitchell Street, Glasgow—Bulbs, Carnations, Roses, &c.

CHAS. TURNER, Slough—Roses, Fruit Trees, &c.

LAING & MATHER, Kelso-on-Tweed, N.B.—Carnations.

W. RICHARDSON & Co., Darlington—Heating Apparatus.

W. & J. BIRKENHEAD, Sale, Manchester—Ferns and Selaginellas.

J. R. PEARSON & SONS, Chilwell Nurseries, Nottingham—Fruit and Ornamental Trees, Roses, &c.

W. RUMSEY, Joyning's Nurseries, Waltham Cross, N.—Roses, Fruit Trees, &c.

JNO. K. KING, Coggeshall, Essex—Bulbs, &c.

W. WATT, Cupar and Perth—Bulbs.

HAAGE & SCHMIDT, Erfurt, Germany—Seeds of Asters, Phlox, Dianthus, Cheiranthus, Godetias, &c.

R. WALLACE & Co., Kilnfield Nurseries, Colchester—Lilies, Calochortus, Brodiæas, and other Hardy Bulbs and Plants.

W. & J. BIRKENHEAD, Sale, Manchester—Ferns and Selaginellas.

J. E. BARNES, 9, Exchange Street, Norwich—Bulbs.

JAMES BACKHOUSE & SON, York—Orchids, Stove and Greenhouse Plants, Palms, Ferns, &c.

CHR. LORENZ, Erfurt, Germany—Novelties in Florists' Flowers.

GARDENING APPOINTMENTS.

MR. FRANK DARE, as Gardener to Mrs. CHARRINGTON, Bury's Court, Reigate.

Mr. T. TUNLEY, late of Oakleigh, Edgware, as Gardener and Bailiff to E. L. CORRIE, Esq., Glenridge, Virginia Water, Berks.

Mr. GEO. BROWN, for the past two years Gardener at Glenwood, Leicester, as Gardener to H. SIMPSON GEE, Esq., Knighton Frith, Stoneygate, Leicester.

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (−) the Mean for the week ending September 26.	Accumulated. Above 42° for the Week.	Below 42° for the Week.	Above 42°, difference from Mean since December 29, 1895.	Below 42°, difference from Mean since December 29, 1895.	Rainfall. More (+) or less (−) than Mean for the Week.	No. of Rainy Days since Dec. 29, 1895.	Total Fall since Jan. 1, 1896.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Dec. 29, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	3 −	40	1	+ 246	− 321	8 +	181	40·4	28	24
1	3 −	42	3	+ 191	− 242	7 +	151	19·3	21	30
2	2 −	62	0	+ 268	− 222	6 +	128	14·2	21	29
3	3 −	69	0	+ 223	− 229	7 +	129	17·1	31	36
4	2 −	66	0	+ 226	− 248	9 +	126	16·8	22	32
5	2 −	86	0	+ 301	− 240	13 +	116	16·6	36	38
6	2 −	53	0	+ 278	− 228	11 +	158	32·6	23	32
7	2 −	71	0	+ 355	− 258	12 +	143	24·1	17	33
8	1 −	82	0	+ 402	− 206	15 +	123	20·0	35	41
9	1 −	61	0	+ 286	− 233	16 +	164	29·0	29	28
10	1 −	78	0	+ 382	− 211	12 +	141	25·3	34	34
*	1 −	103	0	+ 531	− 109	11 +	132	17·2	34	47

The districts indicated by number in the first column are the following:—

0, Scotland, N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending September 26, is furnished from the Meteorological Office:—

"The *weather* during this period was very rough and squally, with frequent and heavy rain in all parts of the kingdom. Newspapers reported that sleet fell in some parts of Scotland on Saturday.

"The *temperature* was below the mean, the deficit ranging from 1° in some of the western districts, to 3° in 'Scotland, N. and E.,' and 'England, E.' The highest of the maxima were recorded, as a rule, on the 22nd, and ranged from 66° in 'England, S.' and the 'Midland Counties,' to 62° in 'Scotland, N.' and 'England, N.E.,' and to 61° in 'Scotland, W.' The lowest of the minima occurred on the 21st, when the thermometer fell to 31° in 'Scotland, E. and W.,' to 32° in 'Scotland, N.' and 'England, S.W.,' and to between 34° and 37° in nearly all other districts. In the 'Channel Islands' the minimum was not lower than 42°.

"The *rainfall* was much in excess of the mean in all—but especially the western—districts. Over all the eastern and north-eastern parts of the kingdom the fall was about twice, and in the western and southern districts about three times as large as the mean for the time of year.

"The *bright sunshine* exceeded the mean in 'Scotland, N.,' and just equalled it in 'Ireland, N.;' in all other districts, however, there was a deficiency. The percentage of the possible duration ranged from 36 in 'England, S.,' and 35 in 'England, S.W.,' to 21 in 'Scotland, E.' and 'England, N.E.,' and to 17 in 'England, N.W.'"

NOTICES TO CORRESPONDENTS.

BOOKS: *James Court. Elements of Agriculture*, by Fream, published by John Murray, London, price 2*s.* 6*d.* *The Soil of the Farm*, by J. Scott and J. C. Morton, published by Bradbury, Agnew & Co., 9, Bouverie Street, London, E.C. *Agriculture: Practical and Scientific*, by Muir, published by Macmillan & Co., Bedford Street, London, W.C.

CARNATIONS: *A. Cook.* If the methods pursued differ from ours, kindly send a note on the subject, which we shall be pleased to publish.

CATTLEYA-FLY: *J. C.* We should certainly recommend the use of Richards', XL All liquid for the destruction of the insect. If a few plants only are affected, they might be put under hand-glasses or

into a garden frame and treated there. It is prudent to shade from bright sunshine for a few days those plants which are fumigated.

Dahlias Diseased: *D. & Co.* Dahlias infested by a Sclerotium, which seems to be almost the same as that attacking Potato haulms—alluded to in the *Gardeners' Chronicle* in 1880 and again in Vol. XX., 1883—when the discovery of the Peziza (Peziza postuma) upon the sclerotia was announced, and figures given of the stages of development. *M. C. C.*

Dracæna Lindeni: *A. Hatton.* We are much obliged by your sending the flowering-spike for our inspection.

Gardener's Memorandum Book: *A. C.* The exact kind of book that you require would have to be specially made, the manufacturing firms not keeping them in stock. You expect too much from us.

Grapes: *J. Ross.* The fruit is affected by the "spot" fungus—Glæosporium læticolor. There is no known cure, but you may reduce the chances of infection by destroying by burning all of the affected bunches.

Grubs on Bulbs of Lilium auratum: *E. Bland.* Probably the grubs are the larvæ of a species of weevil. Let some of them hatch out, and then send the insect here, and we will give you its name. Gather up all that you can and destroy them. Weevils in any stage of development are injurious in the garden.

Insect: *John Johnston.* The beetle attacking Lælia anceps is Diaxenes dendrobis, several times alluded to in our columns in connection with Dendrobium. It is an imported insect known at present only in its connection with orchid-houses in this country. *R. McL.*

Insects on Dendrobiums: *Puzzled.* The insects attacking your Dendrobes are plant-bugs (not beetles) of the genus Lopus. We cannot identify them with any European species, so they were probably imported with the Orchids. *R. McL.*

*** *The application to name flowers, and especially fruits, are so numerous at this season, as severely to tax our resources. They entail an expenditure of time, labour, and money, of which our readers have little idea. We are willing to oblige our correspondents as far as we can, but we must request that they will observe the rule that* **not more than six varieties** *be sent at any one time. The specimens should be good ones, just approaching ripeness, and to prevent disappointment, they should be properly numbered, and carefully packed. We do not undertake to send answers through the post. Delay in any case is unavoidable.*

Names of Fruits: *A. S. G.* Pears: 1, Seckle; 2, Marie Louise d'Uccle; 3, Hambledon Deux ans; Apples, 4, New Hawthornden; 5, Warner's King; 6, King of the Pippins.—*C. H., Doncaster.* 1, Alexandre Lambre; 2, Bergamotte d'Espéren; 3, Beurré d'Amanlis; 4, Beurré Hardy (all very excellent examples).—*E. W.* 1, Pear Marie Louise d'Uccle; 3, Duchess of Oldenburg—not Beauty of Bath; 2, Easter Beurré; 4, Royal Russet; 5, not recognised.—*J. H.* Pear Doyenné Boussoch, more handsome than good.—*J. M. B.* 1, Queen Caroline; 2, Cellini; 3, Striped Beefing; 4, Beachamwell; 6, Scarlet Nonpareil; 7, Downton Nonpareil.—*Tarr & Arkell.* Apple unknown to us.—*Gardener.* 1, Chaumontelle; 2, Beurré Clairgeau; 3, not known; 4, Beurré Diel; 5, Bergamotte d'Esperen; 6, Eyewood; 7, Marie Louise.—*Dr. King.* Pear Louise Bonne of Jersey (over-ripe); Apples, 1 and 2, not recognised, but they are not Lord Suffield; 3, Cox's Pomona; 4, Cellini; 5, Cox's Orange (a fine fruit).—*C. Dobson Smith.* Apple, 1, similar to Beauty of Kent—an old, very excellent Kentish Apple; 2, not known.—*C. Lonsdale.* 1, Cox's Orange Pippin; 2, not recognised; 3, Yorkshire Beauty.—*D. E.* Apples: 1, Lord Derby; 2, not sure of; 3, Brabant Bellefleur; 4, some local sort; 5, Mère de Ménage; 6, Golden Noble; Pear, Beurré Clairgeau.—*W. N.* 1, Beauty of Kent; 2, Lady Henniker; 3, Blenheim Orange; 4, Golden Noble; 5, Stone's Apple; 6, Bramley's Seedling.—*Packed in tack-box, in hay, no name sent.* 4, 5, King of the Pippins; 7, Ecklinville Seedling; 8, not recognised; 9, Braddick's Nonpareil; 10, Ribston Pippin.—*A. Ballard.* 1, not recognized (a very fine handsome Apple); 2, Cellini.—*J. P. D.* Pears: 1, not recognized; 2, Maréchal de la Cour; 3, Beurré Diel; 4, not known; Apples: 5, Besspool; 6, Ladies' Finger. (We had tenpence to pay upon your box.)—*F. G. D.* 2, Gansell's Bergamotte; 3, Urbaniste; 4, 5, 7, Marie Louise; 6, Chaumontelle.—*A. G. B.* 1, Cellini; 2, Gloria Mundi; 3, Jolly Beggar; 4, Queen Caroline; 5, Emperor Alexander; 6, Yellow Ingestre.—*F. H., Eastnor.* Apples: 1, Duchess's Favourite; 2, seems to have been grown under glass, therefore out of the ordinary character; might be Mabbot's Pearmain, or even King of the Pippins.—*F. Lee.* Grape: should say it is Alnwick Seedling; rather better flavoured than usual, and well set.—*G. Massey.* 1, Pitmaston Duchess; 2, Beurré Diel.

Names of Plants: *Correspondents not answered in this issue are requested to be so good as to consult the following number.—J. C. Tetbury.* 1, Cratægus Celsiana; 2, C. flava; 3, C. coccinea; 4, Betula (two things here), cannot name without fruit; 5, Cratægus orientalis (C. odoratissima).—*S. H. G.* Trachelium cœruleum.—*T. B., Leeds.* Gongora galeata, more commonly known in gardens as Acropera Loddigesii and Asplenium Belangieri (syn. Veitchiana).—*W. J. W.* 1, Cosmos bipinnatus; 2, double purple Larkspur.—*J. D., Kingsbury.* An exceptionally fine form of Cattleya Warscewiczii (syn. C. gigas).—*Tempus Fugit.*—1, Aster dumosus; 2, specimen not sufficiently good; 3, Aster Amellus; 4, Chrysanthemum uliginosum; 5, Helianthus rigidus.—*W. C. Foot.* Not a Truffle, but a hard Puff-ball—Scleroderma vulgare. Cattle will not eat it, so there is no danger of its poisoning them. Very common in some places. *M. C. C.*—*G. H. S.* 1, Pellionia Daveaneana; 2, Dorstenia contrayerva; 3, Œchmea Weilbachii; 4, Vitis gongyloides; 5, Hedychium flavescens; 6, Brexia madagascariensis; 7, Hibiscus mutabilis.—*J. E.* 1, Cratægus crus-galli; 2, Cratægus tanacetifolia; 3, Cratægus grandifolia.—*E. M.* Cannot name it, materials insufficient.

Notice to Quit Service: *A Twenty Years' Reader.* 1, Excepting in the case of wilful misconduct, a month's notice is usually given; 2, To be strictly legal, it ought to be given before 12, noon; 3, You can claim a month's wages, and a sum equivalent to the rent of the cottage, fuel, and vegetables, if you have these allowances.

Pteris: *W. G.* Some races of garden-raised Pteris are very liable to go in the manner shown by your specimens. Sometimes the brown patches appear after fumigation, and sometimes after a sudden fall in the temperature of the house. If you raise the plants yourself, get spores from another place.

Tomato-roots Covered with Warty Excrescences. *A. L.* Undoubtedly the work of eel-worms introduced with the soil, which together with the plants, clear out and char; and obtain soil from an uninfected source.

Tulips: *Tulip.* We should certainly not use them for forcing purposes, nor should we expect first-rate results from them out-of-doors, or in pots.

Vines. *R. D. L.* We cannot see any Phylloxera mites in the roots sent, but some of them appear to be in an unhealthy condition. Should you find further specimens confirmatory of your suspicion, we shall be pleased to examine them.

Walnuts: *Harrow.* Obtain a long ladder, and some Hazel-rods a dozen or more feet long, and with these appliances you will be able to reach most of the clusters of nuts on the trees. Do not do any more thrashing of the trees than is necessary to dislodge the nuts, and do not gather them before the outer husk parts quite freely from the shell of the nut. After drying the nuts in the shade, store in slightly moist sand, or place them without sand in large flower-pots covered with another pot or anything that will keep out moisture, and bury in dry ground 1 foot below the surface. A pinch of salt over each layer of nuts will prevent mould growing on the nuts; indeed, the nuts may be buried in salt if they can be kept in a dry room.

Communications Received.—G. A.—J. W.—S. B. G. F. B.—H. Woodgate—F. Bennett. J. R. G.—K. H.—L. F. P.—J. Forbes. H. D. H.—M. A.—W. P. Epping—F. K.—A. W. S.—H. A.—'. Brunton. O. L. A.—W. G. Fitzgerald.—W. T. Thiselton Dyer—W. Collins—J. B.—D. McD.—H. Cannell.—F. W. R.—W. Sargent.—R. L. H.—J. Anderson.—G. M.—Thos. Foster.

Photographs, Specimens, &c., Received with Thanks.—N. M. Freer, Chicago (many thanks for photographs, which will receive our consideration).—W. S. Tillet.—Sir Trevor Lawrence, Bart.—W. L.—N. M. Freer, Chicago.—J. Anderson.—G. J. Burch.

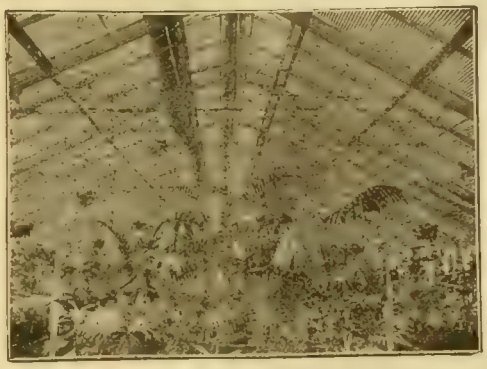
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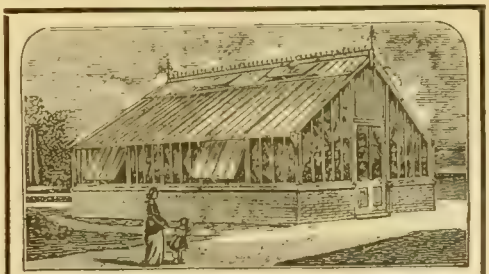
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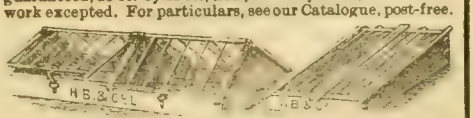
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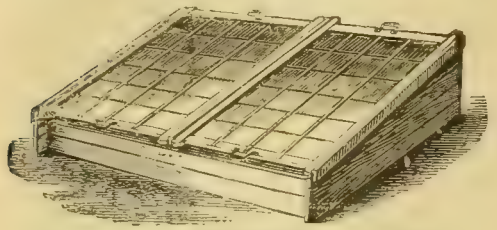
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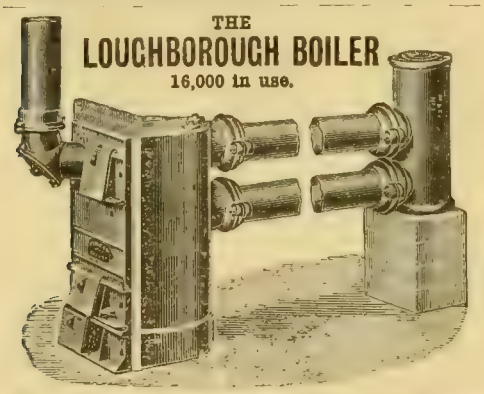
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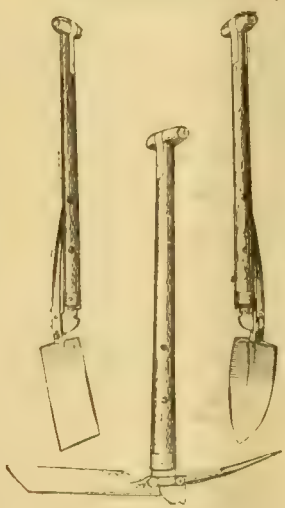
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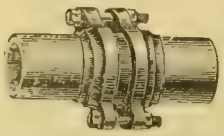
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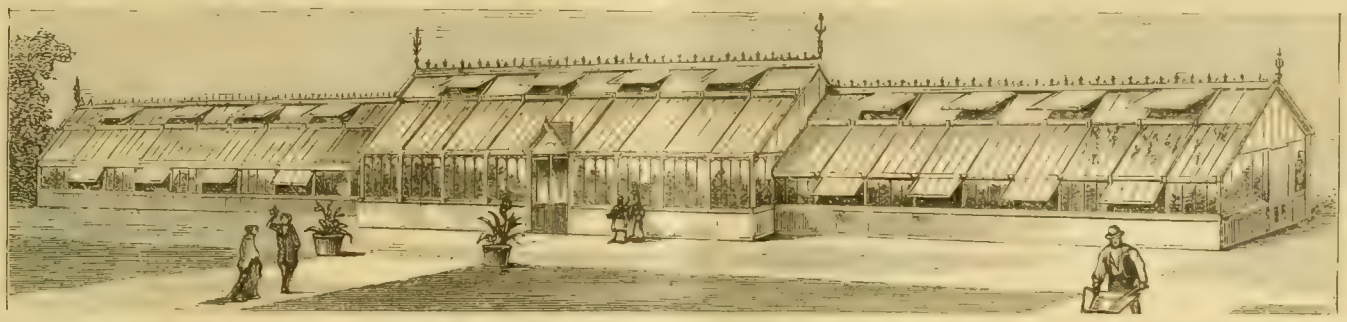
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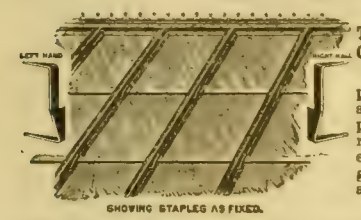
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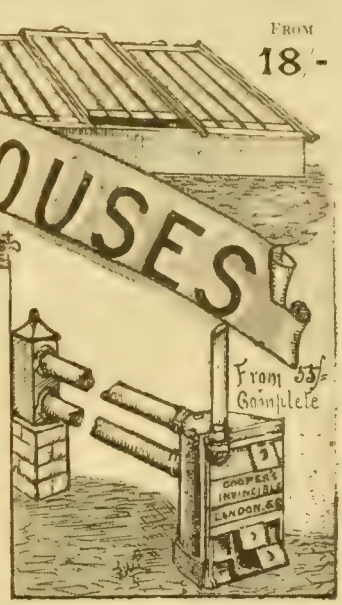
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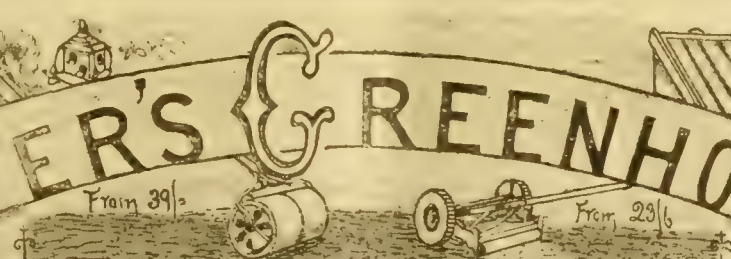
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APPOINTMENTS FOR OCTOBER.

SUNDAY,	Oct. 4	Royal Horticultural and Agricultural Society of Ghent.
TUESDAY,	Oct. 6	National Chrysanthemum Autumn Show at Royal Aquarium (three days).
SUNDAY,	Oct. 11	Brussels Orchidéenne Meet.
TUESDAY,	Oct. 13	Royal Horticultural Society's Committees at Drill Hall, Westminster.
TUESDAY,	Oct. 27	Royal Horticultural Society's Committees.
WEDNESDAY,	Oct. 28	Torquay Chrysanthemum Society's Show.

SALES FOR THE ENSUING WEEK.

EVERY DAY (except Saturday)		Dutch Bulbs, at Protheroe & Morris' Rooms.
MONDAY,	Oct. 5	Dutch Bulbs, Azaleas, Palms, &c., at Stevens' Rooms
TUESDAY,	Oct. 6	Unreserved Sale of Nursery Stock, at the Nurseries, Tunbridge Wells, by order of Messrs. T. Cripps & Sons, by Protheroe & Morris (two days). Poultry and Pigeons, at Stevens' Rooms. Dutch Bulbs, at Stevens' Rooms.
WEDNESDAY	Oct. 7	Dutch Bulbs, Shrubs, Plants, Palms, &c., at Stevens' Rooms.
THURSDAY,	Oct. 8	Sale of well-grown Nursery Stock, at the Albion Nursery, Hale Road, Farnham, by order of Mr. J. Clarke, by Protheroe & Morris. Clearance Sale of Fruit Trees, at the Nurseries, Chilwell, Notts, by order of Messrs. J. R. Pearson & Son, by Protheroe & Morris. Dutch and French Bulbs, at Stevens' Rooms.
FRIDAY,	Oct. 9	Great Sale of 20,000 Imported Orchids, by order of Messrs. F. Sander & Co., at Protheroe & Morris' Rooms. Scientific and Miscellaneous Property, at Stevens' Rooms.
SATURDAY	Oct. 10—Dutch Bulbs, at Stevens' Rooms.	

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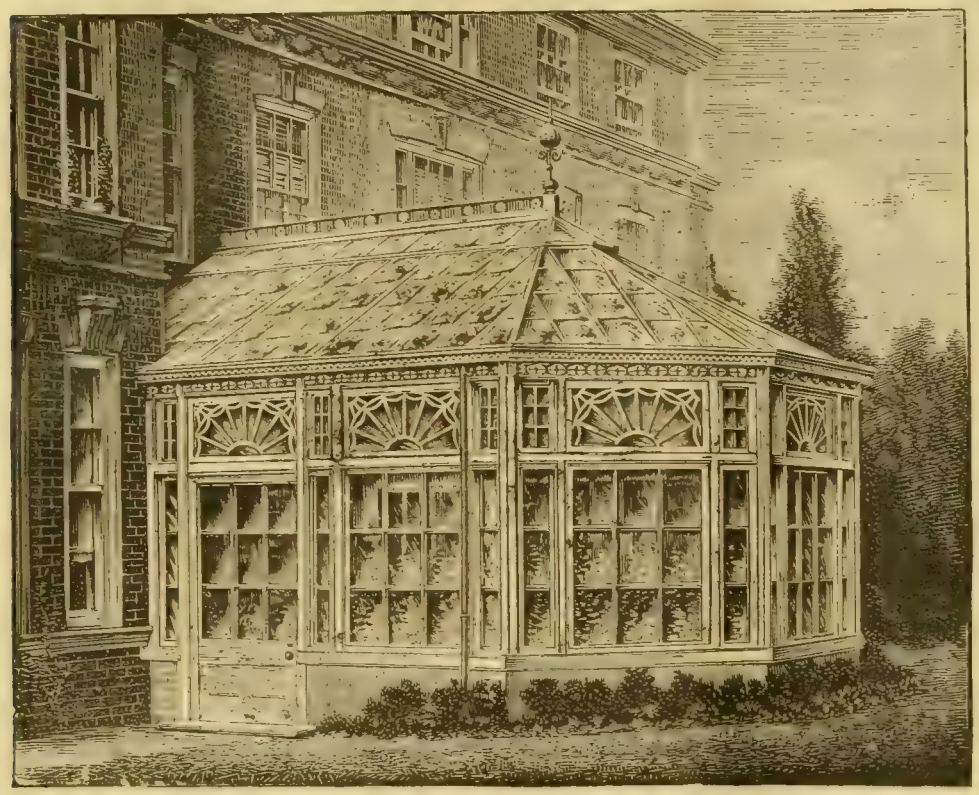
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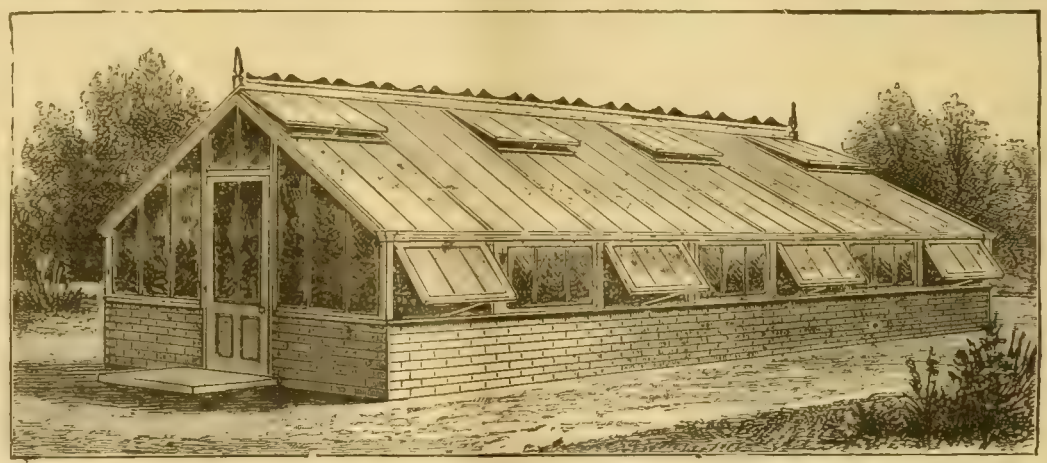
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Printed for the Proprietors by Messrs. Bradbury, Agnew, & Co. (Limited), Lombard Street, Precinct of Whitefriars, City of London, in the County of Middlesex, and published by Harry Gillard Cove, at the Office, 41, Wellington Street, Parish of St. Paul's, Covent Garden, in the said County.—Saturday, October 3, 1896. Agent for Manchester—John Heywood.

The Gardeners' Chronicle

ESTABLISHED 1841. No. 2911.

No. 511.—Vol. XX. { Third Series. } SATURDAY, OCTOBER 10, 1896. [Regt. as a Newspaper. { PRICE 3d. Post-free, 3½d.

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500 AMARYLLIS JOHNSONII.
3,600 CROCUS, KING OF THE WHITES (new), RARE AMERICAN BULBS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, October 14, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Normandy, near Guildford, Surrey.

The Normandy Manor Estate, adjoining the Wanborough Railway Station.

NOTICE OF SALE BY TENDER,

TO WIND UP THE ESTATE.

MESSRS. PROTHEROE AND MORRIS are instructed to SELL BY TENDER the remaining seven lots of the FREEHOLD PROPERTY, known as the Normandy Manor Estate, comprising in all 184a. 3r. 32p., which will include the unique and model Nursery and Fruit Garden, known as the Manor Nurseries, of 41a. 3r. 38p.; two productive Freehold Farms, including valuable enclosures of arable and rich pasture land and several choice freehold sites for building, all situate in the parish of Ash, in the county of Surrey.

Forms of Tender may be had on the premises; at the White Lion Hotel, Guildford; of Messrs. J. & T. PARROT, Solicitors, Aylesbury; and of the Auctioneers, 67 and 68, Cheapside, London, E.C. Tenders will be received at the Offices of Messrs. PROTHEROE and MORRIS, 67 and 68, Cheapside, London, E.C., until 12 o'clock noon on Thursday, October 22nd.

The Vendors do not bind themselves to accept the highest or any tender.

Auction and Estate Offices, 67 and 68, Cheapside, E.C.

Friday Next, October 16.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, Oct. 16, at half-past 12 o'Clock, from Consul F. C. LEHMANN, 600 ODONTOGLOSSUM ROEZLII of the best type, and including both the large white and the violet-blotched varieties, in grand condition. ONCIDIUM PAPILIO KRAMERI, in good plants and fine condition. A GRAND ANGULOA, allied to A. dubia, but with rich Apricot-yellow flowers. Quite new to the Collector. Fine masses of PERISTERIA ELATA, the favourite Dove Orchid. BOLLEA CŒLESTIS, the handsomest dark-blue Orchid. ERIOPSIS RUTIDOBULBON, rare species, with splendid racemes of gold-and purple flowers. Houlletia species, CATTLEYAS from Popayan, BULBOPHYLLUM EXALTATUM, and another singular BULBOPHYLLUM SPECIES, and various other Orchids of great botanical interest, including SERRASTYLIS MODESTA, Rolfe, an entirely new genus. Also from a Continental grower, two good plants of the new LÆLIO-CATTLEYA × VELUTINO-ELEGANS, which was awarded a First-class Certificate at Paris, August 27, 1895, described in the *Gardeners' Chronicle*, Sept. 21, 1895, p. 360. Four Lælio-Cattleya × Andreana (C. bicolor × L. c elegans), First-class Certificate, Paris, 1895. Three LÆLIO-CATTLEYA × SALLIERI (L purpurata Williamsii × C. Loddigesii), and a small lot of rare Malayan Orchids.

On view morning of Sale, and Catalogues had.

Special Trade Sale.—Isleworth.

ANNUAL SALE of thousands of beautifully grown Young CONIFERS and GOLDEN EUONYMUS for immediate potting, window boxes, or for growing on; by order of Messrs. Chas. Lee & Son.

Important to Nurserymen, Florists, Builders, and Others.

A Catalogue of thousands of best

GOLDEN EUONYMUS,

and other varieties, in splendid condition and colour, from 9 to 15 inches.

Thousands of Small SHRUBS for Boxes, including Hardwick Box, Gold and Silver ditto, Phillyrea laurifolia, Green Euonymus, Silver ditto, and rudicans.

2000 CONIFERS,

including Retinospora plumosa, ditto squarrosa, and plumosa aurea; Golden and Tom Thumb Thujas.

2300 LIGUSTRUM, Best GOLDEN,

and other varieties for boxing, viz., lucidum, japonica, and macrocarpa, from 9 to 18 inches, very bushy.

Hundreds of Specimens from their famous collection of

ORNAMENTAL TREES,

including the beautiful Tricolor, Dogwood, Cornus elegantissima, Planes, large leaf Purple Beech, Chestnuts, Ash, Birch, Spanish Chestnuts, Maples of sorts, Evergreen Oaks and others, Elms of sorts; Poplars, canadensis, Lombardy, and others. Also

FLOWERING TREES,

Laburnums, Almonds Caraganas, Rose Acacias, &c., &c. A quantity of oval-leaf Privet, very bushy, 3 feet.

500 DWARF TEA ROSES, of best sorts, including William Allen Richardson, Crimson Gloire de Dijon, Niphetos, Catherine Mermet, Papa Gontier, &c.

EXTRA STRONG TEA ROSES, and Climbing ditto, in 32-pots, 6 to 10 feet high, including Gloire de Dijon, Crimson Rambler, Maréchal Niel, W. A. Richardson, and others.

YUCCAS, of sorts; a quantity of berried SOLANUMS, in 48-pots.

COBŒA SCANDENS VARIEGATA, in 48 and in 32-pots.

850 CLEMATIS JACKMANNI (improved variety), in 48-pots, in full flower. Dutch Honeysuckles and other Climbers, in pots.

A quantity of 2-year and maiden VICTORIA PLUMS.

RHUBARB, of best sorts. Hundreds of CURRANT and GOOSEBERRY TREES, of best sorts, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, on the premises, The Wood Lane Nurseries, Isleworth (five minutes' walk from the Isleworth Station, L. & S. W. Railway, and twenty minutes' walk from Osterley Park Station, District Railway), on TUESDAY, October 20, at 12 o'clock.

May be viewed one week prior to the Sale. Catalogues may be had on the Premises; at 36, Hammersmith Road, W.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

MESSRS. PROTHEROE AND MORRIS have received instructions from Mr. W. Horne, Perry Hill, Cliffe, near Rochester, Kent (adjoining Cliffe Station, South Eastern Railway), to hold a great FRUIT TREE SALE, by AUCTION, on the Premises, on WEDNESDAY, October 21, at half-past 11 o'Clock,

200,000 FRUIT TREES,

consisting of 100,000 Apples, Pears, Plums, and Cherries; 62,000 strong 2-year Crown Bob Lancashire Lad, Whinham's Industry, and Rifleman Gooseberries; 33,000 Baldwin Black and Dutch Red Currants; 80,000 Fastolf and Norwich Wonder Raspberries; 100,000 Royal Sovereign, Noble, and Paxton Strawberries; 30,000 2 year Connover's Colossal Asparagus, half a ton of the new Vegetable, Stachys tuberifera, a few lots of Early Rivers' Nectarine, new Pears Le Lectier and Conference, new Plum Monarch, new Raspberry Superlative, new Asparagus Barr's Mammoth, new Strawberries Stevens' Wonder and Monarch, 100,000 Hardy White Cos Lettuce, &c. Mr. Horne will cart all lots to rail after the Sale, free of charge. Luncheon at 11 o'Clock, Sale half-past 11 o'Clock.

Catalogues may be had on the Premises, at the Bull Hotel, Rochester, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Sunningdale, Berks.

SIX DAYS' UNRESERVED SALE of exceptionally well grown NURSERY STOCK.

By order of Mr. Charles Noble.

MESSRS. PROTHEROE AND MORRIS will SELL BY AUCTION, on the premises, the Nurseries, Sunningdale, close to Sunningdale Station, and within easy distance of Bagshot, S.W.R., on MONDAY, October 19, and FIVE FOLLOWING DAYS, at 12 o'clock each day, without the least reserve, several acres of unusually well-grown NURSERY STOCK, the whole in the best possible condition for removal, comprising:—

10,000 APPLE TREES, standard, pyramid, and bush,
4,000 LIMES, 7 to 14 feet,
12,000 OVAL LEAF PRIVET, 1,000 bushy AUCUBAS,
3,000 HARDY GHENT and MOLLIS AZALEAS,

thousands of RHODODENDRONS, including the best named varieties and hybrids, the finest in the Trade; large quantities of useful CONIFERS for general planting, and Young Stock for potting and growing-on; EVERGREEN and DECIDUOUS SHRUBS, ORNAMENTAL and FOREST TREES, ROSES; many thousands of BERBERIS AQUIFOLIA for cover planting, and other Stock, too numerous to mention, the cream of the Nursery, and the best ever offered to the public.

May be viewed any day prior to the sale. Catalogues may be had on the premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Hanworth, Middlesex.

About a mile and a half from the Feltham Station, London & South Western Railway.

IMPORTANT TO THE TRADE.

GREAT CLEARANCE SALE of PALMS, FERNS, and other STOCK, useful to Florists, Market Growers, and others. By order of Messrs. W. COOPER, Limited, who are relinquishing this branch of their business.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION on the Premises, Cooper's Nurseries, Hanworth, Middlesex, on THURSDAY and FRIDAY, October 22 and 23, at 11 o'Clock precisely each day (in consequence of the large number of lots), absolutely without reserve,

25,000 PALMS of sorts, in 48, 60, and thumb-pots, including
10,000 KENTIA BELMOREANA and FOSTERIANA
7,000 LATANIA BORBONICA
6,000 PHŒNIX RECLINATA
50,000 KENTIA and ARECAS, small plants in boxes
20,000 FERNS in 48 and 60-pots, consisting of Adiantums, Lomarias, Pteris, &c.; 2000 pots of SEED-SPORES, 1000 HEATHS, 11,000 CYPERUS ALTERNIFOLIUS
11,000 GENISTAS, in 48 and 32-pots
1,600 HYDRANGEAS, CROTONS, ASPARAGUS PLUMOSUS
2,500 VINES, in 48, 24, and 16-pots
2,800 MARGUERITEE, 2000 ARALIAS, 1700 CALLAS, BEGONIAS, SOLANUMS
3,200 ROSES in pots, in variety
45,000 PELARGONIUMS and IVY-LEAF GERANIUMS, in 48 and 60-pots; 5000 AMPELOPSIS, CLEMATIS, and other Climbers
12,000 VERONICAS

SEVERAL THOUSANDS of MANETTI STOCKS, and quantities of other useful Stock.

May now be Viewed. Catalogues may be had on the Premises, of Messrs. W. COOPER, Limited, 755, Old Kent London, E.C.; of Messrs. DOWSON, AINSLIE AND MARTINEAU, Solicitors, 19, Surrey Street, W.C.; and of the Auctioneers, Estate Agents and Valuers, 67 and 68, Cheapside, London, E.C.

N.B.—The Valuable FREEHOLD NURSERY, comprising about 64 Acres of fertile land, with 50 large Greenhouses Cottages, and Trade Buildings, will be offered at the Mart, London, E.C., in one or two lots, at the end of the present month. The Outdoor Stock will be sold on the Premises in November, unless taken by the purchaser at a valuation.

Hollamby's Nurseries, Tunbridge Wells.

GREAT ANNUAL SALE of first-class NURSERY STOCK.

450,000 CONIFERÆ, LAURELS, HARDY CLIMBERS, ROSES, RHODODENDRONS, AZALEAS, LARCH, SCOTCH and SPRUCE FIRS, QUICK, ASH, HOLLIES, YEWS, ORNAMENTAL and FOREST TREES, and other Stock, in great variety. By order of the Executors of the late Mr. Edwin Hollamby.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, as above, on THURSDAY and FRIDAY, October 29 and 30, at 12 o'Clock each day.

May be viewed any day prior to the Sale Catalogues may be had on the Premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Friday Next.

By order of Messrs. W. L. Lewis & Co.

IMPORTANT to FLORISTS, and OTHER LARGE BUYERS of IMPORTED ORCHIDS.

ONCIDIUM TIGRINUM, the finest of all Oncids
ODONTOGLOSSUM CITROSMUM in marvellous masses.
ODONTOGLOSSUM INSLEAYI, in fine condition.
ONCIDIUM KRAMERIANUM, now extremely scarce.
CORYANTHES MACULATA, a very choice species.
CATTLEYA HARRISONIÆ, &c.

Also a few fine plants of the very rare CŒLOGYNE RODWISSENI, the whole stock for sale (another property), and 300 lots of ESTABLISHED ORCHIDS.

MESSRS. PROTHEROE AND MORRIS will include the above in their ORCHID SALE, on FRIDAY NEXT, October 16, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

SALES BY AUCTION.

Tottenham, N.

Adjoining the Tottenham Hale Station, G.E.R.

GREAT ANNUAL SALE, by order of Mr. Thomas S. Ware. Three days.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, the Hale Farm Nurseries, Tottenham, N., on TUESDAY, October 27, and TWO FOLLOWING DAYS, at 11 o'Clock precisely each day, in consequence of the large number of lots.

2,500 ROSES in pots, extra strong.

100,000 CARNATIONS and PICOTEES in pots, the best varieties in cultivation.

TREE CARNATIONS.

50,000 Double and Single Tuberous-rooted BEGONIAS, probably the finest collection in the world.

50 000 CLEMATIS and AMPELOPSIS, and other Climbers.

100,000 SEAKALE and ASPARAGUS. Extra strong Forcing Stuff, a specialty at this nursery.

10,000 HOME-GROWN LILIES.

200,000 Berlin Crowns LILY of the VALLEY.

FORCING PLANTS and BULBS in endless variety.

200,000 HERBACEOUS PLANTS and MISCELLANEOUS BULBS, consisting of a large quantity of NARCISSUS, best Forcing as well as Border varieties.

CHRISTMAS ROSES and other Stock, freely described in Catalogue.

May be viewed any day prior to the Sale. Catalogues may be had on the Premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

DUTCH BULBS.

SALES EVERY DAY (Saturdays excepted).

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., EVERY DAY (excepting Saturdays), at 12 o'Clock, large consignments of NAMED HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other BULBS from Holland, received direct for Unreserved Sale, Lotted to suit the Trade and Private Buyers; together with white ROMAN HYACINTHS, paper-white NARCISSUS, SNOWDROPS, special TULIPS, &c.

On view morning of Sale, and Catalogues had.

DUTCH BULBS-DUTCH BULBS

SALES NEARLY EVERY DAY TILL THE END OF DECEMBER.

MR. J. C. STEVENS begs to announce that he has arranged with several of the first Nurserymen in Holland to Continuously Supply his Sales, during the present season, with only really First-class Bulbs, of the best quality.

WEDNESDAY NEXT.

IMPORTANT SALE OF PLANTS.

2000 Choice named English and Foreign Standard DWARF, and CLIMBING ROSES, including many of the best sorts.

Large Importations of Small beautifully-grown CONIFERS and various SHRUBS, Flowering TREES, CLIMBERS, &c., from Holland.

1000 Hybrid Rhododendrons, Azalea indica, and A. MOLLIS; various PALMS, DRACÆNAS, and other Plants from Ghent.

30,000 Best Berlin Lily of the Valley Crowns, just received direct.

A Special Collection of extra fine Hyacinths, including many of the best and newest varieties.

A large quantity of

EARLY FORCING BULBS.

LILIUMS, NARCISSUS, FREESIAS, &c.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, October 14, at Half past Twelve o'Clock precisely.

On View morning of Sale, and Catalogues had.

MONDAY, TUESDAY, WEDNESDAY, THURSDAY, and SATURDAY NEXT.

DUTCH BULBS-DUTCH BULBS

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., as above, at half-past 12 o'Clock precisely each day—

GRAND IMPORTATIONS OF DUTCH BULBS

FROM LEADING GROWERS,

in the finest possible order, and specially lotted to suit both large and small buyers. A large quantity of

FRENCH FORCING BULBS, LILIUMS, PALMS, &c.

On view mornings of Sale, and Catalogues had.

1600 LOTS OF THE FINEST DUTCH BULBS,

IN VARIETY.

MESSRS. THOMAS JAMES AND DAVIES, 35, TEMPLE STREET, BIRMINGHAM.

On MONDAY and THURSDAY each week.

Commissions carefully executed.

Wednesday Next.

LARGE SALE of STOVE and GREENHOUSE PLANTS, FRUIT TREES, ROSES, GENERAL NURSERY STOCK, RUSTIC ARCHES, VASES, &c.

MESSRS. THOMAS JAMES AND DAVIES will SELL, at their Rooms, 35, Temple Street, Birmingham, at half-past 11 A.M.

Sales of Plants and Nursery Stock every week. Catalogues free.

Central Auction Mart, Bristol.

ESTABLISHED and IMPORTED ORCHIDS, including Dendrobium Phalænopsis Schœlerianum, Lælia tenebrosa, Odontoglossum Insleayi, 50 Seedling Cypripediums, in Flower or Bud, &c., from Messrs. W. L. Lewis & Co. Also 200 lots of ESTABLISHED and FLOWERING ORCHIDS in great variety, from Messrs. Charlesworth & Co. And 150 grand pieces of ODONTOGLOSSUM CRISPUM, from Mr. Aimé van den Bogaerde.

MESSRS. DUROSE SUTTON AND CO. will SELL the above by AUCTION on THURSDAY NEXT, October 15, 1893, at Twelve o'Clock.

Catalogues of the Horticultural Auctioneers and Valuers, 1, Queen Anne Buildings, Bristol, and at Frome, Somerset.

The Nursery, Downham Market.

FIFTH ANNUAL SALE OF NURSERY STOCK, COMPRISING

11,000 FRUIT TREES.

Specially grown for Market Gardeners and Fruit Growers, including the best varieties and most profitable Market sorts.

200 ORNAMENTAL TREES and SHRUBS.
12 000 Strong Transplanted LARCH.
3,000 MYROBELLA.
750 ROSES. 500 CARNATIONS
5,000 ROYAL SOVEREIGN STRAWBERRIES.

WHICH

MR. CHARLES HAWKINS is favoured with instructions from Messrs. Bird & Valiance to SELL by AUCTION, on FRIDAY, October 16, 1896, commencing at half-past 10 o'Clock.

Catalogues will be forwarded upon application to the Auctioneer, Downham Market, and Bank Chambers, King's Lynn.

East Ham.

PLASHET GROVE NURSERIES.

SURPLUS STOCK, comprising—

26,000 SEEDLING AND OTHER FERNS.

Large assortment of—

ROSES, CHRYSANTHEMUMS, RHODODENDRONS, CARNATIONS, CLEMATIS, JASMINE, PALMS, &c.

MESSRS. MARK LIELL AND SON will SELL the above by AUCTION, on THURSDAY NEXT, October 15, at 12 o'Clock, sharp.

Catalogues of Auctioneers, 42, High Street, East Ham, E.

WANTED to RENT, 600 to 1000 feet GLASS, with HOUSE and LAND. No stock. H. S., 41, Wellington Street, Strand, W.C.

WANTED, a SEED BUSINESS.—One that has run down merely through lack of the necessary push will be treated with. No Glass or other encumbrance.—X. Y., 41, Wellington Street, Strand, W.C.

COCOA-NUT FIBRE.—WANTED to buy about 20 tons.—Send price to A. Z., Box 194, Smith's Advertising Agency, 132, Fleet Street, London, E.C.

ABOUT Six Acres of FREEHOLD LAND, old pasture, with rich yellow loam, admirably suitable for Horticultural Purposes. Within Two Minutes of Railway Station, and close to main Road. Fine open position, ten miles north. Portion may remain on mortgage if required.—Full particulars from MARK GILBERT, Auctioneer, Enfield Highway, Middlesex.

OLD-ESTABLISHED SEED BUSINESS for SALE. In good Business Centre. Stock and Fixtures at a low valuation.—F. O., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FOR SALE, FREEHOLD NURSERY, THIRTEEN GREENHOUSES, well built and well stocked. Full particulars. J. H., Fernhead Nursery, Plantation Road, Hextable, Kent.

NURSERY PREMISES, consisting of well-built House, large Conservatory, 3 Greenhouses, Stable, Cart-shed, &c. The Freehold to be Sold. For full particulars apply to MARK GILBERT, Auctioneer, Enfield Highway, London, N.

SEED, FLORIST, and NURSERY BUSINESS; genuine old-established. Small Market town; splendid Seed trade. Shop best position; small Nursery and Garden, four Greenhouses, &c. Price, including stock, &c., about £195. Splendid opportunity. Low rents. Good reason for disposal.—J. H., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

FIRST-CLASS FLORIST'S BUSINESS and NURSERY for SALE, in good position, main Road, West (Corner-shop). Large well-fitted Show Conservatory, with Dwelling-house attached. Returns, £1100, with splendid profits. Rent, £130. Price, £350. Splendid opportunity for practical man.—Apply to McCORQUODALE AND CO., Auctioneers and Valuers, 19, Cockspur Street, Charing Cross, S.W.

EXHIBITIONS.

KENT COUNTY CHRYSANTHEMUM and HORTICULTURAL SOCIETY'S GRAND ANNUAL EXHIBITION of CHRYSANTHEMUMS and FLOWERS, FRUITS and VEGETABLES, at the Rink Hall, Blackheath, opposite South Eastern Railway Station, on October 28 and 29, 1896. Schedules on application to The Gardens, The Cedars, Lee, S.E. F. FOX, Hon. Sec.,

EASTBOURNE HORTICULTURAL SOCIETY'S CHRYSANTHEMUM and FRUIT SHOW, November 3 and 4, 1893.—SEVERAL OPEN CLASSES for Chrysanthemums and Fruit: Good Prizes. Schedules now ready. Application to— E. A. NEWMAN, Sec., 21, Brooklyn Terrace, Eastbourne.

HUDDERSFIELD and DISTRICT CHRYSANTHEMUM SOCIETY.

The SIXTH EXHIBITION of the above Society will be held in the Town Hall, Huddersfield, on TUESDAY and WEDNESDAY, Nov. 10 and 11, 1896. Entries close on Tuesday, Nov. 3. Entry Forms and Schedules may be obtained from—

JOHN BELL, Hon. Sec., Marsh, Huddersfield.

CARLISLE and CUMBERLAND HORTICULTURAL SOCIETY.—CHRYSANTHEMUM, FRUIT, and VEGETABLE SHOW, in the Drill Hall, Carlisle, on NOV. 11 & 12, 1893. Entries close Nov. 4. Schedules and particulars of the SECRETARY, 32A, Lowther Street, Carlisle.

BURY ST. EDMUND'S & WEST SUFFOLK HORTICULTURAL SOCIETY.

ANNUAL SHOW of CHRYSANTHEMUMS, Corn Exchange, Bury St. Edmund's THURSDAY and FRIDAY, Nov. 12 and 13, 1896. £100 in Prizes. Entries close Friday, Nov. 6.

Schedules free of the Hon. Sec., GEO. A. MANNING, 19, Abbeygate Street, Bury St. Edmund's.

NATIONAL CHRYSANTHEMUM SOCIETY.

GREAT JUBILEE FESTIVAL AND EXHIBITIONS.

ROYAL AQUARIUM, WESTMINSTER,

November 3, 4, 5, and 6.

£750 in Money Prizes, in addition to Valuable Pieces of Plate, Cups, Medals, &c

SCHEDULES OF PRIZES on application to—

RICHARD DEAN, *Secretary*, Ealing, London, W.

FOR SALE, at Gorton House, Isleworth, a RANGE of GLASSHOUSES, six in number, as they stand, with Hot-water Apparatus complete, and First-class Tubular Boiler to heat the same. May be seen any day by applying to the GARDENER on the premises.

FLORIST, NURSERY, and MARKET GARDEN BUSINESS, beautifully situated near Bath and Bristol, and capable of extension. Good Dwelling-house, Stabling, Piggeries, and Orchard (about 12 acres in all). Rent low. Extensive area covered with glass, and properly heated. Abundant supply of water flowing through the premises. Two Railway Stations near. Purchase or Partner.

CLEMENT GARDINER, 14, John Street, Bristol.

TO LET.—FLORIST and NURSERY BUSINESS, beautifully situated. Seaside. Near Bristol.—For particulars apply B., 41, Wellington Street, Strand, W.C.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

EVERY GARDENER should send post-card for NEW ILLUSTRATED LIST of TEAK-WOOD RECEPTACLES for growing Plants, Ferns, and Orchids; cheaper than pot ware.—O. E. WEST, F.R.H.S., Roundhay, Leeds.

PEAT.—Excellent Brown and Black Fibrous, for Rhododendrons, American Plants, &c.

Sample bag, 2s. 6d

F. STREET, Heatherside Nurseries, Camberley.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free.

P. McARTHUR, The London Nursery, 4, Maida Vale, London, W.

HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.C. Prompt cash.

Strawberries at Reduced Prices.

GEORGE BUNYARD AND CO. beg to say they are now offering the best sorts, in fine plants, at reduced rates. CATALOGUES free.

Royal Nurseries, Maidstone.

GIANT BERLIN LILY OF THE VALLEY.

ICETON'S well-known GIANT BERLIN LILY OF THE VALLEY.—100 000 Planting Crowns at 12s. 6d. per 1,000, 1 and 2 years; also a few thousand retarded Crowns. Price on application to—

W. ICETON'S, Putney, S.W.

STRAWBERRIES. — STRAWBERRIES.—All the leading varieties, in strong runners and in pots, ready for immediate delivery. Descriptive Catalogue on application.

BULBS.—The best procurable, at low prices. Catalogue free on application.

RICHARD SMITH AND CO., Worcester.

Williams'

WORLD-RENOWNED BULBS.

WELL RIPENED, AND IN SPLENDID CONDITION.

HYACINTHS for Pots, 5s. to 9s. per dozen.
HYACINTHS for Exhibition, 10s. 6d. per dozen.
HYACINTHS for Bedding, in distinct colours, 17s. 6d. per 100.
HYACINTHS for Bedding, all shades mixed, 13s. 6d per 100.
TULIPS, Single and Double, mixed, 2s. 6d. per 100.
DAFFODILS, Double, 4s. per 100.
CROCUS, Mixed, 10s. 6d. per 1000.
ILLUSTRATED CATALOGUE Gratis and Post-free.

B. S. WILLIAMS & SON
Victoria and Paradise Nurseries,
UPPER HOLLOWAY, LONDON, N.

RIVERS'

FRUIT TREES & ROSES

A LARGE AND SELECT STOCK IS NOW OFFERED FOR SALE.

WRITE FOR OUR

Illustrated and Descriptive Catalogue,

Post Free, 3d.

THOMAS RIVERS & SON,

SAWBRIDGEWORTH, HERTS,

HARLOW STATION, G.E.R.

FERNS!—FERNS!!

For Decorative Purposes, or for Potting on.

50,000 in. 2½-in pots:—Pteris cristata, major, nobilis, tremula, albo-lineata, and Adiantum fulvum, also Aralias, at 9s. per 100; 500 and upwards, at 8s. 6d.
In large 60's, Pteris cristata, nobilis, and albo-lineata cristata, at 2s. 6d. per dozen; 20s. per 100.
In 48's, Pteris cristata, nobilis, major, tremula, Gymnogramma aurea, also Adiantum elegans and pubescens, at 4s. 6d. per dozen.
Above prices are for Cash only. Packing Free.
An Inspection at the Nurseries is Invited.

B. PRIMROSE,
BLACKHEATH NURSERIES,
ST. JOHN'S PARK, BLACKHEATH, S.E.

CHRYSANTHEMUMS.

THE RYECROFT SET of DRESSING INSTRUMENTS.
Three pairs of Forceps, Brush, and Case, complete, 10s. 6d.
Large Forceps for Pulling Centres, 3s. 9d.
Smaller ditto for Dressing, 2s. 9d.

The Best Cups and Tubes are The BECKETT.
All sizes, both for Japanese and Incurved, at 9s. per doz.; or with additional tube for raising the bloom 3 inches higher than the ordinary one, 12s. per dozen.
The SPRINGTHORPE, for Japanese and Incurved, all sizes, 9s. per dozen.
All free for Cash with Order.

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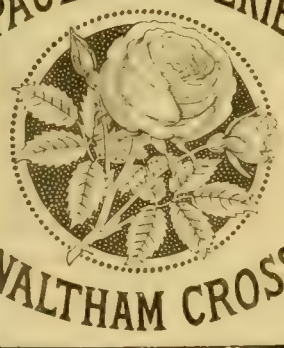
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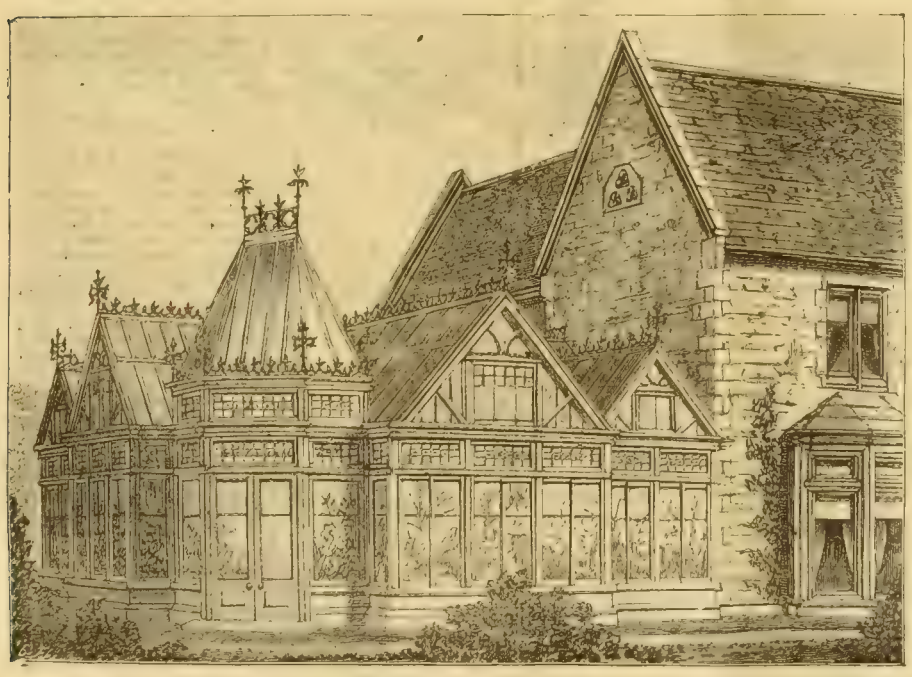
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THE

Gardeners' Chronicle.

SATURDAY, OCTOBER 10, 1896.

RAMBLES IN NORTH WALES.

BY the end of July the grass was burnt brown—indeed, almost consumed at Kew, and the leaves were falling fast, so that, after the somewhat monotonous journey by the North-Western Railway, it was highly refreshing to enter the green pastures and copses of North Wales, where wild flowers still abounded. Upper Bangor was our destination, and there, thanks to the kindness of the genial Mr. and Mrs. J. E. Griffith, we found pleasant and comfortable rooms in which to spend so much of our holiday as could not be passed in the open air. Mr. Griffith, I may mention, is the author of the excellent *Flora of Anglesea and Carnarvonshire*, published last year, which is a great help to the lover of the flowers of the field and forest. Indeed, it was owing to this circumstance that we were so fortunate as to make his acquaintance. When we arrived, the wild Roses were over, but before the end of August there was conspicuous evidence of their abundance and variety in the heavy crop of brilliantly-coloured hips. Brambles, however, were in their full beauty of flower, and Brambles have developed such a variety of forms in this district as to at once attract the attention of the visitor; and Mr. Griffith, aided by the most competent British and continental authorities, has thoroughly worked out this interesting and beautiful element of the native flora. His book and some previous observation had prepared us for the wealth and variety of Blackberries in this neighbourhood, though we can make no pretension to any special knowledge of the characteristics of the numerous forms distinguished by such experts as Mr. Griffith. He has not only a good herbarium of the Blackberries, he has a practical knowledge of their various flavours and qualities, and Blackberry-jam of fine quality is one of the good things we found on his table. Writers in the *Gardeners' Chronicle* and other papers devoted to gardening are frequently asking why Blackberries are not more generally cultivated. It is, perhaps, because they are no sooner ripe than they begin to decay. Still, I am convinced from early experience that Blackberries may be much improved by cultivation. But that by the way. The one thing that particularly attracted our attention on our first walk from Upper Bangor to Menai Bridge, through Coed Menai, was the profusion, luxuriance, and beauty of one particular kind of Bramble.

On turning to Mr. Griffith's *Flora*, we found upwards of thirty species or varieties, whichever one is disposed to call them, enumerated as growing in the immediate neighbourhood of

Bangor. The beauty of this particular Bramble, forming the principal part of the undergrowth of the Coed Menai, skirting the road, and half-a-mile or so in length, made us desirous of knowing its proper name. Of the kinds figured in Syme's *English Botany*, it is nearest, in the colour and size of its flowers, the one there named discolor, but quite different in foliage. It has an enormous inflorescence, sometimes nearly a yard in length, and pink flowers often nearly 2 inches in diameter. The quality of the fruit we had not a chance of testing, because the children and the birds between them plucked it all before it was quite ripe. As an ornamental plant, however, it is certainly one of the best among the British Brambles. As Mr. Griffith informed us, it is the form named Rubus gymnostachys (syn. R. macrothyrsos) in his book. Our inquiry on this point led to his showing us his collection of dried specimens, concerning which he had a fund of sound information on their several qualities, ornamental and edible. This led up to his offering to accompany us sometimes on our walks—an offer we accepted with much profit and pleasure, for it ended in our collecting, with his assistance, living plants of a few of the most striking kinds for Kew. These included those named R. mercicus var. chrysoxylon, R. gymnostachys, R. cambricus, and R. Griffithianus in Mr. Griffith's *Flora*. R. cambricus, Mr. Griffith regards as the best of all for fruit. It is, he also informed us, the same as R. lentiginosus. Another fact not, perhaps, very generally known in connection with Brambles, may be worth repeating here. It is not a very uncommon thing for the long, pendent stems to bend down and take root, and continue growing from the same organic apex in an upward direction. In course of time, the connection with the parent plant disappears, and there is an independent plant. Occasionally it happens that the stem or branch rooting in this way is severed from the parent at some distance from the ground, and instead of growing on from the normal apex, the growth is backwards, as it were, from the branch which has become detached. In consequence of this freak in nature, we have a plant with the prickles directed in the opposite direction to the normal one. This, as one can readily imagine, very much puzzled the batologists, or cunning ones in Brambles, until the clue was discovered.

Among the Brambles close down to high-water mark in the Menai Straits, we observed some exceedingly long cable-like stems growing down from the steep declivities towards the water. Some of these were 5 or 6 yards, perhaps more, in length. The Raspberry is very common in the neighbourhood, and the curious Rubus Leesii also occurs. It will be remembered by some readers of the *Gardeners' Chronicle* that a correspondent some years ago claimed to have raised this particular form as the result of a sexual cross between the Strawberry and Raspberry.

A Bramble, Rubus saxatilis, that one would hardly expect to find at so low a level, is found on the slope of the straits between Menai Bridge and Bangor. *W. B. H.*

(To be continued)

NEW OR NOTEWORTHY PLANTS.

ERYTHREA ARMATA, *Wats.**

THE accompanying illustration (fig. 74, p. 425) shows what will most likely prove to be the first instance of Erythrea armata blooming in cultivation, being taken from a specimen growing at Montecito, near Santa Barbara, California, and about sixteen years old, from seed. Last summer it sent out three flower-scapes over 12 feet long, gracefully arching, and of a feathery appearance, bearing myriads of exceedingly minute flowers, which failed to set any fruit. This quite remarkable Palm has become of late not uncommon in gardens, both in California and in Southern Europe, where it goes mostly under the names of Brahea Roezli and B. glauca. In lower California, and here, it is popularly known as "Palma azul" and "Blue Palm," being one of the more glaucous, if not the most, among Palms. In its distribution this species is strictly limited to the peninsula of California, making its first appearance some forty miles south of the boundary-line of the United States, and reaching as far down as the neighbourhood of Cape St. Lucas, always in the interior, never approaching the coast. It is essentially a Palm of dry regions, contrary to its only congener, Erythrea edulis, of which a detailed account, by the undersigned, appeared in the *Gardeners' Chronicle* of April 29, 1893, p. 507; and it is worth mentioning that, in its northern habitat, where it is frequently associated with Washingtonia filifera, E. armata is never found growing in the bed of the cañons, which are preferred by the taller and stouter-growing Washingtonias, but is seen only on the cliffs, its rope-like roots finding their way among the parched rocks to a wonderful distance. Under cultivation, E. armata shows a remarkable faculty of adaptation to better conditions, taking willingly to a liberal supply of water, provided the soil be properly drained, and it will then make very fast growth, not to be compared, however, with that of E. edulis, and less than ever with Washingtonia filifera. From the same region of lower California, and adjoining Sonora, other species of fan-Palms have been brought of late years, of which very little is known up to now, and I hope to be able some day to give an account of them to the readers of the *Gardeners' Chronicle*. The whole of Mexico is sure to be for years to come an inexhaustible mine of vegetable productions, as it is of metallic wealth. *Dr. F. Franceschi.* [There is a small specimen of this beautiful Palm in the temperate-house at Kew. The glaucous-blue of the foliage is very attractive. ED.]

LÆLIA PUMILA ALBA VAR. (*E. Ashworth*), *n. var.*

This is a true albino of the plant known in gardens as L. præstans, and of which a variety with white sepals and petals, and with a labellum coloured purple on the anterior part, appeared with Mr. Wm. Bull in 1889, and was named L. præstans alba; and hence the varietal name for the present form in order to distinguish it.

In recording it but little need be said but that it is a snow-white form, with no other colour in any part of it save a chrome-yellow tinge extending from the base to the centre of the lip. In fact, it is a beautiful albino of precisely the same nature as Cattleya intermedia alba (Parthenia). It flowered with D. B. Rappart, Esq., The Promenade, Liscard, Cheshire, at whose request the distinguishing name is given, as the main portion of the plant has passed into the famous collection of Elijah Ashworth, Esq., Harefield Hall, Wilmslow, Cheshire. *James O'Brien.*

* *Erythrea armata*, S. Watson, in Watson's *Botany of California*, ii. (1880), 212: "Taller and more graceful than the last (E. edulis), 40 feet high; leaves glaucous, the petioles narrower, more concave above, and margined with numerous stout, more or less hooked, slightly-spreading spines; folds, thirty to forty, split nearly to the middle on both edges, scarcely lanceolate at the apex, and but slightly filiferous; branches of the panicle more slender; carpels densely tomentose; fruit smaller, 9 lines long, the seed half an inch in diameter; embryo at the base *Brahea (?) armata Watson*."

ORCHID NOTES AND GLEANINGS.

BOTANICAL ORCHIDS AT TRING PARK.

IN the extensive collection of rare Orchids of botanical interest, formed by the Hon. Walter Rothschild at Tring Park, Tring (gr., Mr. E. Hill), a large number of pretty and interesting things can always be found in flower, but at no season of the year is their beauty so appreciable as at present, when, among the showy species there, the unrivalled Dendrobium Phalænopsis Schroderianum is the only thing in flower in quantity. A group of excellent varieties of these have for a long time adorned the entrance to one of the large houses, and a handsome picture they make, with that kind of beauty which can be taken in at a glance; but for diversity of form, quaintness of colouring, and marvellous structure, interesting to examine closely, and attempt to divine the meaning of, the species generally known as "botanical" have decided advantages.

Of the many Bulbophyllums now in flower, the gigantic B. grandiflorum, with its extraordinary hooded whitish flowers, exquisitely netted with yellow and brown, and which was illustrated in the *Gardeners' Chronicle* from Sir Trevor Lawrence's plant, April 6, 1895, p. 429, is one of the most extraordinary species. Among other singular species in flower are Bulbophyllum Dearei, a very showy flower; B. micranthum, Hook. f., with graceful racemes of bright purple flowers; the white B. hirtum and B. auricomum, a very curious Bulbophyllum from Sierra Leone, with stout scape, and head of conspicuous bracts at the top, from which proceed, two or three at a time, some remarkably-formed flowers with black, hairy labellum; two or three forms of that pretty species known in gardens as B. umbellatum, and the allied B. maculosum.

Among the Cirrhopetalums, the noble C. Rothschildianum, by far the handsomest species (illustrated in the *Gardeners' Chronicle*, Nov. 23, 1895 p. 609), is again sending up its showy flowers; and C. ornatissimum, C. Macræi, C. picturatum, and others are in bloom.

Among the Catasetums, of which there is here a grand collection, are in bloom C. Bungerothi, C. macrocarpum, and the hybrid between the two named C. × splendens; several forms of the pretty and variable C. fimbriatum, differing not only in the colour but in the odour of their flowers—one having the perfume of Aniseed, and another that of the leaves of zonal Pelargoniums. Others in flower are Catasetum purum, C. Imschootianum, C. albo-roseum, C. callosum, C. Christyanum, and two or three fine species not yet determined.

The cool house has a very complete collection of Masdevallias, Pleurothallis, Restrepias, &c.; and in bloom were noted charming specimens of the singular beetle-like M. gemmata, M. nidifica, and M. gibberosa; the dark purple M. calura, M. Carderi, M. Gaskelliana, M. Reichenbachiana, M. peristeria, M. torta, M. ionocharis; the mossy-stemmed M. muscosa, whose lip closes like a trap on being irritated; M. erythrochæte, M. Davisii, M. × Courtauldiana, M. × Measuresiana and M. × Hincksiana, besides many of the showier but more common species. With these were charming plants of Restrepia antennifera, varying much in the quality of their flowers. One very large form had golden-yellow flowers, spotted with reddish-purple—far superior to the ordinary variety; R. elegans, R. striata, Pleurothallis rhombipetala, P. elachopus, and other Pleurothallis, Octomerias, &c.

In the warmer houses the numerous plants of the scarlet Habenaria militaris, which here grows and propagates with the greatest ease, make a fine show; and H. carnea, H. nivosa, and the large H. Suzannæ; also Dendrobium bracteatum and D. b. album, D. antennatum, Hartwegia purpurea, a yellow Spathoglottis, a very interesting lot of Erias and Polystachyas, Koellensteinia graminea, and the handsome Chondrorhyncha Chestertoni, both of which are here almost perpetual bloomers; the handsome Pescatorea Klabochorum, a good representative of a difficult class of Zygopetalums which thrive at Tring Park;

Zygopetalum (Warscewiczella) marginatum, the pretty pure white Odontoglossum Krameri album, several very bright magenta-coloured Cochlioda vulcanica, and a very handsome supposed new Trichocentrum, with large pure white flowers, having a few blood-red spots.

In a cold frame some of the Disas have been blooming well; also Diuris maculata; and still Caladenia alba is in flower.

The long dry summer seems to have suited the Nerines remarkably well, for one of the houses is filled with their brilliant scarlet heads of bloom.

towards finishing, and the longest pseudo-bulb is 3 feet 11 inches, with a circumference of bulb of 2⅝ inches. No. 2 has many pseudo-bulbs with six growths, the longest 3 feet 2 inches, with a circumference of bulb of 2¾ inches. No. 3 has several bulbs, and the longest growth is 2 feet 8 inches, with a circumference of 2⅞ inches. We have seen pseudo-bulbs quite as long, but never so big as three plants, taking them in the aggregate; and moreover, they are short-jointed, the internodes bulking nearly as much as the nodes themselves, and indicating fulness of inflorescence—as you have been doing! The chances are, when the plants get disturbed by either inserting into larger baskets with more pabulum about them, or if the roots get scraped from the teak-wood, and are carefully dealt with, that the plants might go down; but then to leave well alone won't always do." This is another object-lesson to the best of culturists, that there is no single royal road to success with many of our epiphytal Orchids. *J. A.*

Cattleya Dowiana aurea marmorata.

But twice before have we seen this beautifu



Fig. 74.—Erythrea armata, the blue palm. (see p. 424.)

Dendrobium Wardianum in a Town Greenhouse.

In one of those houses which one frequently sees in the back garden of a tenement, constructed to hold a few Orchids without any pretence to being ornamental, are some unique Dendrobium Wardianum. They were purchased three or four years ago by Mr. John Gillibrand, Leamington Street, Blackburn, and placed in square teak-baskets of about 9 inches square, and there they have grown, as the owner says himself, "he does not know how," getting a little water just as it suited him, when he came back from the duties of the day, and sometimes not. I place upon record the measurements of three of the plants:—No. 1 has numerous pseudo-bulbs with four growths getting quite a sight to look at with their wealth of leaves before the plants wane into a deciduous state. One versed in these things could easily see, as I told the owner himself, that there were "no thanks" to him for what might be called abnormal production. The plants, untouched for three years, suspended from the roof with their pseudo-bulbs hanging down among a nondescript lot of plants, with an earth floor, and that in condition very like the roads outside, according to the weather, and the roots enveloping the teak-baskets, and looking, like long-planted Orchids, dryish-looking and ripened off. "What am I to do with my plants this time after they have flowered?" said Mr. Gillebrand. "That is a poser," answered I; "do

variety. First from the Right Hon. Lord Rothschild's gardens, and then from G. O. Sloper, Esq.; the third specimen is now forwarded by M. Chas. Maron, head gardener to M. Fournier, of Marseilles. It is probably one of the results of the natural crossing of C. Dowiana aurea and C. Warscewiczii, which resulted in C. × Hardyana; but in this case the reversion has been markedly towards C. Dowiana aurea. The noble-looking flower resembles in most respects a fine form of C. Dowiana, but the sepals and petals are heavily marbled with rose-purple, through which the ground-colour of soft nankeen-yellow shows between the veining. It is a handsome variety, and fragrant, like the rest of its class.

The Rosary.

THE ROSE SEASON OF 1896.

Two or three weeks back it looked very much as if this subject should be written of in the past tense, but the recent rains put so much new life into the plants that our Roses once more promised a grand autumnal display. The month of June has not the same proverbial monopoly of Rose blossom as was the case years ago; we now have a grand lot of varieties which continue more or less in blossom all through the summer, and give us a grand display early and late in the season. The old Bourbons, Banksians, Damasks, Gallicas, Provence, and others, seldom bloomed more than once during the season, and that generally at the end of June. The class or section of Hybrid Perpetuals have also been vastly improved in this respect, for if we except a few old favourites such as General Jacqueminot, Alfred Colomb, Charles Lefebvre, Duchesse de Morny, Madame Victor Verdier, Maurice Bernardin, Sénateur Vaisse, and Jules Margottin, there were not many autumnal bloomers of sterling merit in this class forty years ago. The beautiful Teas and Noisettes are grand during every autumn, whether wet or fine, and here we have such a vast choice in the form and substance of blossoms. In a fine and dry autumn, Ernest Metz, Madame Bravy, Comtesse de Panisse, Etoile de Lyon, La Boule d'Or, and others of globular form, will open even better than during the months of June and July, and are a great help to the more single or fewer-petalled varieties that always expand freely.

A notable feature in my Rose-garden is the sudden disappearance of mildew, which had been very prevalent up to the advent of recent showers. I do not remember so sudden recovery from a bad attack before. By the way, it was recently my privilege to see the Waltham Cross Roses, and when in Mr. W. Rumsey's nursery, the most remarkable feature was the absolute freedom from mildew of his new Rose, Mrs. Rumsey. Several hundreds of this grand garden decorative Rose were growing side by side with other varieties, among which I noticed Mrs. John Laing, Queen of Queens, Her Majesty, and Marchioness of Londonderry. These are more than usually subject to mildew, and even Ulrich Brunner was badly attacked, but Mrs. Rumsey was entirely free. I shall have more to say respecting this variety when touching upon the new Roses exhibited this season, but we have none too many varieties so mildew-resisting as this.

Our prospects were particularly good after the mild winter, and I was more than a little surprised to find so much brown pith in the wood when pruning. Several apparently healthy and sound rods, intending for pegging-down, had to be cut away entirely on account of brown unhealthy pith. Nor did the plants in this district break into new growth in nearly so satisfactory a manner as one could wish, owing to the late frosts every morning for some weeks, accompanied by an almost scorching sun by day. The extreme contrast was evidently a great trial to Roses. Upon walls with a south aspect this was not so noticeable, probably owing to the retention of sun-heat by the walls, and its effect upon young Rose growths in this position.

Maggots, and the larvæ of the stem-boring sawfly, were more numerous and destructive than usual, necessitating constant hand-picking during the early part of the summer. Last season I was much troubled with the Rose-weevil, but this season they have been remarkably scarce upon the same ground. The sawfly has been worst upon the Hybrid Sweet Briars, scarcely a single shoot escaping last spring. A few have been attacked throughout the whole summer and long after other Roses were quite free from this pest.

Early-blooming Roses were not good here, and the Reading Show of the National Rose Society was certainly a great surprise to me; the splendid collections of garden Roses, also Teas and H. Perpetuals, being a great treat after those of mid-Sussex at that date. The intensity of colour throughout the show was remarkable, and if we saw no sensational blossoms, the uniform quality and strong competition was most pleasing. As a matter of fact, the number of blooms staged was 3980, or 320 more than at any other southern provincial show of the National Rose Society, Gloucester running it very closely last year. At the metropolitan show, held in the Crystal Palace, there were only 5064 blossoms staged, or 800 less than the average for a metropolitan show, and this, where there are almost twice the number of classes provided at Reading. The Crystal Palace show was not so good in quality as usual, but was by no means the worst we have seen there, although we heard many persons stoutly maintaining such to be the case. So recently as 1893, the number was much less, while the quality could not be compared to those of the present season. Indeed, I doubt if one could have found a stand equal to Messrs. Harkness' seventy-two, which won the coveted trophy this season, had they chosen from the whole of that class in 1893. There were few, if any, prizes unappropriated; nor did many persons compete unsuccessfully, seeing there were sixty-one prize-winners out of seventy-three exhibitors. Scotland, Ireland, and no less than twenty-one English counties were represented here. The performance of the Messrs. Dicksons & Sons, Newtownards, Ireland, was good. To cut Roses at 7 A.M. the day previous, travel over 500 miles with thirteen changes of train and steamer, and then secure 1st honours in all six classes competed for, deserves some comment.

Mr. O. G. Orpen, Colchester, was one of the most successful amateurs, and secured the Harkness Cup (value 25 guineas), not by winning it three times in the aggregate, but consecutively. He also won the Trophy and Gold Medal for eighteen Trees and Noisettes; was 1st for twelve ditto; and well up in several classes. The Northern Exhibition, held at Ulverston, was a decided success, and like the earlier one at Reading, came as a surprise to many, more especially to those who travelled down from London, and were early aware that no Roses had left Colchester, with the exception of a few from Messrs. D. Prior & Son. If we except the Teas and Noisettes, the quality was fully equal to those at the Crystal Palace, and in more than one instance the competition was very keen. Messrs. Harkness & Sons of Bedale, and Mr. Lindsell of Hitchin, have carried off both Trophies offered for nurserymen this season, and the Rev. J. H. Pemberton, Havering-atte-Bower, has done the same in the amateur divisions.

A large number of Silver and Bronze Medals are offered at the various Rose shows of societies affiliated with the National Rose Society, but I will only mention the winning blooms at the Society's own exhibitions. At Reading, Mr. O. G. Orpen secured the medal for the best Tea or Noisette, with a rather loose but large flower of Madame Hoste; a good Kaiserin Augusta Victoria (H.T.) also won a medal for Mr. Orpen for the best Rose other than a Tea or Noisette. The best hybrid perpetual in the trade classes at this show was a superbly-finished A. K. Williams, from Messrs. Harkness & Sons, Bedale; and the best Tea or Noisette, a nice bloom of Maman Cochet, from Mr. B. R. Cant, Colchester.

At the Crystal Palace Show the amateur-medal Roses were (Tea-scented) The Bride, from Mr. O. G. Orpen; and (H.P.) Her Majesty, from H. V. Machin, Esq., Worksop. The trade-medal blooms were Mr. B. R. Cant's Duchesse de Morny, and Messrs. Harkness & Sons' Innocente Pirola. At Ulverston, Her Majesty won for Mr. Ward, and Catherine Mermet for Mr. E. B. Lindsell, Hitchin; the trade winners being Messrs. R. Mack & Son, Catterick Bridge, with Victor Hugo, and Mr. Merryweather, Southwell, with Maman Cochet. The last-named variety secured two of the medals, Her Majesty also doing the same. Duchesse de Morny is the oldest variety of these silver-medal winners, having been brought out thirty-three years ago. Catherine Mermet is also an old variety, the others being introduced between 1877 (A. K. Williams) and 1893 (Maman Cochet). It has not often happened that all of the medal Roses have been good growers and free bloomers, Comtesse de Nadaillac, Horace Vervet, Souvenir d'Elise Vardon, Xavier Olibo, and other magnificent Roses, of but indifferent growth, do not appear once this season. It is also singular that only two of the same varieties won last year, when Her Majesty again secured two medals, A. K. Williams taking one out of the remaining ten medals. All four of the winners at Gloucester last year were either bad growers, or very indifferent Roses to open.

Once more have the hybrid Teas proved themselves a most useful class, and although we cannot say anything fresh of such old favourites as La France and Captain Christy, the best introductions in this class during the last decade are among the most valuable Roses grown, Caroline Testout, Viscountess Folkestone, Augustine Guinoisseau, Kaiserin Augusta Victoria, Marquise Litta, Belle Siebrecht, Clara Watson, Gustave Regis, Madame Abel Chatenay, Madame Pernet Ducher, and more especially Marjorie, having been most beautiful throughout the season. Marjorie is one of the very best light-coloured Roses grown; it is always clear and clean, of good form, and is produced very freely. The colour is white, suffused with clear salmon-pink, deeper towards the centre — a wonderfully useful Rose, both under glass and in the open.

The most remarkable feature among new Roses was the productions from Messrs. A. Dickson & Sons, Newtownards. This firm have many grand novelties in hand, and it once more secured the Gold Medal for a new seedling or sport with H.P. Helen Keller, a Rose that has come very consistently through the past hot season. Remembering such grand varieties as Mrs. W. J. Grant, Mrs. Sharman Crawford, Marchioness of Londonderry, Margaret Dickson, Earl of Dufferin, Jeannie Dickson, Ethel Brownlow, and others that have stood the trial of several seasons, we can look forward to the newer introductions with confidence. Mrs. Rumsey was not put up as an exhibition Rose, but it produces a good proportion of blooms, sufficiently fit for that purpose. I never saw a freer bloomer than this Rose, nor any of a more striking colour; always clear and bright, and with from six to twelve good flowers upon a dwarf maiden plant. Each blossom is carried upon long, straight stems, and the mildew-proof foliage renders it one of the very best for decorative purposes, especially towards the end of the summer, when this madaly is most prevalent.

The cold, frosty mornings early in the season checked growth so much, that eyes from the base of dwarfs started sooner than usual, giving us some grand rods early in the summer upon stiff soils and where freely watered. Those upon La Rosière, General Jacqueminot, Duke of Connaught, Duke of Edinburgh, and others of like habit, flowered well throughout August, when pegged down similar to ripened shoots in the spring, while an ample supply of other rods was made.

A Tea-scented Rose that yearly grows in favour with me is Dr. Grill—one of the first and last to bloom; exceptionally free, in fact always carrying some blooms all through the season. This morning I cut a good bloom with a stem of 18 inches, and upon the same shoot there are still eleven more good blooms that can be cut with equally long stems, and with from five to eight buds around each. It is invaluable for decoration, exquisitely scented, and of a beautifully clear coppery yellow in the centre, melting off to clear rose at the edges. I cannot close these few rambling notes without mentioning the Hybrid Sweet Briars. The cold weather did not affect these, nor did the dry summer check growth to the same extent as in many other varieties. They have been a valuable addition to the Rose garden from the time their first leaves expanded. One can tell at once when within the neighbourhood of these sweet-foliaged plants. There are three forms in which they surpass other single Roses: as tall standards they droop over, and are a grand sight; they make the finest and stoutest of hedges three seasons after planting, reaching from 12 to 15 feet high, and as far through; they are also grand as specimens upon the lawn, but should never be planted with other Roses, nor grown under glass.

A. Piper, Uckfield.

PERESKIA BLEO.

Pereskias differ from all other Cacti in having a shrubby habit, cylindrical stems, large fleshy Laurel-like leaves, and a paniculate inflorescence. They are most nearly allied to Opuntias, which also have true leaves, borne on the young joints of the stems, that fall off at an early stage, except in the case of O. subulata, the leaves of which are persistent. But a Pereskia bears no resemblance to an Opuntia, and still less to any other Cactus; it is much more like a Gooseberry-bush, and one of the species, P. aculeata, is known as the West Indian or Barbados Gooseberry. There are about a dozen species, and the largest of them is P. Bleo, of which an illustration (fig. 75) appears, prepared from a large specimen which flowers annually in the Succulent-house at Kew. Here it forms a stout branching shrub about 10 feet high, the stoutest stems 3 inches in diameter, with green, shining bark, and large cushions of rigid, sharp spines, 2 inches or more in length. The leaves, which are borne thickly on the branches, are ovate-oblong, from 3 inches to 6 inches long; the flowers are 2 inches in diameter, and consist of a regular circle of rosy-red petals, with a cluster of whitish stamens; they remain fresh on the plant several weeks, usually developing in the autumn, but appearing all through the summer on well-grown plants. It is a native of Colombia. P. aculeata also forms a scandent shrub at Kew, and blooms annually, the flowers being in terminal panicles, each 2 inches across, white, tinted with rose, the stamens orange. This species is generally grown as a stock on which to graft Cactus Epiphyllum, but P. Bleo is stouter, and is in every way better for that purpose, the stems of P. aculeata being too slender to carry large heads of Epiphyllum.

The development of the spines of Pereskia is peculiar. In all other Cacti the spines are largest and most abundant on the younger parts of the plant, the older woody parts being either spineless or much less spiny than when they were younger. In Opuntia, for instance, there are few or no spines on the old stems of even such spinesent species as O. horrida and O. nigrescens; and this is the same in Cereus, Echinocactus, &c. In Pereskia the contrary is the case. Thus, in P. aculeata, the younger branches have only short spines in pairs in the leaf-axils, but very old stems are clothed to the ground with cushions of spines fixed firmly in the bark, each cushion composed of from twenty to fifty spines 1 inch or more in length. From two to six new spines are developed in the centre of each cushion annually, and as the old spines remain firmly attached, the cushions become quite formidable. It would be impossible for an



Fig. 75.—Pereskia Bleo: petals rosy-red, stamens white.

animal to climb the stem of an old Pereskia. In P. Bleo this character is even more striking. The fruit of Pereskia is a fleshy berry, something like a Gooseberry, and covered with clusters of short bristles. It is yellow when ripe and edible, being used for making preserves in the West Indies. The leaves of P. Bleo are said to be eaten as salad in Panama. *W. W.*

PHYSICAL PROPERTIES OF BORDEAUX MIXTURE.

When a moderately diluted milk of lime is mixed with a solution of copper sulphate which is not too dilute, an abundant precipitate is at once formed. Microscopic examination reveals the interesting fact that this precipitate is largely made up of precipitation membranes, often in the form of small cells. The membranes are exceedingly thin, and doubtless this is the cause of the precipitate being very bulky and slow in settling. Besides the bluish membranes, there is usually an amorphous granular precipitate, partly adhering to the membranes, and partly free in suspension in the liquid. The precipitation membranes that are closed show very curious phenomena of growth. The membrane breaks at some point, probably because of pressure from within, and as the solution pours out of the break a new membrane is at once formed, inclosing the liquid a second time. This process is often repeated several times, until finally the cell either collapses or the composition of the liquid it contains becomes the same as that without. The great majority of the membranes seen in the freshly prepared mixture are not closed. This is probably because the calcium hydroxide solution is necessarily very weak.* Frank Schwarz † states that copper acetate solution of 0·5 per cent. or less and potassium ferrocyanide of 0·4 per cent. or less give no complete cells. Even where a strong solution (8 per cent.) of copper acetate was used, a 0·4 per cent. potassium ferrocyanide solution gave no homogeneous membrane. It is very advantageous that the solution of calcium hydrate cannot be made more concentrated, since it tends to prevent the formation of thick and difficulty permeable membranes, such as often occur where two very strong solutions are mixed.

The writer has found that Bordeaux Mixture prepared from diluted solutions settles more slowly, and the chemical action also seems to be accomplished more quickly. This, it is believed, may be because in a dilute solution fewer closed cells are formed which serve to delay the reaction. It is especially disadvantageous to use lime containing coarse granules, for when once inclosed in a precipitation membrane the process of solution and precipitation is greatly delayed. The attention of the writer was first drawn to the matter when attempting to prepare Bordeaux Mixture neutral in reaction. Some poorly-slacked granular lime was used, and it was found in a number of cases that after standing twelve to twenty-four hours the mixture became distinctly alkaline, although neutral when prepared.

Some precipitation membranes are impermeable to various solutions. It is not known, however, to what extent the membranes formed in Bordeaux Mixture are permeable to calcium hydroxide or copper sulphate, and the subject offers a promising field for research.

In any attempts to make a mixture similar to Bordeaux, but using potassium or sodium hydroxide instead of lime, the effect of the concentration of the solution on the character of the precipitation membranes would be much greater, since these hydrates are easily obtained in very concentrated solutions.‡

It is probable that the freshly precipitated copper hydroxide is in the colloid state, and contains much water. This would increase the bulk, reduce the specific gravity of the membranes, and greatly impede settling. To account for the changes undergone by the mixture on standing, it seems necessary to assume that the molecules in the membranes are in a labile arrangement. The extremely bulky nature of the fresh precipitate would also be explained if it could be assumed that it is distended with imbibed water.

The calcium sulphate is apparently never thrown down as precipitation membranes, but always as minute granules or small crystals. The specific gravity of the hydrated sulphate ($CaSO_4 2H_2O$) is from 2·2 to 2·4.* Because of its low specific gravity, and very fine state of subdivision, it settles slowly.

After standing, very interesting changes take place in the precipitates of the mixture. After a few days, especially if the mixture is agitated occasionally, the precipitates become very much less bulky, and microscopic examinations show that instead of delicate precipitation membranes of $Cu(OH)_2$ and granules of $CaSO_4 2H_2O$, the deposit consists of beautiful, regular, and good-sized crystals. In many cases the copper hydroxide is in the form of splendid blue sphærocrystals, while the gypsum is usually in twin crystals. It has puzzled the writer to account for the formation of crystals of copper hydroxide, since it is almost absolutely insoluble in the fluid in which it is suspended. However, it is thought that the fresh precipitate in its colloid condition imbibes a considerable quantity of water without dissolving, and may allow the molecules sufficient lability to enable them to rearrange themselves in the form of crystals.† As to the increase in size of the crystals of gypsum, all the writer can suggest is, that as the solution cools after being warmed by the heat liberated in the double composition, it becomes saturated, and still more gypsum crystallises.

When sprayed upon the foliage, the drops of Bordeaux Mixture soon begin to show crystals. A pellicle of calcium carbonate quickly forms, and as evaporation proceeds, calcium sulphate, and probably some calcium hydrate crystallise. As long as wet, and whenever wetted with rain or dew, the neutralisation of the caustic lime proceeds rapidly. This also doubtless takes place slowly when dry, especially if the air contains any moisture. Eventually all the calcium hydrate is changed to calcium carbonate, the length of time required to effect the change varying from a few hours to a few weeks, according to the amount of excess of lime used in making the Bordeaux Mixture and the state of the weather. After this when wetted with rain, the carbonate is gradually dissolved away, and finally all traces of the mixture disappear.

Adhesive Properties of Bordeaux Mixture.

One of the conditions necessary to the success of a preventive mixture like the Bordeaux is, that it must adhere well, so that neither wind nor rain can easily remove it.‡ When properly prepared, Bordeaux Mixture has adhesive properties that are truly remarkable, though, according to Girard * several other copper mixtures adhere still better.

Before the evaporation to dryness of the drops of the mixture, a number of factors come into play that have an effect on the sticking qualities of the spray. In the first place, the tendency of the liquid to collect in drops and fall from the leaf may prevent the surface from being evenly wetted, and also prevent any considerable amount from drying on the leaves. As far as can be judged from our present knowledge, the principal copper salt present in Bordeaux Mixture is copper hydroxide $Cu(OH)_2$. As already mentioned, this salt is said to be entirely insoluble in the presence of calcium hydroxide in solution. After the neutralisation of the calcium hydroxide, the rain, containing CO_2, ammonia, and nitrates, can act on the copper and effect the solution of small amounts. In 1887 Millardet and Gayon † published the record of an experiment bearing on the solubility of copper salts in Bordeaux Mixture. This is such an interesting article that we quote from it the following :—

"On April 10 the following types of the mixture were prepared :—

Mixture.		No. 1.	No. 2.	No. 3.	No. 4.	No. 5.
Copper sulphate (grammes)		16	15	15	15	15
Pure lime ...	„	3·36	3·36	6·72	13·44	26·88
Distilled water	(litre)	1	1	1	1	1

"As may be seen, in No. 1 there is 1 gramme of copper sulphate in excess. No. 2 contains exactly the quantity of lime necessary to precipitate the copper sulphate. Tests made immediately after its preparation showed that there was no excess either of lime or of copper sulphate. No. 3 contains twice as much lime as No. 2, while No. 4 contains twice as much as No. 3. Finally, No. 5, which is the formula in common use, contains twice the quantity in No. 4. These five mixtures were dried at once in a desiccating oven at 36° C.; then the products were pulverised in a mortar. Ten grammes of each of the mixtures were spread in a thin layer between two Berzelius papers, supported below by a fine silk gauze, and were laid thus over five glass dialising jars having equal-sized mouths. The necessary precautions were taken to prove whether the paper and the gauze were capable of absorbing any considerable amounts of copper. *Extract from "Bulletin No. 9, U. S. Department of Agriculture."*

(To be continued.)

FORESTRY.

DRAINING WOODLANDS.

Few cultural operations are more beneficial than draining is on wet land, and few the neglect of which do more to prevent a healthy growth taking place in trees. A water-logged soil is fatal to all but swamp-loving plants, and the best soils may be rendered infertile by an excess of moisture. The advantages of draining arable land are not merely confined to the improved mechanical or physical condition of the soil, but also to the increased length of the growing season, by which plants are able to make more use of the materials placed at their command. Practically the same advantages are gained by draining plantations, for although the maturing of the seed of timber-trees may not be such an important matter as in the case of cereals, yet the maturity or ripened condition of the season's woody growth is equally requisite if timber of good quality be desired.

There is a popular belief that when once the trees in a plantation have made a fair start, further attention to the drains is unnecessary, as the roots of the trees have a tendency to dry the soil, and prevent

* See table of solubility in future article.

† Schwarz, Frank. Die morphologische und chemische Zusammensetzung des Protoplasmas; 28 Fällungserscheinungen und künstliche Strukturen (Beiträge zur Biologie der Pflanzen, herausg. v. F. Cohn, 5, II. 1, p. 147).

‡ The writer would suggest that the difficulty experienced by chemists in washing out the alkali from precipitated copper hydroxide may be due to the formation of cells having a thick membrane, and imprisoning the alkali. Possibly the difficulty might be avoided by using more dilute solutions in precipitating.

* Biedermann, R. Calcium, Ladenburg, Handwörterb. d. Chem., 2, p. 442.

† Schwarz, Frank. Die morphologische und chemische Zusammensetzung des Protoplasmas (Beiträge zur Biologie der Pflanzen, herausg. v. F. Cohn, Heft. 5, I, pp. 140–154). The changes occurring during the slow growth and on the standing of precipitation membranes of copper ferrocyanide and other compounds are described and illustrated. In a number of cases a gradual growth of very small granules or crystals within the membrane is described, and some such changes are figured.

‡ The addition of soap to Bordeaux Mixture to increase the adhesive or wetting capacity was first made in this country by Mr. B. T. Galloway, when trying to find some spray capable of wetting the very waxy young leaves of various cereals (see experiments in the treatment of rust affecting Wheat and other cereals, Jour. of Mycology, vol. vii., No. 3, 1893, p. 202). The addition of a considerable amount of soap greatly increases the tendency of the liquid to spread, instead of contracting to form large drops. A relatively enormous quantity (as much or even more than the amount of copper sulphate used) has to be added to secure this result. The chemical changes involved are almost entirely unknown. It is probable, however, that the whole of the calcium sulphate must be thrown down as an insolvent lime soap, before the soap can yield a lather with the water. As the calcium sulphate is but slightly soluble, it it possible that even after a lather has formed from the sudden addition of a large amount of soap, it may continue to dissolve and precipitate the soap in solution, and eventually cause the improved wetting effect due to the soap to disappear.

* Girard, Aimé. Recherches sur l'adhérence aux feuilles des plantes, et notamment aux feuilles de la pomme de terre, des composés cuivriques destinés à combattre leurs maladies (Compt. Rend., 114, No. 5, 1892, pp. 234–236).

† Millardet et Gayon. Les divers procédés de traitement du mildiou par les composés cuivreux (Jour. d'Agr. prat., 51e ann., T. I., No. 2, May 19, 1887, pp. 701, 702).

further stagnation. How far this belief is justified by facts, however, it is difficult to say. That tree-roots absorb large quantities of moisture from the soil goes without saying; but so do the roots of any thick and fast-growing farm crop during the growing season, and we have no reason to believe that the latter have any appreciable influence in drying the soil for any length of time. No doubt the penetration of the soil by the tree-roots renders the surface more porous and permeable by moisture than would otherwise be the case; but this influence cannot extend to any great depth. Probably the absence of all superficial signs of stagnation account for this more or less widespread belief. When once a humus layer has accumulated on the surface, all, or a great deal, of the stagnant moisture is either absorbed by it, or lies immediately below it, and a comparatively dry footing exists at all but very wet periods. But if a hole be dug, or a tree uprooted by the wind, the true state of affairs is soon seen by the water quickly collecting. In fact, this humus layer rather aggravates the evil by checking evaporation, and giving rise to various organic acids, which are exceedingly injurious to the roots of many trees. The "pumping" of Larch and Scotch Pine stems, due to the infection and decay of the main roots, and which subsequently extends to the bole, is mainly caused by this acidity and lack of aëration of the soil, and the havoc caused by gales on flat moory soils may also be traced to the same circumstances. In all such cases, draining is the only sure cure, or preventive measure, although it requires careful consideration whether the crop to be grown will pay for the operation. The distinction between stagnation, and water as passing through the soil, should always be noted. Some species, such as Spruce and Larch, like healthy moisture; others, such as the Alder or Birch, will thrive in a bog, and consequently the amount of draining necessarily varies with the species of tree to be grown. As a general rule, the tree is chosen to suit the situation, and not the situation to suit the tree, therefore the amount of draining required is reduced to a minimum, being chiefly confined to the removal of stagnant water, and the tapping of springs. Any extensive drainage system, such as is common on agricultural land, is certainly out of place in an ordinary plantation, that is, if the expense of cultivation is to bear some relation to the value of the crop cultivated. A great deal depends, of course, upon climate and rainfall. In a warm climate less draining is necessary than in a cold and humid one. In the former, moisture favours the growth of trees; in the latter a wet soil usually causes infertility. It sometimes happens that draining has to be performed after a plantation is some years old, either through neglect at the time of planting, or owing to an impervious layer of soil preventing the desired percolation of moisture beyond a foot or too below the surface. This is sometimes considered a risky business, the sudden removal of the water being likely to lead to bad results. A peat-bog, after being drained, subsides to a considerable extent, and the surface-roots of any trees growing in it are in pretty much the same position as a man who had been rescued from a watery grave would be if abadoned in a sandy desert. In such a case it is quite conceivable that draining may do a certain amount of harm; but whenever the soil is sufficiently solid and dense to retain its capillary power and former bulk, little fear need be entertained as to the ultimate result of judicious drainage. *A. C. Forbes.*

PERCRISTATE FERNS.

In the entire range of foliage plants there is none which for delicate and extreme elaboration of ornamental detail can compare with those forms of Ferns known to the initiated as percristate—i.e., crested throughout. With the numerous heavily-tasselled forms of the Pteris family most people are familiar—because they are so easily raised, and come so true from spores that nurserymen are enabled to put them on the market by wholesale. Tasselled Maidenhairs are also not unfrequently seen for the same reason, and if we examine many conservatories and greenhouses where amateurs give Ferns a prominent position, we shall find specimens of various other species—Davallias, Microlepias, some exotic Lastreas, and so on, with the peculiar faculty of cresting or tasselling developed very prettily. In all these, however, this tasselling is confined to the tips of the fronds and the tips of the side divisions, or, at any rate, it is rare to find the tertiary divisions showing any sign. In the true and thorough-bred percristate varieties, however, these tertiary divisions or pinnules are unmistakably and symmetrically "fanned" out or tasselled, so that instead of, as in a merely cristate form, a terminal tassel and a score or so of lateral ones constituting the character, the side divisions are built up of two exquisitely-beautiful rows of smaller crests, adding immensely to the charm of the individual frond, and the plant as a whole. Now it is a very extraordinary fact that, despite the immense number of exotic species of Ferns which have been introduced into this country, and the large number of varieties which have originated from these under culture or more rarely as imported wild finds, we are not aware that a single thoroughbred percristate form figures among them; that is to say, such perfect forms as exist among our British varietal Ferns, as we shall presently show. Another remarkable point is, that these extreme forms are not, in most cases, the result of selective culture, but were found in full perfection in a wild state. Among the Shield Ferns, Polystichum angulare to wit, there is Mr. J. Moly's find, known as cristata gracile, a perfect gem of neatness, of which similar types, but in every case distinct ones, have been found by Dr. Wills, Mr. Gray, Mr. Cowper, and others. In all these the usually sharply-pointed pinnules of the species are delicately "fanned"-out into slender numerous teeth at the expense of the tassel at the tip of the frond, which is small. It is, however, amongst the Lady Ferns (Athyrium filix-fœmina) that we must naturally seek for Dame Nature's best efforts—nor shall we be disappointed. The form known as A. f.-f. Elworthi is perfect in type, being heavily tasselled, perfectly symmetrical, with the pinnules bearing well-developed, fan-shaped tassels. This was found near Nettlecombe. A form found by the late Mr. James in Guernsey, known as A. f.-f. corymbiferum Jamesi, has the same character, but the large crests are much heavier and denser. A. f.-f. percristatum consens originated as an accidental seedling at Wanstead, and is therefore not precisely a wild find, though it is not the result of selection. This is the most perfect form we know of, the pinnules being long and slender, with a distinct tassel, and not a fan-shaped expansion as in the previous forms. Its seedlings vary in the extent of the cresting, but are all percristate, and as some of them tend towards A. f.-f. corymbiferum Jamesi, that is a possible origin for it. For the most advanced types of this class in this species we must, however, look to the setigerum or bristly section, the original uncrested plant of which there was found by Mr. Garnett in Lancashire, a beautifully divided variety, in which the usually plain edges of the divisions are densely cut into bristle-like projections. The spores of this, strange to say, invariably yield a good percentage of crested forms, many, or most of which, revert in time to the uncrested state, either wholly or partially. Some, however, have proved constant in themselves, and partially so in their progeny, the ultimate result being a number of peculiarly beautiful forms, with the percristate character so marked that the pinnules are simply bristly tassels of bewildering fineness. Finally, in this connection we have some of the plumose superbum sports of this family, wherein percristation is "going one better," as it were, and the pinnules, or fourth divisions, show the fanning-out distinctly.

It is a well-recognised fact that in all Ferns, the divisions and sub-divisions are almost invariably sub-forms of the frond itself, and display the same character, so far as the smaller grade of development permits: hence, as a rule, a robustly grown well-crested Fern will display more or less evidence of a cresting tendency in its smaller divisions. And we find the same thing to occur with other varietal types, truncate fronds bear truncate pinnæ and blunt pinnules and so on; but to be a true percristate Fern as the connoisseur understands it, there must be no half-and-half measures about it, no mere tendency, but a distinct and unmistakable cresting throughout, even in the small plants—and this is so rare a feature, though, as we have seen, it exists in perfection in several of our British species, that no true Fern collector should be without one or more specimens of the best of them. Their delicacy of structure does not mean delicacy of constitution, they are as hardy as the common forms, though ten times as beautiful, and their culture is of the simplest; and yet, just as a prophet has no honour in his own country, these gems of native beauty find no place in countless ferneries where exotics by the thousand rule the roast, and cause far more trouble and expense with lesser returns. *Chas. T. Drucry, F.L.S.*

BOOK NOTICE.

MANURES: SOIL NITROGEN, AND ITS NITRIFICATION.

These subjects, which are so intimately associated with all successful plant-culture, have been very helpfully treated by the able pen of Professor M. P. P. Dehérain in a treatise of 220 pages.*

The author in the first part of his work considers the question of manures, and states that while farmyard manure remains the foundation of all plant-food supplies, yet the past few seasons of drought have taught some very practical lessons from the fact that owing to the reduced growth of forage crops on the farm, and the consequent reduced production of animal manure, the farmer had necessarily to turn his attention more to artificial manures with which to grow his crops; and also to the introduction in his rotation of those crops which have the power of assimilating from the atmosphere and from the subsoil the nitrogenous plant-food which, if purchased in the market, would be a considerable item of cost.

The author calls attention to the fact that during the past thirty years the discoveries of deposits of natural phosphates and of crude potash salts have caused to be placed upon the market almost unlimited amounts of these materials, and the resources appear to be almost inexhaustible, so that the cultivator will have no lack of an abundant supply of mineral plant-food. While, on the other hand, guano from which the nitrogenous plant-food has in times past been so largely drawn, is now nearly, if not quite, used up. Nitrate of soda, which was formerly declared to be a mere manurial stimulant, is now generally acknowledged by all practical cultivators to supply nitrogenous plant-food of the most concentrated and direct kind, its action being wholly a feeding one. The deposits of nitrate of soda are immense, and distributed over vast areas of country. The late Charles Darwin stated that the greater portion of the southern countries of South America consists of soils containing nitrate of soda. He found that one deposit extended to about 150 miles in length, and from 2 to 3 feet in thickness. The author, however, advises the farmer and the horticulturist to be prepared for the final exhaustion of these beds, immense though they be. And further, as the manufacture of sulphate of ammonia will from hygienic progress be shortly rendered impossible, we must look forward to a time when we shall be deprived of these two powerful agents of soil fertility. From whence then shall the cultivator of the future derive his supplies of nitrogenous plant-food? This question is answered in the second part of the work.

Forms of Nitrogen in the Soil.—Nitrogen occurs in the soil under several different conditions, and is derived from varied sources. As a part of the soil-air, it exists as free nitrogen where it is essential to the

* Paris: Rueff et Cie., Editeurs, 106, Boulevard Saint-Germain.

life of certain microscopic forms which seize upon it and render it available to higher plants. Temporarily and in transition stages, nitrogen occurs in the soil as ammonia and as nitrous acid, but these forms pass rapidly into nitric acid from which most of the higher plants derive their chief supply. By far the larger part of the nitrogen of soils is, however, stored in the form of humus, and this through the processes of fermentation and of nitrification is gradually made available to plants in the form of nitric acid. The roots of growing crops and of vegetable products incorporated with the mould contributes no small amount of material to the stores of organic matters in the soil, a part of which is converted into humus, but the plants whose roots leave in the soil the largest amounts of nitrogen are those belonging to the Leguminous family, such as Clovers, Beans, Peas, Lupins, &c.

Sources of Soil Nitrogen.—The author says, in asking from whence comes the nitrogen of the soil? we raise one of the most important questions of practical culture, and one which to-day is taxing to the utmost the skill of many very able investigators.

In the greater number of ordinary soils the proportion of both carbon and nitrogen become less and less as we penetrate below the surface, consequently these substances must have had their origin in vegetation which had once grown upon the surface. Some soils which are called alluvial possess a subsoil-fertility which appears to have been a deposit derived from the remains of vegetation washed from other soils. Fertility of soils is, therefore, due to the organic residue of previous generations of plants, mixed with certain mineral substances, the most important of which are the phosphates and potash.

The soil, then, is the medium in which the conversion of any form of nitrogenous compounds, whether animal or vegetable, into ammonia and nitric acid is effected; this is partly absorbed by the plants, partly fixed by the soil, and partly also, if opportunity offers, carried away by running water. The action of the soil, however, does not stop there! multitudes of living and active organisms, constantly present in it, transform with great rapidity the ammonia into nitrate, in which form cultivated plants greedily absorb and convert it to their uses.

Green Manuring.—The author deals largely with the principles of green-manuring, since this practice bears in an important manner upon the nitrogen question, and offers an explanation of some of the statements made in the text. To incorporate great masses of vegetable matter into a soil increases its water-holding power, makes it more porous and richer in humus, and imparts to it certain physical properties which are highly beneficial to plant life and the growth of crops. But we distinguish between two classes of plants: the nitrogen consumers, and the nitrogen producers; the latter possessing the important property of being able to live upon the nitrogen of the air; they produce not nitrogen, nor something that did not exist before, but they convert the non-serviceable free nitrogen of the air into serviceable combined nitrogen of plant and soil. All nitrogen-producers, so far discovered, are leguminous plants, and it is probable that every member of this family possesses this power. Peas, Beans, Vetches Clover, Serradella, and Lupins have in turn been the objects of experiments, and, while much yet remains to be explained, it is now known that we have in nature great numbers of minute microscopic organisms living in the soil, which have the habit of locating themselves upon the roots of certain kinds of plants, and especially those of the leguminous family. These organisms, once seated upon the roots of a plant congenial to them, cause the formation of little enlargements or tubercles, in which they live, drawing nourishment from the plant upon which they have established their home, but in return giving to it compounds of nitrogen which these organisms are able to produce from the free nitrogen of the soil-air.

This living together of the leguminous plant and the adventitious organism for mutual benefit is frequently met with in the vegetable kingdom, and is called symbiosis; it is a purely business relation, and when either host or visitor overtakes and crowds out the other, the death of both results speedily.

We must refer the reader to the work itself for a more complete *résumé* of this important subject, and one that seems likely in the near future to cause a revolution in the practices of the agricultural world, and to a certain extent those of the horticulturist also. *J. J. Willis, Harpenden.*

THE WEEK'S WORK.

THE FLOWER GARDEN.

By HEDLEY WARREN, Gardener, Aston Clinton, Tring.

Shrubberies on Grassy Banks.—Those banks which are steep, and therefore difficult to mow with a machine, might be made more ornamental in feature, if instead of being turfed, they were planted with evergreen shrubs and plants suitable to form undergrowth, and if here and there a mass of rock-work or tree-roots were placed, on which scandent and trailing plants might spread at will. Such an arrangement might include plants of a more or less upright habit of growth, which should be planted at a variety of distances apart. Those best suited for this purpose are Berberis stenophylla, variegated Box, Escallonia macrantha, where not too tender; Cupressus in variety; Juniperus chinensis, Thuia in variety, Hollies, Gynerium argenteum, Mahonia Herveyi, Golden Privet, the varieties of the Yew with yellow variegated foliage; Yuccas gloriosa and filamentosa. Plants suitable for forming undergrowth may include the following: Cotoneaster microphylla and Simonsii, St. John's Wort, Periwinkles, Ivies in variety, and Mahonia aquifolia, Ericas, Honeysuckles, &c. Such an arrangement would have the advantage of taking less labour in the keeping than grass, besides being a pleasing feature.

Climbing Plants for Walls.—These familiar subjects will soon demand attention if new species are going to be planted, or the old plants re-arranged. All new stations should be well manured, and the soil trenched two or three spades deep, as any special pains taken in this respect will aid the plants in getting a good start, and enable them to make rapid growth, and remain in vigour for a number of years. Among plants which cling without assistance, except at the first, are all the species and varieties of Ivy, and Veitch's var. of Ampelopsis (A. tricuspidata the common species does not climb) are the best. Bignonia radicans is another plant that requires but little assistance, excepting when first planted. Wistaria sinensis and the Magnolias are all good plants for covering large spaces. Cratægus pyracantha, C. p. Lelandi, Cotoneaster Simonsii, and C. microphylla are plants whose bright red berries make them desirable plants in the winter season, and should find a place in every collection, the first two especially. Escallonia macrantha, pretty in foliage and bloom, requires a somewhat sheltered position, or to be protected during hard weather. Ceanothus azureus and others, Honeysuckles, Passiflora cœrulea, Roses, Clematis, and many others may also be used with good effect.

Michaelmas Daisies are now at their best, and a few remarks on the best varieties will be of use to many. One of the earliest Asters is linariæfolius, which is a very pretty variety, that continues to flower freely well into October; the habit is dwarf and compact, and the flowers are of a very pretty blue colour. A. Amellus and A. bessarabicus are amongst the most beautiful, and should be included in every collection. A. niveus is a good white variety, and very useful for cutting. A. Chapmani has beautiful large blue flowers, which, when arranged in glasses with autumn coloured foliages, always look nice. A. ericoides has small-sized pretty flowers, white with a yellow centre; and the plant is about 3 feet in height. A. longifolius formosus is a dwarf compact-growing variety about 2 feet in height, producing flowers of a pleasing rosy hue. A. sibiricus is a very distinct-looking plant, growing as a rule not higher than 1 foot, the colour bright lavender; but it varies slightly in different soils. Of late-blooming varieties, there are Asters grandiflorus, lævis, Shorti, and paniculatus. For Asters the easiest mode of propagation is by division of the roots, which may be done as soon as the plants have ceased flowering, or early in the spring, just as they are beginning to move, and in cold soils the latter method is the better one; but in sandy, open soils, autumn division is more suitable. When planting or re-planting Asters, plenty of well-rotted manure should be dug into the soil, and the latter worked to a good depth, for the plants, being gross feeders, they soon exhaust it. In places where a large supply of flower is wanted at this season, Asters should be largely grown.

THE HARDY FRUIT GARDEN.

By G. WOODGATE, Gardener, Rolleston Hall, Burton-on-Trent.

The season for planting most kinds of fruit trees having arrived, all necessary arrangements should be made so that no undue delay may occur when the work is commenced. These preparations may consist of notes of the various varieties, which give the longest supply of the different kinds of fruit; those which are found to do the best in the district; the number of each variety required for making good vacancies, or for forming new quarters of fruit-trees and bushes. Orders for these should be sent to the nurseryman early, in order that the trees, &c., may be received and planted in good time, and while there is some little warmth in the soil to encourage rooting. Trees which are planted just before or as soon as the leaves have fallen make earlier and better growth in the spring, and require much less after-attention than spring-planted ones. Land intended for carrying fruit trees for a great number of years requires good cultivation; it should be deeply trenched, if it will bear it, but in most cases it is better practice to keep the true top-spit still at the top, and trenching and well breaking up the soil beneath it. In process of digging, use plenty of lime-rubble and charred soil and rubbish, if the subsoil is retentive; and unless the soil is poor in plant-nutriment it is better not to add any manure before the planting is done, and then merely as a top-dressing and mulch. Fresh loamy soil should be got in readiness in sufficient quantity to afford a good barrow-load to each tree or bush. A good sort of planting-compost is six parts good turfy loam, four parts old potting-soil, and one part wood-ashes, with a sprinkling of fresh-slaked lime, all well mixed together, and placed under cover till wanted. Most kitchen gardens are well drained, but when fresh land is to be planted, the drainage of the same is a matter of the first importance. In fruit-bearing land the distance between the drains will depend upon its nature, but the depth at which the pipes are laid should not be less than 3 feet, and not more than 4 feet.

Blackberries.—As soon as the fruit is gathered from the plants, the netting, or other protection which may have been used, should be taken off them and thoroughly dried and stored in a dry place, and well out of the reach of mice. Cut away all the old fruiting-wood of the brambles, and tie up a sufficient number of the strongest to take the place of the old ones removed. All weak and superfluous growths should likewise be cut out, and the stools afforded one or two good applications of fairly strong manure-water.

THE ORCHID HOUSES.

By W. H. WHITE, Burford, Dorking.

Hints in Regard to Temperature.—At this season cultivators of Orchids will have to prepare for sudden alternations in the outside temperature, and especially in the early morning hours, when sharp frosts often occur without any warning. The proper method to avert injury to the plants from this cause, is to keep a rather higher temperature whenever a frost is likely to occur. During October the degrees of warmth at night should be—East India-house, 65° to 70°; Cattleya and Mexican-houses, 60° to 65°; intermediate-house, 55° to 60°, the higher degrees being employed when the external air is at about 45° or 50°, but when the thermometer outside nears the freezing-point, the lower figures are preferable. In either case, when banking-up the fires the last thing at night, the gardener should so manipulate the dampers that there may be a fall of several degrees by the early morning hours. If the temperature of the various houses should fall below what is considered right, no water must be afforded to any of the plants, or any damping-down proceeded with, before the temperature has risen to the proper height, as under the circumstances the drier the air of the house the less risk there is of plants getting chilled. The Odontoglossum-house should be kept at about 55°; or in the event of cold weather, at about 50°. Be sure that no plant is very near to the roof-glass, particularly plants of Phalænopsis, Epidendrum bicornutum, Angræcums, Grammangis Ellisii, Broughtonia sanguinea, the tall-growing Cattleyas and Lælias, and especially L. elegans, all of which are irreparably injured if they get in the least degree chilled. The deciduous Calanthes would be safer if they are now lowered 1 foot or further from

the glass, the leaves often becoming spotted and prematurely decayed from this cause. As the pseudo-bulbs of such species of Calanthes are now full grown, and the bloom-spikes pushing up, the regular application of liquid-manure ought to cease. The tips of the leaves are also commencing to turn brown, and although these are unsightly they must not be clipped off, but allowed to remain till decayed naturally, and as the foliage decays so should the amount of water afforded gradually decrease, and by the time several blooms have appeared withheld altogether.

The Intermediate-house.—In this house the plants of Vanda Kimballiana and V. Amesiana are pushing up their flower-spikes, and seeing that both species require but little water in order to keep them plump, very little should be afforded—in fact, the latter should be kept on the dry side, its thick succulent foliage being liable to decay if much moisture be afforded. Strong plants of Cymbidium Lowianum, and C. Lowio-eburneum, on the contrary, now showing their flower-spikes, should be afforded plenty of moisture at the root, and those not yet showing for flower kept rather dry at the root for several weeks longer, otherwise there will be a re-commencement of growth, and a consequent failure of the plant to flower. In the coolest part of this house Cypripedium Spicerianum, C. Charlesworthi, and C. Schlimi usually thrive luxuriantly, and in most cases their flowers will be about to expand. These last a long time in good condition. These three species should be grown by everyone who is an admirer of Cypripediums, their cultivation presenting no difficulties when carried out in a comparatively cool house with abundance of root-moisture afforded at all times. Cypripedium insigne and its varieties are also showing for bloom, and the spikes should be guided up through the strong leaves. Plants of Cœlogyne cristata and its varieties should be encouraged to finish up strongly, for the larger the pseudo-bulbs, the greater the number of the flowers. Abundance of water should now be afforded them till the flower-spikes appear, and then gradually reduced. The different varieties of Miltonia spectabilis, M. Moreliana, M. Bluntii, and M. Lubbersiana, make a very pleasing show at this season. After the flowers of these Miltonias fade, a short season of rest in the coolest part of the house should be afforded the plants, very little water being applied before growth recommences.

PLANTS UNDER GLASS.

By Jno. McIntyre, Gardener Woodside, Darlington.

Primula sinensis.—The earliest batch of plants soon coming into bloom should receive a shift into pots sufficiently large for them, small though they be; three and four pegs 1½ inch long, either before potting or directly it is done, should be placed round the short stems of the plants to steady them, as if this be not done, the plants in handling are apt to break off at the collar. It is a good practice, when the final re-potting is performed, to surround the stem just at its junction with the soil with small bits of charcoal, which serve to absorb moisture at a point at which the plants are liable to damp-off even when most carefully afforded water. The succession plants, if large specimens are required, should also receive a final re-potting, 7 or 8-inch pots being the sizes chosen; which, excepting for exhibition plants, are sufficiently large. Primula sinensis, when finally re-potted into 5 and 6-inch pots, are more useful for ordinary purposes than when the pots and plants are larger. After this date all the stock of plants of Primula sinensis should be housed in a greenhouse or Peach-house, placing them near the glass. It is of great importance that the plants are placed where they are free from drip and damp, and there is good ventilation.

The Houses.—In October all glasshouse-roofs should be thoroughly washed outside, in order to remove all matter that will obstruct the light. Some gardeners never wash the outside of the roof, depending on the rain to do this, but it is certain that at the end of autumn there is sure to be a great amount of accumulated dirt upon it, which renders the glass to a certain extent impervious to light. At Woodside this job is regarded as a most important one.

Small Edging Plants for the Plant-stages.—There is still time to propagate those dwarf or creeping plants used for edgings of all sorts, namely, Selaginella denticulata, S. Mertensii, S. M. variegata, S. apoda, &c, Oplismenus Burmanni, Tradescantias, Ficus repens, &c. These small plants, if fresh looking and healthy, are of much use for indoors decoration of all kinds, and one can scarcely have too many of them, hence the need to be always raising fresh stock.

Winter-flowering Species of Begonias may be classed with winter-flowering stove-plants, requiring, as do these, a little extra attention at this season. These species of Begonia, when well done, afford quantities of cheerful-looking flowers, useful for cutting, often fragrant; and the plants, if planted out against the walls of the stove or warm conservatory, afford bloom abundantly.

Gardenias should be afforded a warmth of 70° by night, and 75° or a little more by day, which will cause the plants to grow freely and set their flower-buds. To keep them free from aphis and mealy-bug, dip them overhead in soapsuds made with soft-soap, and having a warmth of 90°; to kill mealy-bug, adding petroleum at the rate of one wine-glassful to one gallon of soapsuds.

FRUITS UNDER GLASS.

By W. Porr, Gardener, Highclere Castle, Newbury.

Earliest Pot Fig Trees.—As soon as the leaves fall, the required amount of pruning of the shoots should be performed, and the trees washed with warm soapsuds; and if scale or red-spider have been noticed on the trees during the season, let them be dressed with a solution of soft-soap at the rate of 4 oz. to 1 gallon of hot-water, and half a wine-glassful of petroleum, all being well mixed together. Apply this with a soft brush to every part of the tree, being careful, however, not to damage the embryo fruits. If repotting be necessary, there should be no delay in doing it. The plants being turned out of the pots or tubs should have some of the soil taken from the sides of the ball, the roots shortened, and then be repotted into slightly larger pots or tubs. If, as is the case in process of time, the largest size of pot desirable has been reached, the annual repotting may be varied by picking up the surface soil, going as far down as it can be conveniently got at, shortening the roots thus laid bare, and filling with fresh soil rammed firmly together. It is, however, advisable, say, every third year, to turn out the trees, reducing the roots slightly in length, and more especially those at the bottom, and repotting in the same pots or others of the same size. Let the drainage be thoroughly overhauled, it being very important that the water passes freely away. The soil employed in potting Figs should consist of four parts good yellow loam, one part mortar rubbish, a small portion of well-decayed rich manure, and a sprinkling of crushed bones.

The Earliest Peach-house.—The trees being at rest, the house should be kept cool and airy at all times; and if the top lights are removable, they should be taken off, and the house kept in this state till the time arrives for closing it. The recent heavy rainfall will obviate the need of watering any of the borders that are fully exposed for some time to come, but where the roof lights are not removable, care must be taken that the borders do not lack moisture at this season, affording also liquid-manure to old, healthy trees which are becoming weak from age, or from being heavily cropped, and even the fully exposed wall-trees will be benefited by manure-water, provided the drainage is good. The liquid-manure, when applied whilst the trees are at rest, will not need diluting with clear water. If the pruning of the trees has not been done, no time should now be lost; dressing them afterwards with an insecticide, securing the branches and shoots to the trellis, and putting the house in proper order for forcing.

Second Early and Mid-season Peach-houses.—Trees requiring to be lifted should be seen to before the leaves fall, especially young trees inclined to make gross growth. Once fruitfulness is attained, excess of growth is generally arrested for some years. The operations of tree-lifting should be rapidly performed, so as not to expose the roots longer than necessary. Mutilated roots should be cut away cleanly with a sharp knife, also such of them as may have gone deep into the soil, bringing the latter nearer the surface, and laying them in fresh soil. During the work of replanting, make the ground thoroughly firm, affording a good watering, and a mulching of short manure.

THE KITCHEN GARDEN.

By Charles Herrin, Gardener, Dropmore, Maidenhead.

Late Potatos.—The first opportunity should now be taken of dry weather to lift the tubers of Potatos still remaining in the ground, nothing being gained by their being left any longer in the soil. If the tops are vigorous, cut them off, and place in a heap with some combustible materials and burn them forthwith, and proceed with all expedition to lift the crop. When dug out, the tubers should remain on the surface an hour or two to dry, most of the soil adhering to the tubers then falling off, and they can be stored in a clean condition. It will simplify the storing if the tubers that are suitable for consumption be gathered up first, leaving the small ones and those fit for planting purposes to be gathered up afterwards. Where a cool, roomy root-store exists, which is constructed partly underground, this is the best place for storing Potatos, as here they can be turned over and examined by the men in bad weather as occasion may require, and diseased or decaying tubers removed. Potatos from a store of this description taste better than do those taken direct from a pit or clamp. The latter must, however, in many gardens be used in lieu of better accommodation. The clamp should be located in some shady, dry spot; and in making it, a commencement should be made by throwing out the earth to the depth of 1 foot, and width of 3 feet, the length being determined by the quantity of tubers to be stored in it. The bottom and sides should be lined with dry bracken, straw, or similar material, and the Potatos piled up into a ridge, and covered with about 6 inches of bracken, &c., before the soil is banked over them; and as there is always a certain amount of sweating in such a mass of dampish tubers, the final closing of the ridge with soil should be delayed for a few days, to allow some at least of the moisture to escape, and taking the precaution to cover with tarpaulin, &c., at night or when it is likely to rain. In storing the tubers, the first Potatos required should be placed at one end of the ridge, and the remainder in rotation, divisions for the varieties being easily made across the clamp with bracken or clean straw. The sets for planting should be placed in some cool yet frost-proof shed, those of Ashleafs and other varieties being spread out thinly upon shelves, or stood endways up in boxes.

Beetroot.—As frosts are likely soon to occur, the crop should be stored on a fine dry day. It is good practice to loosen the soil between the rows with a digging-fork, as there is then but little chance of their losing the tip on being drawn out of the soil. Throw aside all coarse and over-large roots; and twist the tops off the best samples. Select also some of the finest shape and colour for seeding purposes, and store apart from the bulk of the crop. Clamping is the more satisfactory method of storing Beetroots, as is proved by the fact that we have still some of last year's crop in good usable condition. Our clamp is in a shady spot.

Brussels Sprouts.—The plants have made luxuriant growth during the past month, and although ours were planted later than usual, good Sprouts ready for use are plentiful on the stems. As Brussels Sprouts are essentially a winter vegetable, it is not prudent to begin to send them into the kitchen at too early a date, certainly not till Scarlet Runner and other Beans are over. As there are always a number of decaying leaves on the stems of the earlier successions of the plants, these should be removed and cleared away on a dry day, the freeing of the stems from these allowing the air to circulate freely amongst the plants, enabling them the better to withstand hard frosts.

VARIORUM.

Telephone and other Wires, and Storms.—It has long been held from practical experience that the network of wires now found in many towns protects those places from the effects of lightning, and probably also prevents many thunderstorms from breaking over them. An official inquiry has been recently made in Germany as to the influence exerted by telephone wires on atmospheric electricity, with a view to set at rest the question whether danger from lightning-stroke is increased or diminished by a close network of wires. According to the *Das Wetter*, the inquiry has shown that the wires tend to weaken the violence and diminish the danger of the lightning-stroke. Returns obtained from 340 towns provided, and from 560 not provided, with a telephone system, show that the danger varies in the proportion of 1 to 4·6 between the two cases.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the PUBLISHER.

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

APPOINTMENTS FOR THE ENSUING WEEK.

SUNDAY,	Oct. 11—	Brussels Orchideenne Meet.
TUESDAY,	Oct. 13	Royal Horticultural Society's Committees at Drill Hall, Westminster.

SALES.

MONDAY,	Oct 12	Dutch Bulbs, at Protheroe & Morris' Rooms. Bulbs and Liliums, Shrubs and Plants, at Stevens' Rooms.
TUESDAY,	Oct 13	Dutch Bulbs, at Protheroe & Morris' Rooms. Great Sale of Roses, Fruit Trees, and other Stock, at Arches Farm, Framfield, by order of Messrs. Wm Paul & Son, by Protheroe & Morris. Bulbs and Plants, at Stevens Rooms.
WEDNESDAY,	Oct. 14	Dutch Bulbs, at Protheroe & Morris' Rooms. First Special List and Plant Sale, at Protheroe & Morris' Rooms. Bulbs, Palms, Liliums, Roses, Shrubs, &c., at Stevens' Rooms.
THURSDAY,	Oct. 15	Dutch Bulbs, at Protheroe & Morris' Rooms. Unreserved Sale of Hollies, Forest Trees, and other Nursery Stock, at the Houghton Park Gardens, Ampthill, Beds, by order of Mr. J. Crick, by Protheroe & Morris. Bulbs and Plants, at Stevens' Rooms.
FRIDAY,	Oct. 16	Dutch Bulbs, at Protheroe & Morris' Rooms. Established and Imported Orchids, at Protheroe & Morris' Rooms. Scientific and Miscellaneous Property, at Stevens' Rooms.
SATURDAY,	Oct. 17	Dutch and French Bulbs, at Stevens' Rooms

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—51·3°.

Marketing Produce.

DISCUSSIONS in and out of Parliament during the session of 1896, respecting agricultural and market gardening disabilities, have had the effect of forcing into prominence the urgent necessity for cheapening and expediting the carriage of produce to markets in towns and cities all over the country. It is a fact that foreign produce can often be more swiftly and economically brought to the salesman than can that of the home producer. A ship-canal strikes right into the heart of the land, and by this means may be deposited in a great centre of population provisions from the uttermost ends of the earth, which find quick sale, and are despatched and received at the furthest limits of the United Kingdom within a few hours of being handed over the ship's-side. The market-gardener at home can best say under what conditions of time and expense his goods are marketed, and how his accounts are balanced year by year. It pays in the fruit season to have special steamers from French ports and from those of Belgium and Holland to catch the English market; and the same applies to vegetable produce. Meanwhile, apart from railway carriage, the great highways leading, say, to London, from all parts of the compass re-echo, night after night, the weary tread of the great and filthy market-waggons, making their way through many miles of tedious haulage, returning with the empties and manure after some hours of unrest in the vicinity of the various market-places.

Light railways may now be constructed with certain relaxation of the rules applicable to road locomotives, and some encouragement is given to new-fangled motors for hauling on country roads, and to the extension of tramway schemes for lightening burdens affecting the utilisation of the soil. Why not focus the whole under the kindly care of one great combination; comprising representatives of London—of the County Council, the Corporation, the Chambers of Commerce, the Institutes of Civil and Mechanical Engineers, and other bodies? No benefit, as a rule, accrues from isolated efforts—though in the matter of agitation isolated effort may be of great advantage. One such case has just been placed on record. An important proposal—novel so far as affecting the north of England, and emanating from the Board of Directors of the Manchester Chamber of Commerce, was made public in Manchester on July 23. The Chamber after having evidence of the practice in other countries respecting the use of tramways for the carriage of merchandise by night passed a resolution to the effect that, "in their opinion, the utilisation of the existing tramway lines would be a very great advantage to the trade and industries of Manchester and neighbourhood—more especially in connection with the traffic to and from the Ship Canal Docks; and that the present time is opportune for calling public attention to this important question."

It would be for the great combination above alluded to—meeting during the Parliamentary recess—to take stock of such Acts of Parliament as bear on the problem to be solved, and with the help of the Home Office and the officials of the Department of Agriculture, formulate a programme of procedure as affecting two or three large centres of population. Unfortunately, London is divided, as it were, against itself, but that would not prevent the drawing-up of a scheme for the rapid transmission to all the metropolitan markets of the produce grown within a radius of, say, ten miles, by the aid of new methods, old water-ways, and the use by night of the many lines of tramway now in existence, supplemented by miles of light railway. Rents and rates are so heavy—so burdensome to the grower who has to compete with foreign growers not so handicapped as he—that we ventore to believe a large meed of success would follow the efforts of the combination of authorities to which attention has been drawn above.

Since the above has been in type, a commercial contemporary has mentioned that the success of Mr. BALFOUR'S light railways in Ireland is assured. One or two companies are being formed to work some mineral properties lying close to the lines—one for plumbago, which was proved of value some years since. Of course, other goods than agricultural produce would be carried on the lines to be constructed on this side of the Irish Channel. Several of our great railway companies are now prepared to carry small parcels of market-garden and kindred produce, by passenger trains, at a more moderate price than formerly. The motives of the companies may be purely patriotic—perhaps not; at any rate, it is to be hoped that this move may not interfere with the formation of companies for the laying down of light railways, wherever a profitable opening may be found for such.*

* From clause 27 of the rules made by the Board of Trade with respect to applications to the Light Railway Commissioners for orders authorising light railways, we learn that "every application to the Commissioners for an order must be made in the month of May or of November, except in the year 1896, when it must be made in the month of December."

ROYAL HORTICULTURAL SOCIETY.—The next Fruit and Floral Meeting of the Royal Horticultural Society will be held on Tuesday, October 13, in the Drill Hall, James Street, Victoria Street, Westminster, 1 to 5 P.M. At 3 o'clock, a Lecture will be given by Mr. E. BURRELL on "Hardy Summer Flowers." The Committees will meet as usual.

CHRYSANTHEMUMS IN THE LONDON PARKS.—The exhibition of Chrysanthemums in Southwark Park, as we are informed by the superintendent, will be opened to the public on Thursday, the 15th inst. There are here between 3,000 and 4,000 plants, including a number of novelties. The plants are looking well, and there is a prospect of a display as good as that of last year.

DINNER-TABLE DECORATIONS AT OXFORD.—The decoration of the Imperial luncheon-table at Oxford station on Tuesday, October 4, was most elaborate, the principal flowers used being Orchids, amongst which were beautiful and large spikes of Odontoglossum Alexandræ, O. grande Oncidium macranthum, and fine examples of rare Cypripediums, and other beautiful Orchids. The centre of the table was occupied by a golden basket filled with these flowers, intermixed with fronds of Adiantum Farleyense, leaves of Croton and other exotics, the basket being still further decorated with ribbons of the Russian and English colours. Other smaller gold baskets were filled with Orchids, Pitcher-plants, &c., and an elaborate design arranged upon the cloth completed the decorations. The basket of Orchids from the centre of the luncheon-table was graciously accepted by the Tsaritza. The floral decorations were carried out by Messrs. WILLS & SEGAR, florists, of London.

RANDIA MACULATA.—In addition to the particulars afforded in our note on this plant in our last issue, Mr. HARROW, of the Royal Botanic Gardens, Edinburgh, said that the plant when received from Kew in 1893 was about 2 feet high, and stood in an 8-inch pot. Under pot-culture a floriferous habit does not seem to be fully attained, and the growth is slow. Pruning is not followed by good results, and no new growth has formed on the parts upon the shoots which were pruned. When in full flower the plant is very attractive.

ROYAL GARDENS, KEW.—We announce with great pleasure the publication of the second part of the Hand-list of the trees and shrubs grown in the Arboretum. The part before us, which is published at a very low price, comprises the Gamopetalæ, the Monochlamydeæ, and the Monocotyledoneæ. The utility of a carefully-compiled list of this description is enhanced by the fact that the work is not a mere compilation, but is the result of the special researches of trained experts. The nomenclature and synonymy may therefore be relied on as accurate. Ultimately we may hope the several parts may be combined into one whole, and thus form a new *Hortus Kewensis*.

THE "PALM-HOUSE" IN SEFTON PARK, LIVERPOOL.—We lately gave an illustration of the fine Palm-house, presented to the city of Liverpool Park by Mr. YATES THOMPSON. We may now add that Messrs. VEITCH & SONS have been entrusted with the task of furnishing it, and so satisfactory is the result that we purpose to give another illustration later on. The Palm House was formally made over to the citizens on the 6th inst. A statue of Parkinson adorns the building, and others are to follow.

ELEMENTARY GARDENING.—Sir JOHN GORST might possibly take a hint from Russia in developing the scope of our primary education curriculum. Apparently many primary schools, especially in the villages, have orchards and kitchen gardens attached to them, and from a recent report of a province in South Russia we gather that not only has almost every school an orchard and kitchen garden for the use of the schoolmaster, but that nearly half of the schools are already in possession of "small model



FIG. 76.—VIEW OF THE LAKE IN LOCKINGE GARDENS. (SEE P. 434.)

kitchen gardens, orchards, tree plantations, or farms, at which gardening and sylviculture are regularly taught." The pupils are carefully initiated also into the mysteries of silkworm culture and bee-keeping; and even vineyards are to be found in connection with some of the schools situated in Caucasia Besides tending to encourage the pursuit of agriculture as a calling, and so diminishing the rush of population to the towns, we cannot but feel that another important item is the effect upon the health of the children, by the interchange of sedentary with out-door studies.

National Rose Society.—A meeting of the General Purposes Committee will be held, by kind permission of the Horticultural Club, at their Rooms, Hotel Windsor, Victoria Street, Westminster, on Friday, the 9th inst., at 2.30 P.M., to revise and complete proofs of the Supplement to the Catalogue, and decide on suggestions to be made in it as regards some varieties now in the official catalogue. H. Honeywood D'Ombrain, Edward Mawley, Hon. Secretaries.

—— A meeting of the General Purposes Committee will also be held, by kind permission of the Horticultural Club, at their Rooms, Hotel Windsor, Victoria Street, Westminster, on Tuesday, the 13th inst., at 2 P.M. H. Honeywood D'Ombrain, Edward Mawley, Hon. Secretaries.

Flora of Venezuela.—The flora of this extremely rich intertropical country is being investigated by Professor H. H. Rusby, who states that the most conspicuous of the tree family in the lower Orinoco district are members of the orders Lecythidaceæ, Sapotaceæ, Meliaceæ, Leguminoseæ, Palmæ, Apocynaceæ, and Laurineæ. The Leguminoseæ and Bignonaceæ are chiefly represented by climbing and twining plants. Soft and hard-woods, fit for a variety of useful purposes, abound, the latter being of handsome grain, and taking a good polish. About 500 species of plants were collected, the aim being to obtain thirty-two specimens of each, in order to supply correspondents, including most of the leading universities of the United States and Europe. A number of plants have been collected likely to be of use in the arts and in medicine, and great results are expected when sufficient time has elapsed to allow of his specimens being thoroughly examined.

Sussex Agricultural College, Uckfield.—A party of the students at the Agricultural College, Uckfield, had an experience lately of combining instruction with pleasure in a visit to Haywards Heath. The party arrived at Haywards Heath about 11.40, and with Mr. W. Goaring as guide, they visited the Applefield Nurseries. Mr. W. Goaring is the lecturer on gardening under the Technical Instruction Committee of the County Council. The nurseries mentioned belong to Mr. Goaring, and the students had an excellent opportunity of not only inspecting the range of grounds and glasshouses devoted largely to the culture of Tomatos and flowers, but gained a practical insight into the method of cutting, packing, and despatching the flowers, &c., to market. The flowers in season were white Dahlias, yellow Marguerites, Chrysanthemums, &c. While the morning had been employed in visiting a flower farm, the afternoon was devoted to more direct agriculture in a visit, by permission of Mr. T. Bannister, to Sugworth Farm, where general farming and cattle-raising are carried on under the direction of that practical agriculturist. Yet a further opportunity of inspecting the system of cattle-raising and management was afforded the students by the permission of Mr. Black, who has the management of the Borde Hill (Mr. Stephenson R. Clarke) herds, to visit the estate farms. At Christmas-time the animals from the Borde Hill estate are frequent prize-winners, and the students had exceptional opportunities of gaining an insight into one of the most important branches of farming. Sugworth and Borde Hill lie between Haywards Heath and Balcombe, another agreeable jaunt for the students, who, after their most enjoyable visit, left Haywards Heath between five and six for Uckfield.

How Customs Duties injure the Trade of a Neighbouring State.—In Moravia, on the borders of the river Thaya, a tributary of the March, the peasantry cultivate Cucumbers in the fields on a great scale, the fruits finding their way all over Germany, Austria-Hungary, Bohemia, Servia, Roumania, Bulgaria, and even to America; Bohemia taking, probably, the greater quantity. The Cucumbers or Gurken are preserved in salt-and-water or in wine-vinegar and spices, the larger fruits being put into the first, and the smaller ones into the latter kind of pickle. The produce was at one time sent into Germany in large quantities at a low rate of import duty; but now that the duty on green Cucumbers has been raised to 4 marks per 100 kilog., and that on pickled Cucumbers much higher, raising the price five times as much, the trade has greatly fallen off. Moreover, if Dill, spices, or Morello Cherry leaves are found in the pickle, the importer is fined five times the value of the goods, and forfeits the same into the bargain. The cultivators in Moravia sell their Cucumbers elsewhere; it is only the subjects of the German Empire who suffer, and have to go without, or pay dearly for, their beloved "Znaimer Gurken." The average production of Cucumbers is, as we learn from the *Gartenflora*, 120,000 to 180,000 cwt., of which about the half are pickled in one way or another on the spot.

Zonal Pelargoniums.—We have received from Messrs. H. Cannell & Sons, of the Home of Flowers, Swanley, something which, as he says show the strides made in the size of these flowers, to wit, the zonal Pelargoniums, when cultivated under glass. Accompanying these were some blooms of our very old acquaintance Tom Thumb, which, although quite eclipsed in size by the new comers, beats them all in brilliancy, and it is this, and the long succession of flowers, that still make that old variety a favourite in many a country garden. The new varieties of zonals have colours not possessed by the older representatives of the family, and this, together with their enormous trusses, and pips of 2 inches in diameter, render them almost indispensable warm greenhouse plants in the dull season.

Botanic Garden, Basle.—A new botanic garden is in course of formation in this city. We do not know the motives for the change, but it would seem as if the new garden would have no greater area than the old, and the situation is scarcely, if at all, more open. The new garden will, however, be in proximity to the chemical and physical laboratories, the technical schools, and other University buildings, the completeness of which, considering the size of the town, makes an Englishman, cognisant of what he has at home, feel rather humiliated. But still the contrast is not so painful as it was a few years ago.

De Vilmorin—d'Estienne.—The marriage of Mdlle. Elizabeth Lévêque de Vilmorin with the Vicomte d'Estienne d'Orves is announced.

"Flora of Berkshire."—Mr. G. C. Druce intends publishing a flora of this county, and invites subscriptions. If the *Flora* be as well done as that of the sister county of Oxfordshire, as we have no doubt will be the case, British botanists will have reason to congratulate themselves on a valuable addition to their literature. The work, which will extend to a volume of about 500 pages, is intended to be not only a catalogue, but a history of the plants of the county. The various botanical writers since 1550 have been pretty exhaustively consulted, and no pains have been spared in personally visiting nearly every parish in the county in order to make the work as complete as possible. In the *Flora* about 1,000 flowering plants and Ferns will be enumerated, in addition to a large number of varieties and plants of casual occurrence. In order to show their distribution through the county more completely, Berkshire has been divided into five botanical districts, which are based upon the river drainage. The plant distribution through these, and also through the border counties, will be shown in a tabular form. Brief sketches of the topography, the meteorology, the geology, river drainage, and the physiography of the botanical districts will be given. The work will also include short biographies of the various botanists who have investigated the Berkshire botany. The book will be published by the Clarendon Press. Mr. Druce's address is 118, High Street, Oxford.

Anguloa Clowesii.—Mr. Alexander Haggart of The Gardens, Moor Park, Ludlow, kindly encloses a photograph of a plant of Anguloa Clowesii that flowered under his care last spring, and which is remarkable in the number of flowers on it. This spring two breaks started from last year's pseudo-bulb, one having three blooms, and the other four, of splendid size, substance, and colour. The photograph sent in illustration is by the Hon. Lucius O'Brien, and fairly represents the character of the plant, but is not suited for reproduction.

New Garden Plants of the Year 1895.—The last number of the *Kew Bulletin* is devoted to a catalogue of the names of all the plants introduced into cultivation in 1895. Pamphlets of this description are very apt to be mislaid. We trust, therefore, that an occasional volume will be issued, comprising the lists for several years. In any case, the cordial acknowledgments of horticulturists are due to the Kew authorities for these publications, the low price of which puts them at the disposal of every gardener.

LOCKINGE PARK AND GARDENS.

This charming estate of about 60,000 acres is, as most of our readers are aware, the property of Lord Wantage, and is situated in Berkshire. It is readily accessible from Wantage Road station on the Great Western Railway. On the occasion of a visit paid to the gardens on May 16 last, I was met by the genial head gardener, Mr. Fyfe. A well-made and pretty carriage-drive of about 3 miles in length leads the visitor to the house and gardens. The Park on either side is well timbered, with a somewhat undulated surface, which is made the best of, and planting on an extensive scale is being carried on. Such pretty subjects as Hippophae rhamnoides, Honeysuckle planted in clumps, red Dogwood, Laburnums, Thorns in large numbers, Gorse, and Broom, were remarked. The small village of Wantage is passed through, occupied chiefly by workmen employed on the estate, the cottages of an ornate style, provided with good gardens, the fronts gay with flowering plants at most seasons.

The comparatively new kitchen garden of 4 acres in extent is enclosed with high walls, and here evidences of good cultivation abounded, and the crops had a very thrifty appearance. The walls are well covered with perfectly trained fruit trees of various kinds, the Apricot, Peach, and Pear trees carrying fine crops of fruit. The foliage presented a yellowish hue, which is accounted for by the subsoil consisting of chalk; but this notwithstanding, Mr. Fyfe assured me most fruits, especially Pears, finish off to perfection. I was struck with the appearance of a wall covered with Morello Cherries, which afforded a contrast to the other trees, the foliage being of a deep green colour. These Morellos were carrying immense crops of fruit; and they were planted three years ago in pure leaf soil, and dressed annually since with the same material. Previous to this having been done, Morello Cherries were a failure. Large numbers of hardy herbaceous perennials are cultivated on the borders of the kitchen garden, the sides of the principal walks being lined with them, so that there is always something to interest the visitor. On the south wall a fine range of glasshouses, devoted principally to the cultivation of choice fruits, has been erected. The first and second houses entered contained Peach and Nectarine trees in robust health, and heavily cropped. The third house is an early vinery, in which the Vines were carrying a fine crop of Black Hamburgh, Foster's

Seedling, and Madresfield Court Grapes, nearly ripe. The next vinery is planted with Muscat of Alexandria, a fine house, 40 feet by 22 feet; the bunches were large and very well set. The centre house of the range is of octagonal shape, and it is planted with Roses and flowering climbing plants. No. 6, a fine house of Hamburghs; No. 7, a mixed house of Grapes. The house beyond this one is a vinery newly planted with Muscat and Madresfield Court Vines, which were making excellent canes. The borders of the vineries have been overhauled by Mr. Fyfe, who has been long known as a successful grape-grower, and his reputation is not likely to suffer diminution at Lockinge. The end-house is devoted to the Fig, which is cultivated in the natural way, and the trees chiefly Brown Turkey, were heavily cropped. Nearer to the mansion a number of useful houses, pits, and frames are erected, which are devoted to the cultivation of large quantities of stove and greenhouse plants, and Orchids, of which last a number of healthy plants were remarked. Melons, Cucumbers, and large quantities of bedding-plants are also cultivated in these houses. Carnations in large quantities, and especially fine Souvenir de la Malmaison and Uriah Pike, were remarked. Melon Hero of Lockinge, still the favourite variety here, is largely grown. Tomatos growing in 8-inch pots, and trained up both sides of a span-roofed house, were laden with fruits, Dwarf Champion being the variety. It may be remarked that some of the plants from this house were exhibited at the last Temple Show, Mr. Fyfe being awarded a Silver Medal for them. Other houses were filled with well-grown plants of Crotons, Dracænas, Calanthes (very fine), Clerodendron fallax, Streptocarpus, Francisceas, &c.; the frame-ground, which is paved with wooden bricks, was well stocked with all kinds of bedding plants in process of hardening off. Flowering annuals are grown in large numbers, and good sturdy plants were observed which had evidently been properly attended to in the matter of pricking-out, &c.; the conservatory is a large building in which extensive alterations were being carried out.

The mansion, of red brick and stone, is pleasantly situated, and commands charming views all around, the south-west front looking on to a pretty lake, and at this point is the rock-garden, the subject of our illustration (fig. 76). As will be seen, the design has many pretty features, and is a good example of Mr. Pulham's handiwork.

The planting hereabouts as elsewhere shows taste and judgment, and is consequently effective even now. Alpine, and other plants of low growth, cover the rocks, and fill the interstices about the rockery. Japanese Acers, which have been largely planted, are now fine objects, and the specimens of Golden Yew are wonderfully good. The small antique church is close by. The head gardener, who has occupied that post but four years, is no stranger to Lockinge, he having acted in the capacity of foreman in the gardens some twenty years ago. He then went to Thames Ditton House as head; and later, to Overstone Park, Northamptonshire, from which he was transferred to his present situation. It may therefore be taken for granted that he enjoys the confidence of Lord and Lady Wantage, and that the multifarous matters of which he has the charge, will not be neglected. *E. B.*

Home Correspondence.

ROUND AND TAPERING BEETS.—I do not think "D. T. F.'s" estimate of the relative value of Turnip-rooted and Carrot-rooted Beets, will meet with general acceptance. Yet the Turnip-rooted forms are best for early purposes there can be no doubt whatever, and they may be regarded as best up to the end of August. No sooner, however, are tapering roots fully grown then these are found to give the finest colour and the most refined flesh. Flavour, too, is of the very best, and invariably best where both colour of flesh and quality are good also. Turnip-rooted Beets have not yet reached that high average perfection found in the best strains of tapering forms. We saw the other day at Chiswick that only one or two out of probably a score were good enough to be entitled to three marks, whilst really fine-fleshed rich-coloured tapering-rooted varieties were numerous. I think that the immersion of the Carrot-rooted forms into the soil tends to the production of that high excellence we so much desire. Thus, we almost invariably find roots that have a good portion of their tops above the soil to be rather coarse. Then, those roots grown in strong, rich soils, are rarely so good in colour and texture as are those grown under more moderate conditions. I have never ate more delicious Beets than some which came from a cottager's garden recently. On a number of boys' allotment gardens the other day, Nutting's Dwarf Red was not only of the most perfect form, but gave roots of great excellence. Beets are often sown too early, and either the roots become unduly large, or getting checked in hot weather, become rather hard-fleshed. When growth is quick and unchecked, then, as a rule, the roots are rich-coloured and delicious. *A. D.*

COCKROACHES.—If "L.," who inquires in last week's *Gardeners' Chronicle*, p. 409, for a means of getting rid of cockroaches, will write to Mr. Howarth, Superintendent, Weston Park, Sheffield, this gentleman will be able to assist him. He has just banished these insects from the Sheffield Union Workhouse, where they threatened to make the place uninhabitable. The guardians and the inmates are delighted with the result. *D. G.*

—— With reference to query from "L.," in *Gardeners' Chronicle* of last issue, I can state from over twenty-five years' experience, that Chase's Beetle Poison effectually eradicates cockroaches in a few days, if placed about the houses. The square eggs of cockroaches often come in the roots of imported Orchids, and if not noticed when potting-up the plants, soon fill the Orchid-houses with cockroaches. Some lumps of Chase's Beetle Poison about the stages are most effectual. *E. S. B.*

THE NEW FRENCH CLIMBING BEANS.—Visitors to the Temple Show of the Royal Horticultural Society in May last, will remember that in the remarkable collection set up by Messrs. Sutton & Sons of Reading, there were three climbing types of the Dwarf French Bean. I think I am right in stating there are four or more candidates for favour, but three of them only were exhibited on this occasion; and they showed their adaptability for forcing in pots, for they had made a good, vigorous growth, and were well furnished with pods. Tender-and-True is a climbing form of the well-known Canadian Wonder, and it is like the latter in all respects plus the running habit; and like the dwarf form, it produces long handsome pods. Epicure can claim some distinctness of character, and one characteristic is its abundant cropping qualities. The seeds of this variety are small in size, and of a brown colour, quite distinct from those of the preceding. Earliest of All is a new claimant to public favour, to be put into commerce next year; and it is said to be decidedly quick in turning in. The public saw the three standing side by side, and so had but small opportunity of judging which was the earliest and which the latest. I was, however, informed that the examples of Earliest of All were from seeds sown a fortnight later than those of Tender-and-True, and yet the former had pods ready to gather a fortnight sooner than the latter, while it produces its pods in larger clusters. The seeds are quite small and white. It does seem that the introduction of the foregoing varieties makes it possible to have forced Climbing Beans with as much ease as the dwarf types, and quite as early. *R. D.*

EXTRAORDINARY RAINFALL OF SEPTEMBER.—The month of September just past has given, in the neighbourhood of Harpenden, Hertfordshire, a most exceptional rainfall, amounting, according to Sir John Lawes' Rothamsted gauge, to 8·077 inches, which is equal to the enormous quantity of 815¾ tons of water on each acre of land. The average fall for September in this district is about 2½ inches, or 257½ tons of rain per acre, so that there has been received in the past month 558¼ tons in excess of the normal fall. This exceptional rainfall has broken the record, for since the Rothamsted rain-gauge was constructed in 1853, that is forty-three years ago, no month has given so large a rainfall. The nearest approach to it was in October, 1865, when 7·36 inches of water fell; the next heaviest rainfalls were in July, 1855, when 6·96 inches fell; and in August, 1879, when 6·65 inches were recorded. *J. J. Willis, Harpenden.*

SWEET PEA CUPID.—This Pea, as with "A. M." and Michael Cuthbertson (see *Gardeners' Chronicle* pp. 341 and 404), has been a complete failure here. I had nearly 200 plants growing in beds in the flower-garden, and there were not a hundred flowers expanded on the whole lot during the season. The habit of the plant is everything to be desired for an edging-plant, being very dwarf and prostrate. It also shows an abundance of flower-buds, but nearly every one drops off just before it should expand. This is a great pity, and a disappointment, too, as it would have been an acquisition for the embellishment of the flower-garden had the flowers come to perfection, as we have so few good dwarf white-flowering plants suitable for flower-beds. I have seen this Pea growing in several places I have visited this season, and in each it behaved in the same manner as with me. *J. H. W.* [We read similar complaints about the plant in German periodicals, and the plant is there being recommended for filling window-boxes, and growing under glass. By sowing it early in pots, and getting it into bloom early, it might be used out-of-doors in a variety of ways. Ed.]

HYBRID CYPRIPEDIUMS.—An interesting discussion could be raised on the subject, giving the period elapsing between fertilisation and germination, ascertaining whether the seed-parent does not exercise a more powerful influence than the pollen-parent; whether some species have not a closer affinity towards each other than others, and thus cause a speedier result, &c. Have the "offspring" of Cypripedium and Selenipedium been successfully flowered? I have been told by some *No*, by others *Yes*, and that when they flower it will always prove the same as the seed-bearing plant. Still, "Nil Desperandum," and I mean to persevere. I can only give my experience so far as I have yet gone in raising plants between the Cypripedium and Selenipedium, and I think you will agree with me when I say that a record has been established. In December, 1894, I pollenised S. Schlimi with C. Spicerianum; the seed-pod was ripe about the beginning of March, and seed was sown; in about four months it germinated, and I now have healthy plants with about six leaves. Again, in December, 1895, I pollenised S. Dominianum with C. Chamberlainianum; the seed-pod was ripe in March, and seed sown. In May it had germinated, and there were plants some with leaves a quarter of an inch long, while now, at the end of September, there are strong, vigorous-growing plants, with three and four leaves, some of which are over 5 inches long, bearing a decidedly Selenipedian character, whereas in the former cross the leaves are short, though pointed, but bearing no resemblance to a Selenipedium leaf, and by no means of such vigorous habit as those of the Chamberlainianuum and Dominianum cross, which induces me to believe that Cypripediums of the Chamberlainianum and Victoria Mariæ species have more affinity with the Selenipediums, and hence grow away more rapidly. Shall I ever flower those? It remains to be seen. I will only add, the reverse cross was tried in both these instances, and though the pod ripened in about twelve months (the usual time for most Cypripediums), the seed failed to germinate. *T. W. Swinburne, Winchcombe, Cheltenham.*

WHITE AND YELLOW-FLESHED TURNIPS.—Though not a resident in the North, I would like to say a few words of praise in favour of yellow-fleshed Turnips, especially for winter and spring use. As regards my own taste I certainly prefer the variety named Golden Ball, and I have never had any complaint from the cook on account of its colour. I sow the seed of this variety in the third or fourth week in July, which are nice bulbs at this season, and will continue to increase in size for some time longer. I find them most useful for spring use, and I have kept them so late as the middle of June, and then they were really good for flavouring purposes. In my opinion, a good yellow Turnip is much better flavoured than a good white one. *J. Mayne, Bicton.*

FAILURE OF NARCISSUS HORSFIELDI.—I find, as I also found last year, that my bulbs of Narcissus Horsfieldi are affected with basal-rot. Is the constitution of this variety not standing the strain of cultivation? Can any of your readers say if basal-rot is general in N. Horsfieldi? The bulbs have, I notice, been increasing in size and fleshiness, especially those grown in Holland. When basal-rot did start in bulbs of this nature, it would develop quickly. It is, perhaps a case of over-cultivation with N. Horsfieldi, which was a bulb of a very strong constitution; but if grown continually on rich soil to increase its size, as there is a craze for large bulbs, it perhaps has reached its limit, and declines further artificial treatment. Can some of your correspondents give their opinion? *Calyx.*

MAIZE, OR INDIAN CORN.—I received from the United States of Columbia some Indian Corn. I was told that it produced a plant which would not be found in any other part of the world, so far as records went up to the present time. I planted a few of the seeds, and put them out in the garden very late in the year. These plants have grown up to be 10 feet high, and they are of most gigantic proportions. They are 8 to 9 inches in circumference some way up the stem; some have black stems, some green. There is no sign yet of their flowering, but they are still growing. The stem is covered with hair, and they present, to my mind, a most remarkable appearance. If you could tell me who would be likely to be interested in such a subject, I should be much obliged. *Thos. Christy.*

THE LATE WILLIAM MORRIS.—It has been well said of him who joined the great majority on Saturday last, that his poetry (or a great part of it) exists for precisely the same purpose as his tapestries, flowered linens, and silken embroideries, to express the beauty of colour, line, and material. That he was an ardent admirer of Nature, having an intense joy in natural beauty, is evidenced by a perusal of some of his works. The following lines show his admiration of trees, &c.:—

"And all about were dotted leafy trees—
The Elm for shade, the Linden for the bees;
The noble Oak, long ready for the steel
That in that place it had no fear to feel;
The Pomegranate, the Apple, and the Pear,
That fruit and flowers at once made shift to rear;
Not yet decayed, therefore, and in them hung
Bright birds that elsewhere sing not, but here sung
As sweetly as the small brown nightingales
Within the wooded deep Laconian vales."

Kelmscott House, Hammersmith, where he lived, faces the Thames, and is fronted by some fine old Elms, planted very many years ago by the "Ecclesiastical Commissioners;" and now, when the leaves are falling from these old monarchs in the tree way, one recalls his pictures of the months in "The Earthly Paradise"—pictures which are amongst some of the most beautiful in literature. "October" is immortalised in the following lines:—

"Oh, hearken, hearken! through the afternoon,
The grey tower sings a strange old tinkling tune,
Sweet, sweet, and sad the toiling year's last breath,
Too satiate of life to strive with death.
And we, too—will it not be soft and kind,
That rest from life, from patience, and from pain,
That rest from bliss we know not when we find,
That rest from love that ne'er the end can gain?
Hark, how the tune swells, that erewhile did wane!
Look up, love—ah, cling close and never move!
How can I have enough of life and love?"

Did his Elm-embowered residence—facing the "Silvery (?) Thames"—suggest those lines of his on "London," wherein he says:—

"And dream of London, small and white and clean,
The clear Thames bordered by its gardens green."

Whatever he touched he gave life and beauty to; even out of such an ordinarily dull and prosaic thing as a mill, he could find something animate and cheery to write about, as:—

"O'er the oily smooth mill head,
There hung the Apples growing red;
And many an ancient Apple-tree
Within the orchard could he see;
While the smooth mill-walls white and black,
Shook to the great wheels' measured clack,
And grumble of the gear within.
While o'er the roof that dulled that din,
The doves sat cooing half the day,
And round the half-cut stack of hay,
The sparrows fluttered twittering." *J. B.*

GRAPES AT THE CRYSTAL PALACE.—It seemed to be generally held that the Grape classes at the recent Crystal Palace show suffered a good deal from the nature of the tabling used, and by which hey were too much broken up. Where there are several lots of bunches on one side, some on another, and others on a third, not only is effect greatly marred, but accurate decisions are rendered very difficult. When Grapes in any one class are all arranged on one face, then it is much more possible to compare bunch with bunch, and to get an estimate of relative quality. Because of the disconnection of the centre square of tables it was needful in some cases to have classes so broken, that some bunches of one class were on one table, and come on another. That is a method of arranging Grapes that should never be tolerated. Doubtless it was due to the prevalent fashion of arranging the tables at the Palace, but every one must admit that tables should be accommodated to the exhibits, and not the exhibits to the tables. If the tabling be staged by the Crystal Palace employés without reference to the Royal Horticultural Society, then the mistake is easy to understand. Probably it is but needful to point out the error to have it so far remedied, that in all cases the tabling shall be so arranged as that any one class of anything—Grapes or otherwise—shall always have one face only. The broken tabling in the lower part of the nave of the Palace answers admirably for the trade collections of fruits, &c.; but for the smaller competitive classes above the transept it worked badly. Next year it is hoped the utilitarian will take the place of what is just now regarded as the picturesque. If, however, centre tables or benches are insisted upon, better fill them with plants or fruit trophies than with small competitive exhibits. A judge is reported to have said, in relation to the Muscat Grapes shown, that some bunches nearly approached the high standard of perfection in shape. This remark naturally raises the not uninteresting one as to how far in making awards all other things in berry, colour, and finish, but not mere size of bunch being equal, contour or form in bunches, that is of the recognised character of the variety, should have weight. I could but notice how many nearly handsome bunches there were at the Palace that would have been much more so, had undesirable shoulders been early removed, or a few berries here and there cut out, that would unduly break form or contour, without adding anything to merit. I think form or outline in a bunch a great merit. Others seem to think bulk in a bunch to be of far more consequence. But judging bunches for weight is a matter for the scales, and not for intelligent men. The 1st and 2nd prize bunches in the Alicante class presented a case in point, one having ungainly size, the other handsome form and finish. The handsomest bunch in the Muscat of Alexandria class was not the largest on the 1st prize board. All on the 2nd prize board lacked form; and in the next, one bunch was handsome, and a second would have been but for an unhappy shoulder. Not the biggest, but certainly the best finished and prettiest bunches of Muscats, were those shown by Mr. Goodacre in the largest class; indeed, this exhibitor seemed to have a generally good appreciation for form in bunch, irrespective of mere size in berry or bunch. Some very ungainly bunches were shown in the larger fruit collections, although I do not know where weight in judging was given for or against in consequence; the best bunches were Mr. McIndoe's Gros Maroc and Mr. Goodacre's Alicante. I have been looking over the illustrations of various Grapes found in Mr. Barron's book on the Vine. I find there that by far the larger number, intended, no doubt, to present typical bunches, are shoulderless, and are generally of handsome form or outline. No harm would be done if Grape exhibitors, and especially the younger ones, would study these illustrations, and seek to bring their best bunches somewhat into line with them. A judicious use of the scissors should help to bring them into the form desired without materially sacrificing berries. It very often happens that small defects of this nature cannot be seen until on the board; but a closer study of correct form would enable many faults to be detected on the bunch whilst yet hanging on the Vine. Objection was taken to the tying together of Gros Maroc and Gros Colmar Grapes, on the ground that the first colours very early, whilst the latter is difficult to colour, hence it needs greater skill in cultivation. Then Gros Maroc is, relative to quality, so poor a Grape, that it does not seem worthy of a class; whilst good, well-finished Gros Colmars really are very meritorious. *A. D.* [We do not think the natural form should be interfered with more than can be avoided. Ed.]

SOCIETIES.

ROYAL HORTICULTURAL.

October 1, 2, 3.—At the show of British grown fruits held at the Crystal Palace on the above dates, and reported in our last issue, were the following honorary exhibits, which may now be mentioned:—

From South Wales came one of the very finest collections of Apples in the show. It was the produce of Wm. Bythway, Esq., Warborough, Llanelly (gr., Mr Wilkins). The collection included upwards of ninety dishes, and in many cases the varieties were represented by fruits superior to those included in any other exhibit. There were twenty-five excellent fruits of Peasgood's Nonsuch, said to have come from one small tree; and the King of the Pippins, Grand Duke Constantine, Mère de Ménage, Bismarck, and, indeed, most of the varieties, were of especial merit.

Messrs. C. Lee & Son, Hammersmith Road, and Ealing Dean, had an exhibit of Pears and Apples in dishes and baskets, relieved in the centre by the use of a few Palms and other foliage plants. There was considerable variety represented by the exhibit, both Pears and Apples being numerous, and many of them were of fine quality.

Messrs. Jos. Cheal & Sons, Lowfield Nurseries, Crawley, displayed a fine lot of fruits of Apples and Pears upon one of the centre tables, and a few young plants of Bismarck Apple, also carrying a fine crop of fruits. Upwards of 150 dishes and varieties were staged, amongst which there were some fine samples indeed.

Messrs. Jos. Cheal & Sons made a display of Dahlia blooms.

Mr. W. Horne, farmer and fruit grower, Perry Hill, Cliffe, Rochester, exhibited commendable fruits of a dozen varieties of Apples.

Messrs. Gaymer & Sons, Attleborough, Norfolk, had one of the tables occupied with a cone-like wooden stage, upon which was displayed a number of dishes of Apples and samples of their Norfolk cyder.

Mr. Jno. Watkins, Pomona Farm, near Hereford, made display of bright-coloured cyder Apples, and bottles of cyder.

Messrs. Paul & Son, The Old Nurseries, Cheshunt, had a corner table laden with produce from their establishment, which included Apples and Pears in considerable variety.

Messrs. S. Spooner & Sons, Hounslow Nursery, Middlesex, exhibited about fifty dishes and baskets of fruits upon one of the side tables. Many of the dishes of Apples and Pears were of very commendable quality. King of the Pippins, Hoary Morning, Golden Noble, Duchess' Favourite, Cox's Orange Pippin, Carlisle Castle, Blenheim Orange, Margil, Lady Henniker, and Warner's King may be mentioned among some of the best.

Messrs. T. Rivers & Son, Sawbridgeworth, added greatly to the attractiveness of their exhibit, by the inclusion of some finely-fruited orchard-house trees in pots, which they arranged along the centre of the table. Among these were trees of Emperor Alexander, Sutton Beauty, Melon, Bismarck, Reinette Doré de Hensen, Bijou, and Belle de Maguy Apples; and Conference, Doyenné du Comice, Passe Colmar, and Marie Louise Pears. A tree of Rivers' Late Orange Plum, laden with fruits, was most attractive. The fruits in dishes were of very high merit, and we may instance the following:—Pears, Beurré Superfin, Princess, Doyenné Boussoch, Pitmaston Duchess, Doyenué du Comice, Emille d'Heyst, Bijou, Marie Louise d'Uccle, Brown Beurré, Louise Bonne of Jersey, and Conference. Apples, Emperor Alexander, Rivers' Codlin, Lane's Prince Albert, Cox's Orange Pippin, New Hawthornden, Bismarck, Ribston, Buckingham, Peasgood's Nonsuch, Belle Dubois (very fine), King of Tomkin's County, The Queen, Washington, and Blenheim Orange. Black Alicante and other Grapes were capital; and of Plums there were Wyedale, Grand Duke, Autumn Beauty, Monarch, Coe's Golden Drop, and several seedlings; Lady Palmerston and Salway Peaches were also good.

The exhibit from Messrs. Jno. Laing & Sons was displayed upon a long table, the surface of which was covered with white paper. In the centre was an elevated ridge, facing either way, and running about three parts the length of the table. This was packed on either side with handsome Apples, except in the centre, where some bunches of Grapes were displayed. The top of the ridge was a narrow flat surface, and upon this were dishes of Apples, and a few small foliage plants. The rest of the table space was covered with dishes of Apples and Pears. Some of the varieties most displayed, and of better quality, were King of the Pippins, Cellini, Blenheim Orange, Peasgood's Nonsuch, Wellington, Cox's Pomona, Cox's Orange Pippin, Worcester Pearmain, Emperor Alexander, Wealthy, Scarlet Pearmain, Beaumann's Red Reinette, Ribston Pippin, Newtown Wonder, &c. Of Pears, we noticed Beurré Bosc, Beurré Diel, Pitmaston Duchess, Conference, Orange Bergamotte, Marie Louise, Louise Bonne of Jersey, and others.

Messrs. Laing had also a group of choice plants of various descriptions, and including a number of Begonias in flower. The effect of the group was unusually good. Another exhibit from the same establishment consisted of hardy flowers.

Messrs. Jas. Veitch & Sons, King's Road, Chelsea, made a large exhibit of Apples and Pears, and a few miscellaneous fruits. These were placed upon several tables, and the Pears represented upwards of ninety varieties. Amongst them we noticed fine specimens of Louise Bonne of Jersey, Gansel's Bergamotte, Pitmaston Duchess, Doyenné du Comice, Beurré Baltet Père, Dr. Hogg, Princess, excellent fruits of Thompson's, also Beurré Fouqueray, Beurré Bachelier, Magnate, fine fruits of Beurré Superfin, Marie Benoist, Gedley's Beurré, Belle Julie, Baronne de Mello, and others.

The collection of Apples comprised a hundred varieties, and was remarkable for a tray containing forty-eight fruits of Cox's Orange Pippin, unusually good in size, appearance, and colour; Tyler's Kernel was also well exhibited, and Bismarck, Golden Noble, Cellini Pippin, Peasgood's Nonsuch, King of the Pippins, Warner's King, Blenheim Orange, Frogmore Prolific, Bramley's Seedling, and others. All of the Pears and Apples shown were from pyramids in the open. Ten varieties of Plums were from the open also, but some of them were rather over ripe, Coe's Late Red, Belle de Septembre, Wyedale, and Monarch, were in good condition. A few Figs, Cherries, &c. Three bunches of a new black Grape,

Royal Leamington, were shown. The variety may be valuable, but he specimens were not fully ripe

Messrs. Jas. Veitch & Sons had also a table devoted to a llection of Nerine Fothergilli major in flower, a variety with very fine brilliantly-coloured flowers. The plants were good specimens, and bore a capital lot of blooms.

Another of Messrs. Veitch's tables was occupied with an exhibit of sprays from berried plants, and a capital range of variety was illustrated.

From the Chiswick Gardens of the Royal Horticultural ociety was exhibited a collection of fine Grapes, and some dishes of varieties of Pears known to be good ones.

A fine lot of fruits of the variety Duke of York Tomato was hown by Messrs. Fellowes & Ryder, Orpington, Kent

Messrs. J. R. Pearson & Sons, Chilwell, near Nottingham, showed twenty-four dishes and baskets of the Apple Newton Wonder; a capital variety well exhibited.

A large display of fruits of the Young's Eclipse variety of Tomato was made by Messrs. Young & Dobinson, Stevenage, Herts.

From the Horticultural College, Swanley, Kent, was exhibited a quantity of produce of good quality, and included numerous varieties of Apples and Pears, excellent Grapes, also Tomatos, Nuts, &c

Mr. T. S. Ware had large exhibits of Dahlia blooms and Begonias; and Mr. J. R. Box, Croydon, made an extensive exhibit of double and single-flowering Begonia plants, all of which were seedling varieties, and of a good strain.

Mr. B. Wells, The Fruit Nurseries, Crawley, exhibited some dishes of Apples. Messrs. Wood & Sons, Wood Green, N., had a stand devoted to horticultural sundries, including peat of first-rate quality; and the patent Storing-trays known as "Orr's," and described by us when reporting the show held last year, were again placed before the notice of visitors.

The Conferences.

FRUIT AS FOOD.

On Thursday a Conference was held in the Terrace Hall of the Crystal Palace, when Mr. Edmond J. Baillie, of Chester, read a paper on "The Importance of British Fruit-growing from a Food Point of View." Mr. Geo. Bunyard presided, and there was an excellent attendance of the general public.

Mr. Baillie said the subject suggested consideration in a direction somewhat different from that in which usually the thoughts of the Fellows and friends of that Society were invited. In dealing with a necessary requirement of the great human family—food, there might be different views as to what might constitute the necessaries and the luxuries of life. He held that fruit—which included all the cereals, such as Wheat, Oats, and so on—was the highest form of food for the human family, that was to say those portions of plants which did not come into direct contact with the soil or with manurial agents, but which were borne, carried, developed, and matured in the air and sunlight, and as a rule had within them the vital properties of the renewal of the life of the species in some form or another. The importance of home-grown fruit would never be rightly realised until the great masses of the population, especially in the denser centres, were better educated in questions, first of household thrift, and economy in habits of domestic cleanliness, and in the realization of the importance of happy healthy environment, and until they were schooled and practised in the better methods of cookery, which would imply and compel the immediate revision of their preconceived notions of relative values of food-stuffs, and would introduce them forcibly to the importance of right dietetic principles as applied to cottage-homes and the needs of the working population generally. Whatever were their opinions on the subject of fruit as food, he felt sure they would agree that flesh-foods in well-ordered households even formed a too important and constant item of diet, and that with the working-classes fruit as food was practically unknown. In the great advance in the so called education of the people this question had been passed over, and one had only to gain access to the home of an ordinary working-man, or to become sufficiently friendly to get near him at his dinner-time, to see upon what sorry stuff he had to bear the burden and heat of a labour-day. The Royal Horticultural Society, which had done so much noble work in the past, would add still greener laurels to its wreath if it would help the work of existing organisations bent upon the improvement of the economic aspect of the condition of the people. The claims he advocated tended to the employment of labour in healthy occupations, and the energies of labour so happily and wisely directed would have for their ultimate end the wealthier, happier, life of the people of the earth. He would fain hope that they would determine that these considerations now well worth their closer and more serious attention. Unless they grappled with them, they could never rightly realise the importance of British fruit growing from a food point of view.

Mr Roupell, Norwood, speaking as an experienced fruit grower, said he always listened with the greatest pleasure and profit to Mr. Baillie. Alluding specially to Tomatos, he said the fact that such large quantities were being consumed was something to be thankful for. Nothing had surprised him so much as the rapid growth of the taste for that fruit. He remembered the time when Tomatos were looked upon as very little superior in flavour to the Potato-apple, but now the demand exceeded the supply. Of course, he was speaking of sound, ripe fruit, and not of the rubbish that was put upon the market. With reference to the views of vegetarians, he could not help thinking that a Norfolk dumpling was greatly improved by the addition of a little bit of beef-suet; and he noticed that vegetarians spoke as if they eschewed everything but vegetable food, while at the same time indulging in milk, cheese, and sometimes good beef gravy.

With regard to the planting of Apples, he said his experience had shown that if they had a fairly good soil and used the Paradise stock, they would get a crop the second year after planting, and might look for an average crop every year after. If one sort did not bear, another would, and it was only necessary to select those of good qualities. The old varieties were now out of date, and a nurseryman would be only too glad to obliterate them from the list altogether. That, however, could not be done, because gardeners are continually asked by some old-fashioned persons for a particular variety they were fond of when boys. With Cox's Orange Pippin, the American Mother, and one or two other varieties, they could dispense with the old Ribston. A dozen varieties of Apples might be grown in an average garden, but care should be taken that the soil was not exhausted, as was too often the case, before planting took place.

Mr Basham Busselley, Monk, spoke of the enormous benefits which would accrue to the coal-miners and other hard workers in his district, if they made a freer use of the Apple He considered growers had got beyond the stage of carping criticism, and he was certain they could out-do the foreigner in the way of cultivation. Of his own exhibits at the present show not a single tree was planted nine years ago, and he was so satisfied with his experiments that he would continue them. Most of his exhibits were grown on the Paradise stock, which was much better than the old Crab-tree stock. A very much finer fruit was obtained, and they could depend upon it that if they were to hold their own in face of the large importation of fruit, they must make up their minds to grow something superior to the foreign article. If they did that, he had confidence in the future of the British fruit-grower.

Mr Bytheway (Llanelly), who had some fine fruit in the show, in reply to the Chairman, said he had never grown under glass, and he certainly did not believe in walls He considered that South Wales was the country for Apple-growing, on account of its moisture. America had the colour, "but," added the speaker, "I beat the Americans this time. I might say," he added, "that I live in a gale of wind; and if I can grow, anyone with the needful enthusiasm and love for the calling can do as well"

Mr. A. H. Pearson proposed a vote of thanks to Mr. Baillie, and said that the fruit they saw that day showed that Mr. Bytheway had the assistance of something other than the gale of wind he spoke of. The vote having been carried, thanks were also accorded to Mr Bunyard for presiding, and the Conference adjourned till the following day.

Second Day's Conference.

THE CIDER AND PERRY INDUSTRY

On Friday, October 2, Mr Rogers Cook, M.P., read a paper on the subject of cider and perry, dealing with the process of manufacture, and suggesting means for the extension of the industry. Mr. Geo. Bunyard presided in the absence of Sir Trevor Lawrence, who sent a telegram regretting that he was unable to be present through indisposition.

Mr Cook said he had no doubt that it was in consequence of the public interest he had taken in the promotion of the cider and perry industry that he had been honoured with an invitation to read a paper on the subject before the Royal Horticultural Society. He had long been of opinion that the cider industry was one capable of considerable development, and from which farmers might derive more profit than they did now. The industry was formerly one of great importance. Dr. Beale, a distinguished horticulturist, who wrote in the second half of the seventeenth century, declared that Herefordshire orchards were a pattern for all England; and Evelyn, somewhat later in the same century, said that the same county had become one entire orchard. The same Dr. Beale extolled the cider produced, and alluded to the fact that King Charles I., with the gentry who were brought thither as prisoners, preferred it before the best wines those parts afforded. The industry of cider and perry-making was a profitable one throughout the eighteenth and into the early part of the nineteenth century. The industry declined for two reasons. During the French war the price of corn and meat was very high, and farmers, turning their attention to corn-growing and cattle-raising, grubbed up their orchards, and as other agricultural produce became more profitable, they neglected to keep up such orchards as were allowed to remain. The second reason was the selfish and suicidal conduct of the cider merchants and middlemen, who, after bringing the liquor from the farmer at a low price, thinned it with water, making, as the saying went, five hogsheads out of three, and fortified it in order to disguise their malpractices, and make stuff sufficiently palatable to sell in Bristol and London, which were the chief centres of the trade. The result was to bring cider into general discredit with the public, and ultimately lessen the demand. There was this to be said for the cider and perry industry, it was at the present moment the only agricultural industry which appeared to be capable of development to an almost unlimited extent, and in which we were, in a great degree, not as yet seriously endanged by foreign competition. It was therefore a hopeful industry, and there was every reason to believe that once the merits of good cider and perry were generally known, the demand would result in these drinks taking the place, not indeed of good wholesome pure beer, but of the many artificial beverages by which the taste of the public was now so sadly vitiated. The industry was still one of much more importance than was generally supposed. The principal cider and perry producing counties of England were Devon, Hereford, Somerset, Worcester, and Gloucester. In area under orchards in these counties were 115,045 acres in 1884, and 116,192 in 1896, an increase of 1,147 acres Cider was also made in the five neighbouring counties of Cornwall, Dorset, Monmouth, Shropshire, and Wiltshire; and it had been calculated that the area under orcharding amounted to about 140,000 acres. The authors of that great work, *The Herefordshire Pomona*, gave as an average yield (low average) of liquor per acre of 200 gallons, and the average price 3*d.* a gallon. He considered this considerably below the true figures. He would put the yield at 300 gallons per acre, and the price 5*d.* per gallon. The total production would be 33,600,000 gallons, and the value £700,000. This showed that the industry was a considerable one. Having described the process of manufacture, he said all Apples and Pears would not make good cider and perry. The process of making was simple, and resembled that of wine-making. Fermentation was the most difficult stage in the process. Either it was unduly delayed by cold or by a deficiency of sugar in the fruit; or, what was more often the case, it was too persistent, and continued so long as ultimately to exhaust all the sugar in the cider, and render it hard; and it might proceed a stage further and become acetous, when of course the liquor was ruined, and practically became vinegar. Experience could overcome these difficulties to an extent, but the knowledge was more or less superficial, and not being founded on scientific principles, it too often died with those who practised it. All manufacturers had much to learn. There were two systems of cider making, originating in the endeavour to overcome the difficulties of fermentation, especially the tendency to the conversion of all the natural sugar of the fruit into alcohol. By the first system—the natural system—fermentation was checked before all the sugar had been converted into alcohol, and the resulting liquor was bottled, or sent out on draught, with a sufficient portion of its natural sweetness remaining in it to render it palatable to the general public. By the second system, the liquor was fermented to dryness, that was to say, all the sugar was converted into alcohol, and in order to render it acceptable, it was afterwards sweetened by the addition of a substance, such as saccharin, which would not set up fresh fermentation, and if it was wanting in flavour, some flavouring substance was added also. Both systems had their votaries. The second was the easier of the two, but he greatly preferred the first, and it was of cider and perry so made that he ventured to extol the merits as wholesome beverages. He recommended these drinks because they were natural drinks, made from the juice of ripe fruits without the admixture of any foreign substance, pleasant to the palate, refreshing, and of low alcoholic strength. Ordinary cider, such as would be acceptable to the general public, rarely contained as much as 4 per cent. of alcohol. Having spoken of the medicinal qualities of these drinks, he proceeded to consider the industrial value of the trade, and the benefits which would accrue to the farmers who had orchards. In years of abundance, fruit (Apples and Pears) was too often left to rot on the ground for want of a demand. There was no difficulty in selling really good sound liquor, and there could be no doubt that its manufacture was already being taken up in different parts of the United Kingdom and our colonies. As to there being no fear of outside competition, he might be asked to justify his opinion in face of the considerable importation from America—our only rival worth naming. The Board of Trade returns did not support the view that the English markets were in immediate danger of being swamped by American cider. He hoped that the real reason why the importation of American cider had not increased to the extent at one time feared was to be found in the inferior quality of the article compared with that produced at home Much of the American cider imported into this country was Pasteurised, and so had to be artificially aerated after its arrival. If not Pasteurised, a chemical preservative, such as salicylic acid or boracic acid, had to be added to it, in order to enable it to bear the voyage. He was not sufficiently versed in chemistry to say what might be the effect on the human system of continued doses of these drugs, which formed the basis of most of the secret nostrums sold to cider makers for the doctoring of the liquor; but as the object of using them was to enable inferior drink, or drink already on the turn, to be passed off as good, he thought their use should either be prohibited, as was already the case in some countries, or that a statement of the kind and quality of the agent employed should appear on a label attached to the article sold.

To obtain a regular supply of good English cider and perry, the first thing to be done was to renovate our orchards, destroy the old and worthless trees, and replace them with the most approved vintage fruits, which experience had shown to be suited to a given locality He advocated penal legislation, which would affect those persons who would not properly look after their trees, as was the case in Tasmania; he also considered that at least two experimental establishments should be started in the country at the cost of the State; that the cost of carriage for cider should be reduced, for which purpose the State should acquire the canals; and that the Adulteration Acts should be more rigidly enforced.

The Chairman asked how soon young cider trees came into bearing?

Mr. John Watkins, Hereford, in reply, said that few sorts of cider trees were early bearers, but if a good fruit was wanted it was worth waiting for. They must all be

thankful to Mr. COOK for his comprehensive paper. He himself was a cider-maker, and he found no difficulty in selling his best cider—the demand practically speaking, was unlimited. Of course, in a large business there was always an amount of liquor which had to be sold at a cheaper rate, but it was not the class of cider he wished to develop. If the public required a good article they should be prepared to pay for it. Much cider was sold that was quite innocent of Apple juice at all!

Mr. GAYMER, Norfolk, expressed the pleasure he had experienced in listening to the paper. He spoke of some American cider having been analysed. He would not, he said, state what the result of the analysis was, but if the public would only have some analysed and the cost was next to nothing—they would be surprised at the result!

Mr. TILL, Kent, asked if an Apple could be recommended that would do for cider as well as for culinary purposes.

Mr. WATKINS said there were several varieties, and promised to supply a list to the Secretary of the Royal Horticultural Society.

Mr. A. DEAN, Kingston, suggested that no license for alcoholic liquors should be issued in this country unless the person seeking the license would undertake to sell cider. That would put the brewers on their mettle, especially as they were doing all in their power to "tie" as many houses as possible.

Mr. COOK said the question of "tied" houses was one he had considered. He had been informed that certain brewers were going to take up the trade and sell cider as well as beer.

Mr. DEAN.—Not their own manufacture?

Mr. COOK.—I hope not. He added that the middleman derived too great a benefit from the cider trade at the expense of the farmer. At a certain hotel in London, he had to pay 2*s.* a quart for cider, 8*s.* a gallon! He wrote to the directors, who said that a mistake had been made—it had been going on for some years—and the price was reduced to one-half. In Hereford, where they ought to know better, he had been charged 1*s.* 6*d.* a quart; and in another town he had to pay for American cider at the rate of 5*s.* 8*d.* a gallon, although it was sold to dealers in this country at from 8*d.* to 10*d.* a gallon.

The Chairman, in proposing a vote of thanks to Mr Cook, said they were all indebted to that gentleman for the energetic action he was taking to raise the industry. He was glad to see that Mr. Cook was going in for a really good article as, as had been said, there were some sorts of cider that should only be approached with prayer and meditation. He hoped a taste would be revived for a good wholesome liquor from which the health and the pocket of the community would benefit.

The vote was carried enthusiastically, and the Conference adjourned.

(To be continued).

DEVON AND EXETER GARDENERS' ASSOCIATION.

SEPTEMBER 30.—The annual meeting of the members of this association took place in the Guildhall on the above date, the Right Worshipful the Mayor of EXETER presiding.

The Hon. Secretary (Mr. A. HOPE) read the committee's report for the session 1895-96, which stated that in the beginning of the sixth year of the existence of this Association the committee was in the pleasing position of looking back upon its work with genuine satisfaction, and looking hopefully to the future. The report referred to the fact that a branch of the Gardeners' Royal Benevolent Institution had been formed in Exeter, with an influential and comprehensive committee. The Spring Flower Show was referred to as a great success. The committee recommended that it be an annual fixture. The committee acknowledged handsome gifts to the library, one being a presentation copy of *A Traveller's Notes; or, Travels Round the World in Pursuit of Horticultural Knowledge*, by Mr. James H. Veitch, of the Royal Exotic Nurseries, Chelsea, presented by the author.

NATIONAL CHRYSANTHEMUM.

OCTOBER 6, 7, 8.—The second show of the season, under the auspices of this society, was commenced in the Royal Aquarium on Tuesday last. We regret that in a measure it must be written a poor display, and it certainly bore no comparison with the splendid exhibition that took place in October last year. We were prepared to expect only a moderate display, for the unfavourable character of the weather latterly has been notorious, but in most of the classes there was little competition indeed, and of Pompons there was not an exhibit worthy of mention in these columns. It would be disappointing if the success of the forthcoming Jubilee Exhibition were in proportion to that under notice, but this may not necessarily be so, for the weather has delayed the plants in a manner quite unexpectedly, and in November there may be an abundance of exhibition blooms. On the other hand, however, there is an impression that Chrysanthemums will not be phenominally good this autumn, or as first-rate as the Society would wish upon the occasion of the Jubilee.

The group of Chrysanthemum and foliage plants had to be arranged upon a space of 72 superficial feet. There were three exhibits of considerable merit, and the 1st prize was obtained by Mr. H. J. JONES, Ryecroft Nursery, Hither Green, Lewisham, whose arrangement showed excellent taste. The blooms upon the Chrysanthemums were not crowded, but were of fine quality, and the Crotons, Dracænas, and Ferns, with which the group was embellished, were disposed in an effective manner. Mr. W. WELLS, Earlswood Nurseries, Redhill, was 2nd, with a very different group, in which foliage plants played a less prominent part. A number of plants was included of Madame Gustave Henry, a white incurved Japanese, elsewhere noticed as the recipient of a First-class Certificate, Admiral Avellan, Souvenir de petite Amie Louise, and others, were well shown in the group. The 3rd prize was taken by Mr. GEO. STEVENS, Putney.

Twenty-four Blooms, Japanese.—The 1st prize was taken by Mr JAS. AGATE, nurseryman, Havant. The flowers, whilst being commendable, were not so good as those shown at the similar show last season. Some of the best were Emily Silsbury, Duchess of York, Phœbus, The Graphic, Duchess of Wellington, Pallanza, &c.

Twelve Blooms, Japanese.—The 1st prize in this class was also taken by Mr. JAS. AGATE. His varieties were The Graphic, Madame Jos. Allamond, Mrs. Trafford, Phœbus, Wm. Seaward, Madame E. Rosette, Wilfred Marshall, Princess May, Le Chartrex, Emily Silsbury, Pallanza, and Mutual Friend. 2nd, Mr. Jas. Watt, gr. to HENRY BELL, Esq., Fitz-John Avenue, Hampstead. Varieties in this exhibit included Wm. Tricker, President Borel, Col. W. B. Smith, Duchess of York, Flame, and Sunflower.

Six Blooms, Incurved. Mr. JAS. AGATE was 1st, with blooms of moderate quality, which lacked depth and build; the varieties were Mons. R. Babuant, Perle Duphinour, a Japanese incurved bloom as shown, and Globe d'Or. 2nd, Mr. D. M. Hayler, gr. to W. HANNAFORD, Esq., J.P., Tenterden Hall, Hendon.

The best two vases of Chrysanthemum blooms, to contain twelve blooms of large-flowering varieties in each, and any suitable foliage, &c., were from Mr. J. Tullett, gr. to G. ALEXANDER, Esq., Warley Lodge, Brentwood, and they well deserved all commendation; Mr. J. Brookes, gr. to W. J. NEWMAN, Esq., Park House, Totteridge, was 2nd; and Mr. JAS. AGATE 3rd.

Twelve Blooms Japanese (Amateurs).—Mr. MARTIN SILSBURY was 1st, with an exhibit that contained but one coloured variety, other than yellow or white. Snowdrift in the front row was a pretty seedling bloom with perfectly white, rather wide florets, somewhat twisted. Other Seedling varieties were included, and there was a good bloom of Emily Silsbury; 2nd, Mr. W. Amies, South Asluford, Kent.

Six Blooms, Japanese (Amateurs).—1st, Mr. M SILSBURY, including four seedlings, and a bloom each of Emily Silsbury and Sunflower. 2nd, Mr. W. AMIES.

In the Single-handed Gardener's Classes, a 2nd prize was gained by Mr. J. Knapp, gr. to F. W. AMSDEN, Esq., 22, Chichester Road, Croydon, for twelve blooms of Japanese distinct; and the same exhibitor was 1st for a collection of six blooms distinct, showing W. H. Lincoln, Mons. A. Molin, Madame E. Rey, Mrs. W. H. Lees, M. C. Capitante, and Mdlle. Thérèse Rey.

Floral Arrangements (Open).—The best table of bouquets, and other designs illustrating the value of Chrysanthemums for such purposes, was one from Mr. L. H CALCUT, Fern Bank Nursery, Stoke Newington. The exhibit was a commendable one. Mr. W. GREEN, Junr., The Nurseries, Harold Wood, Essex, was 2nd; and Mr. HENRY O GARFORD, Stoke Newington Station, 3rd.

Mr. D. B. CRANE had an exquisite trio of Epergnes arranged with Chrysanthemums; and Mr. C. J. GATEHOUSE, Granville Nursery, Lewisham, was 2nd.

The best vase of Chrysanthemums suitable for table decoration, was one from Mr. D. M. Hayler, gr. to W. HANNAFORD, Esq., Tenterden Hall, Hendon.

Non-competitive Exhibits.—That the floor of the building was fairly well furnished with horticultural produce, it was due to the numerous and large exhibits made by the trade and others.

Mr. W. J. GODFREY, Exmouth Nurseries, showed a number of blooms of Chrysanthemum Barbara Forbes, an October flowering white incurved Japanese variety, which was awarded a First-class Certificate in September. There were other varieties also, some of which were submitted to the Floral Committee.

A number of Callas were shown also of the Little Gem type, but with several distinctive names attached, the reason for which was not apparent.

Mr. JNO WATKINS, Pomona Farm, Hereford, and Messrs. WM. GAYMER & SONS, Norfolk, exhibited specimens of cider and cider Apples.

Mr. S. MORTIMER, Farnham, made an exhibit of various types of Dahlia blooms; and from Mr. NORMAN DAVIS, Framfield Nurseries, Sussex, was an extensive collection of perennial Asters in variety.

Mr. THOS. S. WARE showed a number of Chrysanthemum blooms, and one of the fountains was decorated around the base by Dahlia blooms from the same firm.

Mr. CHAS. TURNER, Slough, showed a few Dahlias; and Mr. CHAS. SHAW, florist, Sherwood, Nottingham, made an exhibit of Chrysanthemum blooms grown out-of-doors. Cannas were exhibited in a nice group of plants from Messrs. H. CANNELL & SONS, Swanley; and Messrs DOBBIE & Co., Rothesay, had out-of-doors grown Chrysanthemums, and a collection of Dahlia blooms.

Mr. H. J. JONES, Ryecroft Nursery, Lewisham, furnished a large table with sprays of Pelargonium bloom; and a few Chrysanthemums, and Dahlias and fruit were shown by Messrs. J. CHEAL & SONS, Crawley.

A pretty group of Crotons was the exhibit of Mr. T. W. Davies, gr. to — DARNELL, Esq., Devonshire House, Stamford Hill.

Chrysanthemums in sprays from plants which had not been thinned, were shown by Mr. W. PIERCY, 89, Beardwell Road, Forest Hill.

Messrs. SANKEY & SON, Bulwell Pottery, Nottingham, had some of their well-known flower-pots; and samples of the One-and-All manures from the AGRICULTURAL AND HORTICULTURAL ASSOCIATION were noticed.

Mr. H. BERWICK, Sidmouth Nurseries, exhibited fruit, as did also Messrs. JNO. LAING & SON, Forest Hill, S.E., and Messrs. SPOONER & SONS, Hounslow.

Messrs. WEBB & SONS, Stourbridge, had a collection of vegetables; and Mr. A. LARKE, 14, Kensington High Street, was responsible for a sparsely decorated dinner-table.

Messrs. CUTBUSH & SONS, Highgate, had a table of foliage plants, and a few plants in flower of Begonia Gloire de Lorraine.

The Floral Committee had a considerable number of subjects brought under its notice, though but few Chrysanthemums were present, as it is a little too early for them to be shown in the best form. Surprise, a very fine large-flowered Japanese, large, full, and broad-petalled, the colour bright crimson-amaranth, with a silvery reverse; and Madame Gustave Henry, a large, full, broad-petalled white both from Mr. W. WELLS, Earlswood Nurseries, Redhill, both received First-class Certificates of Merit.

Some varieties of a promising character, especially in the way of early-flowering decorative varieties, were shown by Mr. H. J. JONES and Mr. F. G. FOSTER, which will be seen in more matured character later on. Snowdrift, a highly promising white from Mr. MARTIN SILSBURY, was also much admired, and will, no doubt, receive a Certificate of Merit before long. The same may be said of Lady Grey, also a fine white Japanese, from Mr. R. OWEN.

In the way of Dahlias, First-class Certificates of Merit were awarded White Cactus Miss Webster, from Messrs. DOBBIE & Co., Rothesay and Orpington; and to the following Pompon varieties, from Mr. C. TURNER, Slough, viz.:—Dagmar, Clarissa, and Gunivere. They also had some new Cactus varieties, that were scarcely in sufficient character so late in the season to be at their best. Mr. JARNOLD, Stock, Devonport, sent some of his pretty decorative varieties; and Mr. JOHN GREEN, Dereham, his new Cactus variety, Aurora, also a little out of character.

Messrs. J. LAING & SON, Stanstead Nurseries, Forest Hill, received an award for a fine early Apple, named Sir J. Banks.

From Mr. T. S. WARE came a distinct-coloured Nerine, named Novelty, and a fine form of Sternbergia lutea, named macrantha. Several other subjects were staged, but the foregoing were the most noteworthy.

EXPERIMENTS WITH "JADU FIBRE."

THE following paper was read by the Secretary at the meeting of the Agri-Horticultural Society of India, held recently:—

"Jadu Fibre as a Propagating Medium," comparative experiments in propagation by "Gootee" or "China" layer, with the aid of "Jadu Fibre," and the ordinary kneaded clayey earth have been conducted since May 15 last with the following results:—

Variety.	Rooted in Jadu.	Rooted in Earth.
Aglaia odorata	72 days	0 days
Amherstia nobilis	43 ,,	67 ,,
Bougainvillea lateritia	38 ,,	0 ,,
Browneas	27 ,,	58 ,,
Cæsalpinia Grahami	0 ,,	0 ,,
Cochlospermum Gossypium ...	0 ,,	0 ,,
Filicium decipiens	65 ,,	0 ,,
Lichees	32 ,,	49 ,,
Mangos	28 ,,	41 ,,
Olea fragrans	76 ,,	0 ,,
Crotons	9 ,,	21 ,,
Dracænas	13 ,,	24 ,,
Dracæna fragans latifolia	74 ,,	0 ,,
,, Lindeni	70 ,,	0 ,,
,, Goldeana	67 ,,	0 ,,

From the above it will be seen that the Cæsalpinia Grahami and Cochlospermum Gossypium have not to date rooted; the branches of both of these on which experiments had been made died within two weeks of the operation being performed. In the case of branches treated in the ordinary way, as detailed below for the information of members to whom the operation is not familiar, it will be noticed that roots did not appear till nearly twenty days later than those treated with "Jadu." "0" indicates that these had not rooted to date of report, August 27.

"*Gootee.*"—The following is the description of propagation by "Gootee." as it appeared in the *Transactions* of the Society, vol. iii., p. 2., and vol. vi., p. 18:—"Select a firm, healthy branch, the wood of which is well ripened, and immediately below a leaf-bud take off a small ring of bark, about 1 inch wide; scrape the woody part well, so that no bark remains. Apply a ball of well-tempered clay, bind it securely with tow, or other soft bandage, make it fast to a stake if necessary; hang a small pot having a hole in the bottom just over the 'Gootee,' and supply it with water daily. In a few months you obtain a fine well-rooted plant As soon as the roots are seen protruding themselves through the bandage, the branch may be cut off from the parent tree, and planted where it is intended that it should remain. If it be found that the flow of water from the pot suspended above the 'Gootee' trickles too quickly, it is suggested that a thin piece of rope, knotted at one end, be passed into the pot and through the hole, the knot fitting the inside of the hole rather tightly; the other end of the rope should be drawn tight, and attached to the top of the 'Gootee.' In this way the water will trickle down the rope, and be distributed evenly over the 'Gootee.'"

Hitherto Filicium decipiens has defied all methods of propagation, except in the way of cuttings on a hot-bed under glass; but a few good plants were secured by "Jadu" being used in the "Gootee" instead of earth or clay. *Extract from "Calcutta Daily News."*

SCIADOPITYS VERTICILLATA.

If one may give credit to rumour, this choice Conifer does not grow very freely in many places in the British isles, a matter of regret when we consider what a handsome and distinct tree it is. I have about two dozen specimens under my care, which I have mostly grown from the seedling state; they are in perfect health, with dark green leaves, and make over 1 foot of growth annually. We find the best time for transplanting is from the middle to the end of October, and the soil they grow best in is loam, peat and leaf soil in equal parts. They require to be planted in a sheltered situation, as cutting cold winds very soon change their colour. Some plants which we put out in prominent but exposed sites, had to be removed to shelter again; they also require a certain amount of shade, and copious supplies of water during the summer months when growing freely.

If left to nature, I find the Sciadopitys will grow with a single leader and an open habit of growth, but if the leader be stopped when the plant is about 1 foot in height, it will send out lateral growths, and lay the foundation of a well-shaped tree, and later on will send up a leader. Recently, I measured a plant that had been stopped three years ago, and is only seven years from the seedling state, and I find it is 5½ feet in height, and 13½ feet in circumference. *Planter.*

Obituary.

William Robinson.—Many of our readers will learn with regret that Mr. William Robinson, head-gardener for twenty years to Mrs. F. L. Ames, of Boston, U.S.A., died on Wednesday, September 16, at the age of forty-five years. Mr. Robinson was a native of Bedale, Yorkshire, and was in early life employed in such good gardens as those of the Duke of Cleveland and Sir Titus Salt; and he was for some years employed in Messrs. J. Veitch & Sons' nursery, Chelsea. He was a good all-round gardener, and an expert cultivator of Orchids, and a hybridiser of them as well, and succeeded in raising some highly interesting crosses of Cypripediums, some of which are likely to remain extremely rare, owing to the scarcity of the parent species. He also tried his skill on Masdevallias, and several of his raising have been distributed.

Mrs. Darwin.—The death is announced, at the age of 88, at Down, Kent, on the 2nd inst., of Mrs. Darwin, widow of the late Charles Darwin, the illustrious naturalist. Mrs. Darwin's maiden name was Emma Wedgwood, and she was the daughter of Darwin's uncle, Josiah Wedgwood, and the granddaughter of the founder of the Etruria works. She was married to Mr. Darwin on January 29, 1839. After their marriage they lived at 12, Upper Gower Street, where they remained until 1842, when the move to Down was made. It was at Down that Darwin died on April 19, 1882. A few days more and Mrs. Darwin might have lived to hear a Bishop at the Church Congress speak in wise and sympathetic terms of that hypothesis which another prelate some yaars since endeavoured to ridicule. But Bishop Wilberforce had not taken the measure of his Huxley!

William Paterson.—After a record of forty-years' faithful service as head gardener to Her Majesty the Queen, at Balmoral, Mr. William Paterson died on Monday of this week, at Daisy Cottage, Balmoral, at the age of 72. Mr. Paterson was a man of fine character, of the highest integrity, and of genuine Christian spirit, qualities that were appreciated by his Royal mistress and by the Royal Family.

William Paterson was born in 1824, at Mortlach, Banffshire, where his father rented a small farm. He received most of his education at the parish school of Fochabers, and, when 16 years of age, he was apprenticed to Mr. Christie, nurseryman, Fochabers, [in whose nursery in those days there was grown a good general stock. New shrubs were always added as they came out, and this gave William Paterson an excellent opportunity of acquiring a knowledge of their names, mode of propagation, &c., as well as the management of nursery stock. From Fochabers Mr. Paterson removed to Aberdeen, where he entered the then celebrated nurseries of Messrs. Roy & Sons, and he remained there for two years, acquiring a still wider knowledge of his profession. Thence he entered the service of the Duke of Leeds at Old Mar Lodge, Braemar (a few miles above Balmoral Castle), where he remained two seasons. In 1847, on the recommendation of Mrs. Farquharson, of Invercauld, Mr. Paterson was appointed head gardener to Sir Robert Gordon, at the old castle of Balmoral, which occupied a site not far from the present stately pile. Balmoral was at that time leased by Sir Robert from the then Earl of Fife. Only three days after Mr. Paterson's appointment Sir Robert died, and Her Majesty the Queen then took over the remainder of the lease, on the expiry of which she purchased the Balmoral estate. It was at Martinmas, 1847, that Mr. Paterson went to Balmoral, and in August of the following year he was formally appointed to the position from which he only retired in 1892, in consequence of declining health. A pension was granted him by Her Majesty, who also placed the beautiful Daisy Cottage at his disposal, where with his wife, who survives him, he spent the concluding years of his life, enjoying every comfort. Five years ago Mr. Paterson underwent an operation at the hands of Professor Ogston, of Aberdeen University, which was successfully performed, and prolonged his life, although latterly he suffered a good deal of pain. If anything could have alleviated those sufferings, it would have been the constant solicitude for his comfort shown by Her Majesty the Queen, Princess Henry of Battenberg, and other members of the Royal Family. During his last illness he was attended twice a day by Sir James Reid, Her Majesty's private medical man. Mr. Paterson had a thorough knowledge of his profession. He was not only a successful florist, but he had a wide and accurate knowledge of shrubs and trees, and he was possessed of excellent taste. Few could with more skill produce a bouquet or decorate a table.

Mr. Paterson leaves a widow, one son and three daughters. The son is Lieutenant Paterson, 1st Vol. Bat. Gordon Highlanders, Aberdeen, one of the best-known shots in Scotland. The funeral took place on Thursday, the 9th inst., at Crathie Churchyard Balmoral.

Alexander Simpson Smith, Gardener and Naturalist.—The death, at the age of 59 years, is announced of Mr. Alexander Simpson Smith, head gardener at Castletown, in which capacity he had served the family for nearly thirty-five years. Mr. Smith came originally from Aberdeen, where he and a younger brother, who at the present time is head gardener to Lord Rosebery at Mentmore, served their apprenticeship, and afterwards became distinguished members of their craft. Mr. Smith's quiet and unobtrusive manners endeared him to all with whom he came in contact. He took a lively interest in every social movement affecting the good of the district in which he so long resided, and in which the influence or his gentle life will not soon be forgotten. Mr. Smith leaves a widow, three sons and one daughter. His remains were interred in the Castletown family burial ground in Rockliffe Churchyard. Mr. Smith was a born naturalist as well as a most enthusiastic sportsman. His interest in zoology was not limited to ornithology. He observed wild life too lovingly to limit his interest to any one section of natural history Many naturalists residing in other parts of England have enjoyed the rare privilege of being introduced to the bird-life on the Solway Marshes by Mr. Smith. He was at all times very ready to supply information about local natural history when the *Birds of Cumberland* was in preparation. Mr. Smith was also a regular contributor and subscriber to the *British Rainfall*, edited by Mr. G. J. Symons, F.M.S., several copies of the annual record having been presented to Tullie House by Mr. Smith.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Accumulated. Above (+) or below (−) the Mean for the week ending October 3.	Above 42° for the Week.	Below 42° for the Week.	Above 42°, difference from Mean since December 29, 1895.	Below 42°, difference from Mean since December 29, 1895.	Rainfall. More (+) or less (−) than Mean for the Week.	No. of Rainy Days since Dec. 29, 1895.	Total Fall since Jan. 1, 1896.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Dec. 29, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	1 −	44	0	+ 240	− 324	3 +	187	41·8	16	24
1	0 aver	55	0	+ 191	− 246	2 −	155	19·8	27	30
2	1 +	72	0	+ 268	− 223	4 −	131	14·5	32	29
3	0 aver	72	0	+ 219	− 230	5 −	132	17·2	32	36
4	1 +	72	0	+ 225	− 250	3 −	131	17·2	28	32
5	0 aver	85	0	+ 300	− 241	5 −	120	16·9	33	38
6	1 +	69	0	+ 284	− 230	2 −	165	33·5	21	32
7	1 +	78	0	+ 361	− 259	0 aver	149	25·1	21	32
8	0 aver	81	0	+ 403	− 207	0 aver	129	20·9	32	41
9	1 +	68	0	+ 291	− 234	2 +	171	30·0	15	28
10	1 +	79	0	+ 391	− 212	1 +	146	26·2	23	33
*0	aver	103	0	+ 531	− 109	2 −	138	17·9	31	47

The districts indicated by number in the first column are the following:—

0, Scotland N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending October 3, is furnished from the Meteorological Office :—

"The *weather* during this period showed a considerable improvement over the kingdom as a whole, but a good deal of rain was again experienced in the western districts.

"The *temperature* differed very little from the mean. The highest of the maxima, which were recorded on September 27 over England, and later in the week over Ireland and Scotland, ranged from 69° in the 'Channel Islands,' and 67° or 68° in most of the English districts, to 63° in 'Scotland, N.,' and 61° in 'Scotland, W.' The lowest of the minima were registered about the middle of the week, and ranged from 34° in 'Scotland, N. and E.,' and 35° in 'England, E.,' to 41° in 'England, S.,' and to 48° in the 'Channel Islands.'

"The *rainfall* somewhat exceeded the mean over Ireland and in 'Scotland, N.,' and just equalled it in 'England, S.W. and N.W.;' in all the other districts, however, the fall was considerably less than the normal.

"The *bright sunshine* slightly exceeded the mean in 'England, N.E.,' and just equalled it in 'Scotland, E.,' but was deficient in all other parts of the kingdom. The percentage of the possible amount of duration ranged from 33 to 28 in most of the English districts, to 21 in 'Scotland, W.' and 'England, N.W.,' 16 in 'Scotland, N.,' and 15 in 'Ireland, N.'"

ENQUIRIES.

"He that questioneth much shall learn much."—BACON.

ECZEMA CAUSED BY ROMAN HYACINTH.—It would appear in some instances that a form of eczema has been caused by handling bulbs of the common Roman Hyacinth, or possibly by the Buckwheat-packing in which they are received in this country. Has any large dealer in these bulbs noticed anything of the kind this year? *Hyacinthus.*

SCREEN OF FERNS.—A correspondent, "H. T. M.," writes: "I have for several years derived much pleasure in collecting specimen fronds of exotic Ferns, which I have pressed, and am now keeping in a large folio, my intention being to form a collection in the way of a screen of four folds, but am at a loss to know how to proceed in placing the fronds on to the screen which has a smooth white surface, also what adhesive to use for the purpose. Will any reader of the *Gardeners' Chronicle*, who has had experience in such, kindly advise me."

MARKETS.

COVENT GARDEN, OCTOBER 8.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Arums, p. 12 blooms	3 0	6 0
Asters, English, doz. bunches	3 0	6 0
Bouvardias, per bn.	0 4	0 6
Carnations, 12 bun.	4 0	8 0
— 12 blooms	0 6	2 0
Chrysanthemums, doz. bun.	3 0	6 0
— doz. blooms	1 0	4 0
Eucharis, per dozen	2 6	4 0
Gardenias, per doz.	1 0	3 0
Gladiolus, coloured, per doz. sprays	1 0	2 0
Lilac, wh. (French), per bunch	3 6	5 0
Lilium Harrisi, per doz. blooms	3 0	6 0
— lancifolium, doz. blooms	0 9	2 0
Maidenhair Fern, per 12 bunches	4 0	8 0
Marguerites, per 12 bunches	1 0	2 0
Mignonette, per doz. bunches	2 0	4 0
Orchids :—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 bm.	2 0	6 0
Pelargoniums, scarlet, per 12 bun.	3 0	6 0
— per 12 sprays	0 4	0 6
Pyrethrums, 12 bn.	2 0	4 0
Roses, Tea, per doz.	0 9	1 6
— coloured, doz.	0 9	1 6
— yellow (Maréchal), per doz.	2 0	4 0
— red, per dozen	0 6	1 0
— red, doz. bun.	4 0	6 0
— Gloire, doz. bn.	4 0	6 0
— Safrano, p. doz.	1 0	2 0
Stephanotis, 12 sps.	3 0	4 0
Tuberoses, 12 blms.	0 2	0 4
Violets (French), doz. bunches	1 6	—
— (Eng.), per doz. bun.	1 6	2 6
— Parme (Eng.), doz. bun.	3 0	4 0

ORCHID-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistras, per doz.	12 0	30 0
— specimen, each	5 0	15 0
Asters, doz. pots	3 0	5 0
Chrysanthemums, per. doz.	4 0	9 0
Coleus, per doz.	2 0	4 0
Dracænas, each	1 0	7 6
— various, p. doz.	12 0	24 0
Ericas, p. doz.	10 0	12 0
Evergreen Shrubs, in variety, doz.	6 0	24 0
Ferns, small, doz.	1 0	2 0
— various, doz.	5 0	12 0
Ficus elastica, each	1 0	7 6
Foliage plants, doz.	12 0	36 0
Heliotropes, p. doz.	4 0	6 0
Marguerites, p. doz.	6 0	10 0
Mignonette, p. doz.	4 0	6 0
Palms, various, ea.	2 0	10 0
— specimens, ea.	10 6	84 0
Pelargoniums, Scarlets, p. doz.	2 0	4 0
Solanums, p. doz.	12 0	15 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Apples, cooking, in variety, per sieve	2 0	2 6
— dessert, in variety, per ½-sieve	2 6	4 0
Figs, per doz.	0 6	0 8
Grapes, Alicante, 1st quality, per lb.	1 0	1 3
— Alicante, 2nd quality, per lb.	0 6	0 8
— Hamburgh, 1st quality, per lb.	1 0	1 3
— Hamburgh, 2nd quality, per lb.	0 6	0 9
— Gros Colmar, per lb.	1 0	1 6
— Muscats, English, 1st quality per lb.	2 0	2 6
2nd qual., p lb.	1 0	1 6
Grapes, Muscat, Channel Islands, per lb.	0 9	1 0
— Gros Maroc, per lb.	1 0	1 3
Melons, each	1 6	2 0
Nuts, Cob, per lb.	0 3	
Peaches, 1st size, per doz.	9 0	12
— 2nd do., per doz.	4 0	5 0
Pears, Pitmaston, p. half-sieve	3 0	4 0
— Calabash, half-sieve	4 6	5 0
— Doyenné du Comice, per ½-sieve	6 0	7 0
Pine-apples, St. Michael, each	5 0	6 0
Prunes, p. ½-sieve	4 0	5 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Cauliflowers, 5 doz.	2 6	3 0
Cucumbers, home-grown, per dz.	2 0	3 0
Mushrooms, (Indoor) per lb.	—	1 0
Tomatos, home-grown, smooth, per doz lb.	3 6	4 0
— ord. kinds, do.	2 0	2 6

POTATOS.

Best samples in good demand, at 70*s.* to 75*s*; inferior, 35*s.* to 50*s*. Disease still prevalent in most districts. *J. B. Thomas.*

SEEDS.

LONDON: *October 7.*—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., describe to-day's seed market as only moderately attended. Samples of yearling Clover-seed continue to meet with considerable speculative attention at advancing rates. The new American Red proves this season most disappointing, both in quality and price. Alsyke is strong at the recent advance. Perennial and Italian Rye grasses are steady. There is no change this week in either Rye or Tares. Blue boiling Peas of all descriptions tend upwards in value, prices come materially higher from Holland, owing to some extensive purchases recently by the Dutch Government. More money is asked for Haricots. Mustard and Rapeseed unaltered.

FRUIT AND VEGETABLES.

LIVERPOOL: *October 7.*—The following are the averages of prices since last report :—St. John's: Potatos, 8*d.* to 10*d.* per peck; Cucumbers, 4*d.* to 8*d.* each; Grapes, English, 3*s.* to 4*s.* per pound; do. foreign, 6*d.* to 8*d.* do.; Mushrooms, 4*d.* to 8*d.* do. Birkenhead: Grapes, English, 2*s.* to 3*s.* per pound; do. foreign, 4*d.* to 6*d.* do.; Pineapples, English, 4*s.* to 8*s.* each; Damsons, 1½*d.* per pound. North Haymarket: Potatos: Giants, 2*s.* to 2*s.* 4*d.* per cwt.; Main Crops, 2*s.* 3*d.* to 3*s.* 6*d.* do.; Suttons' Abundance, 2*s.* to 2*s.* 3*d.* do.; Bruce, 2*s.* 2*d.* to 2*s.* 8*d.* do.; Cartons, 2*s.* to 2*s.* 3*d.* do.; Turnips, 6*d.* to 9*d.* per dozen bunches; Carrots, 6*d.* to 8*d.* do., do., 2*s.* 6*d.* to 3*s.* per cwt.; Onions, English, 5*s.* to 6*s.* per cwt.; do., foreign, 2*s.* 6*d.* to 2*s.* 9*d.* do.; Parsley, 4*d.* to 6*d.* per dozen bunches; Cauliflowers, 6*d.* to 10*d.* per dozen; Cabbages, 6*d.* to 10*d.* do.; Celery, 1*s.* to 2*s.* do.

GLASGOW: *October 7.*—The following figures represent the averages of the past week's quotations :—*Fruit*:—Pears, 2*s.* 3*d.* per case; Apples, 6*d.* to 10*d.* per pound; Tomatos, Guernsey, 4*d.* to 5*d.* do.; do., Scotch, 7*d.* to 9*d.* do.; Plums, 3½*d.* to 4*d.* do.; Grapes, home, 2*s.* do.; Vegetables:—Turnips, white, 2*s.* 6*d.* per bunch; Savoys, 1*s.* 3*d.* per dozen; Cabbages, 8*d.* to 9*d.* per dozen; late, do., 1*s.* to 1*s.* 6*d.* do.; Red, do., 2*s.* 6*d.* to 3*s.* do.; Cauliflowers, English, 2*s.* to 2*s* 6*d.* do.; do., bunch, 6*d.* to 1*s*; Parsnips, 4*s.* per cwt.; Herbs, assorted, 1*d.* to 2*d.* per bunch; Leeks, 1*s.* to 2*s.* 6*d.* per doz. bunches; Mint, green, 6*d.* per bunch; Onions, Dutch, 3*s.* to 3*s.* 6*d.* per bag; do., Portugal, 10*d.* per stone; do., Globe, 3*s.* to 3*s.* 6*d.* per cwt.; Parsley, 5*s.* to 6*s.* do.; Syboes, 4*d.* to 5*d.* per doz. bunches; Celery, table, 2*s.* to 2*s.* 6*d.* per bunch; do. common, 9*d.* to 1*s.* do.; Potatos, 8*d.* per stone; Carrots, 3*s.* to 4*s.* per cwt.; Cucumbers, 4*s.* to 4*s.* 6*d.* per dozen; Lettuces, 6*d.* to 9*d.* per dozen; do., Cos, 9*d.* do.; Radishes, 9*d.* to 1*s.* per dozen bunches; Horseradish, 2*s.* 3*d.* per bunch Beans, broad, 1*s.* to 1*s.* 3*d.* per stone; do. French, 2*s.* to 2*s.* 6*d.* do.; Scarlet Runners, 1*s.* 6*d.* do.; Mushrooms, 1*s.* to 1*s.* 3*d.* per lb.; do., open air, 2*s.* per cwt.; Beetroots, 7*d.* per dozen do., new, 3*s.* 6*d.* to 4*s.* per dozen bunches; Cress, 3*d.* per basket; Brussels Sprouts, 1*s.* 6*d.* to 2*s.* per stone.

BRACHYCHITON ACERIFOLIUM.—We note in *Garden and Forest* for September 23, an allusion by Mr. E. SURTEVANT to this plant, which, he says, does well out-of-doors in the southern part of California. A tree is mentioned which is 25 feet in height, and of fine pyramidal shape. At the time of flowering it is destitute of foliage, but is literally covered with blossoms, which are in colour bright vermilion, and in shape resemble those of Lily of the Valley. This should make a good plant for our warm conservatories and greenhouses. At present it is only seen in Botanic Gardens. We may assume that pot culture, as in the case of the tree-like Acacias of Australia, would dwarf the growth of the plant to convenient dimensions without spoiling its floriferousness. This species is now placed under Sterculia, *vide Index Kewensis.*

Answers to Correspondents

BOOKS: *W. S. P., Leytonstone. Fruit Farming for Profit*, by G. Bunyard, 3rd edition, published by F. Bunyard, 29, Week St., Maidstone; or a similar one brought out recently by J. Cheal, Lowood Nursery, Crawley.—*Market Gardening. Husbandry*, by A. Roland, sold by D. W. Morgan, The Abbey Library, Little College Street, Westminster, S.W.—*Kitchen and Market Gardening*, by Shaw, published by Macmillan & Co., London. This contains a list of tools, and figures of the same, that you require. —*Query. Carnation Culture for Amateurs*, by B. C. Ravenscroft (published by L. Upcott Gill, 170, Strand, W.C.).

CANADA: *F. B.* Certain seeds can be harvested in a very fine condition in Canada, especially some kinds of grasses, Peas, and Clovers; but as regards perennial (herbaceous?) plants, it would not do to venture on growing any but those which are capable of withstanding a very low temperature. Your other inquiry should rather be addressed to the editor of the *Canadian Horticulturist*, Ottawa.

CONIFERS FOR CHALK SOILS: *Junior.* Abies amabilis, cephalonica, Douglasii, grandis, magnifica, nobilis, Nordmanniana, Pinsapo, and Webbiana. Picea Alcockiana, excelsa, Morinda, nigra, and clanbrasiliana. Pinus Cembra, excelsa, halepensis, Lambertiana, Laricio, Pallasiana, Pinaster, ponderosa, Strobus, austriaca, and sylvestris.

CYMBIDIUM LOWIANUM: *T. F.* To have flowers on a plant of Cymbidium Lowianum in September shows that the cultivation has been at fault. The plant should be showing the flower-spikes in January or February, and during the resting period preceding its flowering the compost should be kept slightly moist, never dry. Your note affords no particulars as to culture.

FICUS ELASTICA: *C. R. M.* Place the plant in heat of 60° to 70°, so as to induce growth; and in January or February take the tips with some mature wood at the base, and as much of the one and two-year-old wood as you can obtain from the plant, making this into lengths of three to four nodes, and inserting them not deeper than three-quarters of an inch into a bed of sand, or sand and loam, on a bottom-heat of 80° to 85°. Keep close, and afford air when there is excess of moisture.

FRUITING OF STEPHANOTIS FLORIBUNDA: *J. A. B.* Not uncommon in warm years.

FRUITS AND CLAY SOIL: *Pomo.* Apples and Pears as bushes or espaliers would be suitable, if the land be properly drained, and as you have forty varieties of these fruits worked on dwarfing stocks, they would come early into bearing, and endure in good condition for ten to fifteen years. Being in Sussex, your Pears, whatever the varieties, should ripen out in the open quarter. If you decide to plant standards on free stocks, any variety of Apple should succeed, excepting perhaps the Calville's, Court Pendu-Plat, and a few others. Some selection would be advisable in regard to Pears, refraining from planting those which ripen late or scarcely at all in this country. Most early and mid-season varieties will do well, also Marie Louise d'Uccle, Chaumontel, Knight's Monarch, Glou Morçeau; the stewing varieties, as Verulam, Vicar of Winkfield, and Catillac; Brown Beurré, General Todtleben, that delicious small Pear Aston Town, Beurré d'Aremberg, &c.

GARDENERS IN NEW ZEALAND, &c.: *E. R.* The prospects of a gentleman's gardener are, we believe, not of the rosiest description in this colony, and we would not advise you to go there with an idea of meeting with remunerative employment in such a capacity. The climate is temperate and insular in character. Victoria would serve your purpose better.

"Gardening Appointments": *A. L.* We make no charge for inserting these announcements.

Hollies: *Young Gardener.* These may be removed and planted in a manner similar to that described for Laburnums; but the removal should not be undertaken till the month of April, or later.

Late Growth on Cattleya: *Pomo.* There is no better course than to let them grow till of full size, and then rest the plants.

Lily-of-the-Valley Prize: *Convallaria.* We are of the opinion—and it would be generally so decided in this country in case of similar dispute—that as the schedule contained no condition in regard to the time the plants should be grown in the pots, the prize was rightly given to the best pots of Lily-of-the-Valley, notwithstanding the circumstance that they were filled with dormant (dry) crowns.

Marguerite Carnations: *Pomo.* As the plant flowers six months after sowing the seeds, and good strains produce a large percentage of double flowers in varied colours, there seems to be little gained by propagating it by cuttings or layers. It is now too late for layering, unless you could manage it in pots under glass.

*** *The application to name flowers, and especially fruits, are so numerous at this season, as severely to tax our resources. They entail an expenditure of time, labour, and money, of which our readers have little idea. We are most desirous to oblige our correspondents as far as we can, but we must request that they will observe the rule that* **not more than six varieties** *be sent at any one time. The specimens should be good ones, just approaching ripeness, and to prevent disappointment, they should be properly numbered, and carefully packed. We do not undertake to send answers through the post. Delay in any case is unavoidable.*

Names of Fruits: *W. D. H.* Pear, Bergamotte d'Esperen.—*J. F.* Emperor Alexander.—*Tweed.* 1, Yorkshire Greening; 2, Hawthornden; 3, Grange's Pearmain; 4, Cox's Pomona; 5, Blenheim Orange; 6, Golden Noble.—*G. A.* 1, Beurré Clairgeau; 2, Williams' Victoria; 3, Welbeck Bergamotte; 4, Duchesse d'Angoulême; 5, Pitmaston Duchess; 6, Brown Beurré.—*J. W.* 1, Mother; 2, Cellini; 3, Josephine de Malines; 4, Soldat d'Esperen; 5, Althorp Crassane; 6, Court of Wick; 7, Duke of Devonshire.—*F. Bennet.* Apples, 1, Alfriston; 2, London, Syn. Five Crowned Pippin; 3, Claygate Pearmain. Pears, 1, Souvenir du Congrès; 2, Soldat d'Esperen.—*S. B.* 1, Old Crassane; 2, Autumn Bergamotte; 3, Brown Beurré; 4, Beurré Diel; 6, Blenheim Orange; 7, Plum Reine Claude de Bavay.—*Woodyate.* 6, Pitmaston Duchess; 2, smashed; 3, Beurré d'Aremberg; 8, Marie Louise; 14, Doyenné du Comice; 16, White Doyenné.—*J. R. G.* 1, Worcester Pearmain; 2, Winter, or Old Pearmain; 3, Lane's Prince Albert; 5, Twin Cluster Golden Pippin; 4, Mère de Ménage.—*L. P. P.* 1, Dumelow's Seedling; 2, Dumelow's Seedling; 3, not known; 4, Sturmer Pippin; 6, not known; 7, Beauty of Kent. Pear, badly bruised, probably Marie Louise.—*K. H.* Apple, Old Monarch.—We acknowledge the receipt of 1*s.* in stamps from *J. P. D.* for the funds of the Royal Gardeners' Orphan Fund.—*Amateur.* 1, Striped Beefing; 2, Winter Strawberry; 3, not known; 4, Blenheim Orange; 5, poor specimens of Louise Bonne of Jersey; 6, Beurré d'Amanlis.

Names of Plants: *Correspondents not answered in this issue are requested to be so good as to consult the following number.—G. Bartle.* 1, Ophiopogon Jaburan; 2, Ailanthus glandulosa, probably; 3, Spiræa Aruncus, so far as we can tell in the absence of flowers; 4, Purple-leaved Hazel; 5, Abies Pinsapo; 6, Calycanthus floridus, probably; 7, Hibiscus syriacus var.—all of them very wretched specimens.—*J. G. Shinfield.* We cannot undertake to name florists' varieties of flowers.—*J. T., Epsom.* Pterocarya fraxinifolia [caucasica]; fruits next week.—*J. W. B.* Cattleya Eldorado.—*E. M., Dorset.* The single Dahlias are very pretty, and well worth increasing.—*H. K., Farleigh.* Alonsoa linifolia.—*M. A.* 1, Thuya orientalis var. japonica; 3, Cupressus Nootkensis; 4, Ruscus hypophyllum; 5, Cupressus funebris.—*C. G.* 1, Koelreuteria paniculata; 2, Borago officinalis.—*F. F.* 1, Aster bessarabicus; 2, Œnothera Fraseri; 3, Helianthus multiflorus, flore-pleno; 4, Coronilla Emerus.—*R. T.* Ligustrum lucidum.—*G. R.* 1, Siberian Crab; 2, A Crab not recognised; 3, Staphylea pinnata; 4, Clethra alnifolia. Send alpines when in bloom, and when in fruit if possible.—*F. B.* The yellow flower is Sternbergia lutea, the other Colchicum autumnale variety.

Plague of Cockroaches.—Replying to "*L.*," a correspondent recommends Penny, Hester & Co.'s Magic Paste; it is sold at 26, Mayfield Road, Dalston, N.E.

Scots Fir: *Lymington.* The injury to the tips of the shoots is occasioned by the Pine-beetle, Hylurgus piniperda. You cannot do anything to arrest the mischief beyond clearing away and burning all rubbish in the wood, which forms hybernating quarters, for the insect.

Seedling Apples: *W. Thompson.* Fruits large, very highly coloured, and beautiful, but of poor quality; greatly inferior to others in cultivation.

Slug Descending by Means of a Thread: *J. Cowan.* This was the occasion of considerable correspondence in the last volume of the *Gardeners' Chronicle* for 1895, pp. 160, 190, 216, and 245. The slug, a small species, probably came into the house with the imported Orchids.

Transplanting Aged Laburnum Trees: *Young Gardener.* If you are careful to extract as many of the roots as possible, and to keep them moist after they are dug out of the soil, and spread them out over a broad beehive-shaped mound raised in the bottom of a hole that is rather more in diameter than the root mass, the job being performed at the present season, the trees should not fail to succeed. The other essential points are the pruning away of all badly-damaged roots, and to mutilate them as little as possible. In the work of digging out, to go down deeply and get out some or all of the tap roots, i.e., those which descend perpendicularly into the soil, to reduce the size of the crown, and to secure the trees when planted either with guying wires secured to stout stumps driven deep into the soil, or with three 7 feet-high-stakes placed round the trees at a distance of 1½ feet from the stems, for unless the rocking of the trees by the wind be prevented, their re-establishment will extend over several years, or it may not take place at all. Before planting, the soil should be well trenched and manured, and well consolidated by trampling it both during and after planting. There is another way of removing the trees, viz., by excavating them with solid balls of soil and roots 5 feet to 6 feet in diameter; all roots outside this mass being carefully dug out entire, or as nearly so as possible, enveloping them in wet grass, &c., and fastening them down to the top of the ball with wooden pegs. To move such masses of soil involves the use of a transplanting machine, or of massively made trolleys, and several horses.

Tree Ferns. If the person for whom we inserted a notice concerning Tree Ferns in the *Gardeners' Chronicle*, will kindly furnish us with his address, we will forward to him several letters we have recently received.

Vine Roots: *R. D. L.* We are of opinion that Phylloxera is present on the Vine-roots. The appearances favour such an opinion, and on careful examination we find a very young individual of what can scarcely be other than the insect itself. If you wish for further proof you will probably obtain it by taking up a piece of a larger root than those sent, shaking off the earth, and examining crevices or depressions, where the insects will be found congregating in little masses. *R. McL.*

Communications Received.—G. Renthe (too late for insertion).—M. D.—A. Kemp. F. W. Smith.—H. M.—W. C.—W. W.—R. L. H.—G. Duthield.—W. L.—D. T. F.—W. W.—M. E. M.—R. D.—R. S., Jersey.—J. McI.—J. A.—D. R. W.—C. T. D.—A. D. W.—T. W.—E. C.—J. Comber.—R. T.—B. W.—J. J. W.—A. E. S.—W. G.—J. A.—C. H. P.—A. B. R.—M. B.—M. M—F. M.—H. E.—L. B.—L. M.—J. H. H., Trinidad.—J. E. M., Melbourne.—W. E.—D. S.—N. F., Chicago.—A. S., Peeters, Brussels.—Marquis H., La Mortola.—G. J. B.—F. Klemnikel, Vienna.—H. C F.—Knut Bovin, Stockholm.—B. S. W.—Max Leichtlin, Baden-Baden. G. S. T. W.—H. & Co.—W. G. G., memorandum.—T. H. G.—H. E.—T. W. R.—D. F. W.—W. P., Epping.—A. M. D.—J. P.—W. H. W.—H. K.—T. W. R.—R. K.

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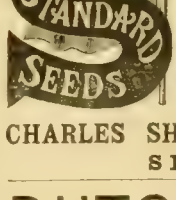
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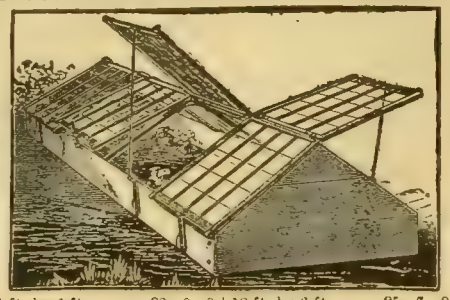
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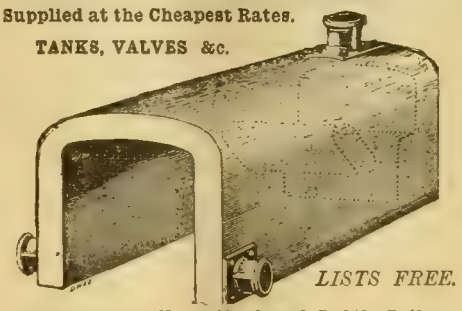
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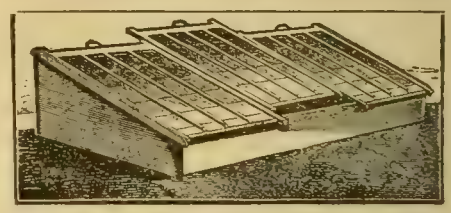
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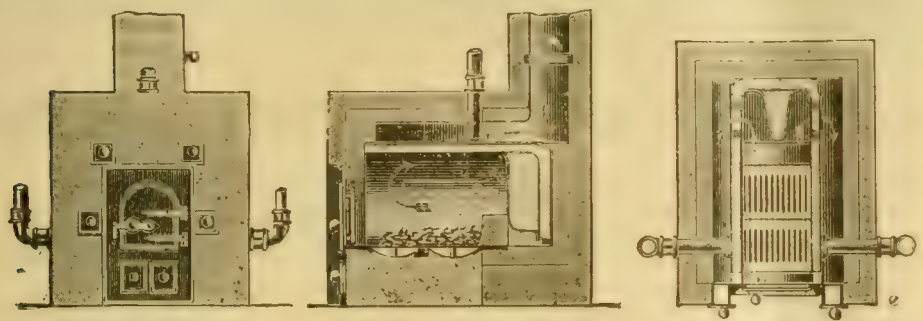
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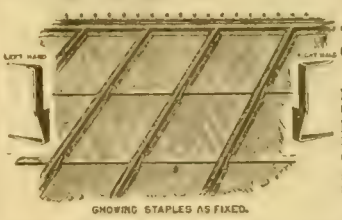
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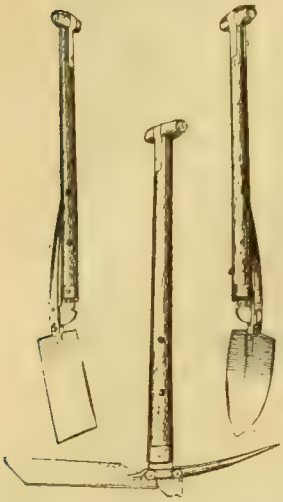
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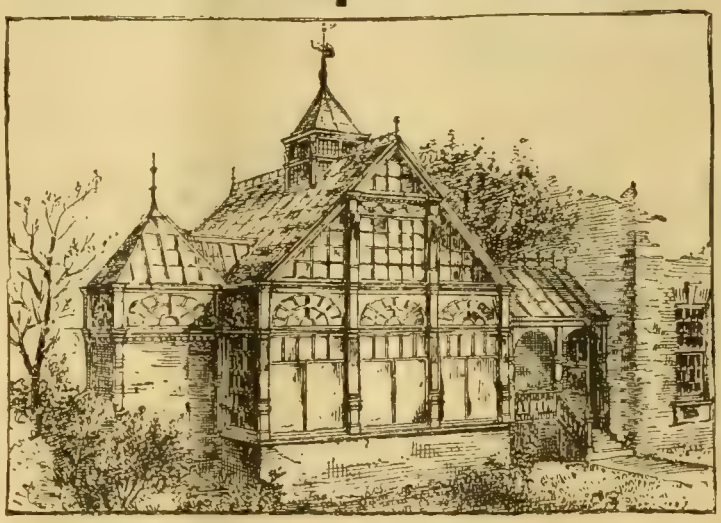
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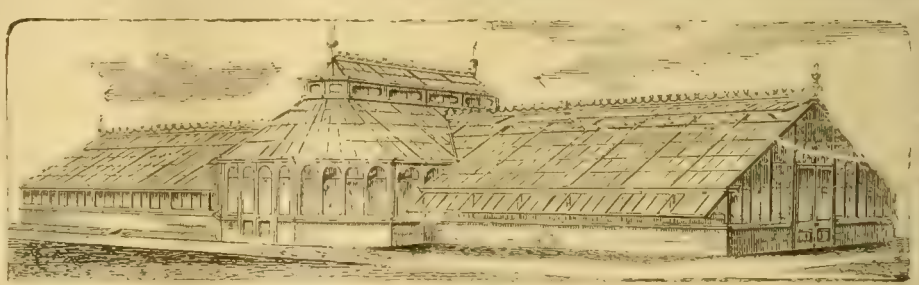
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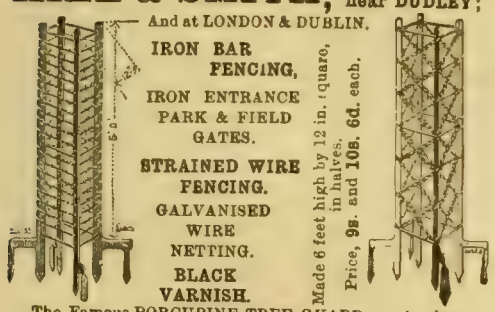
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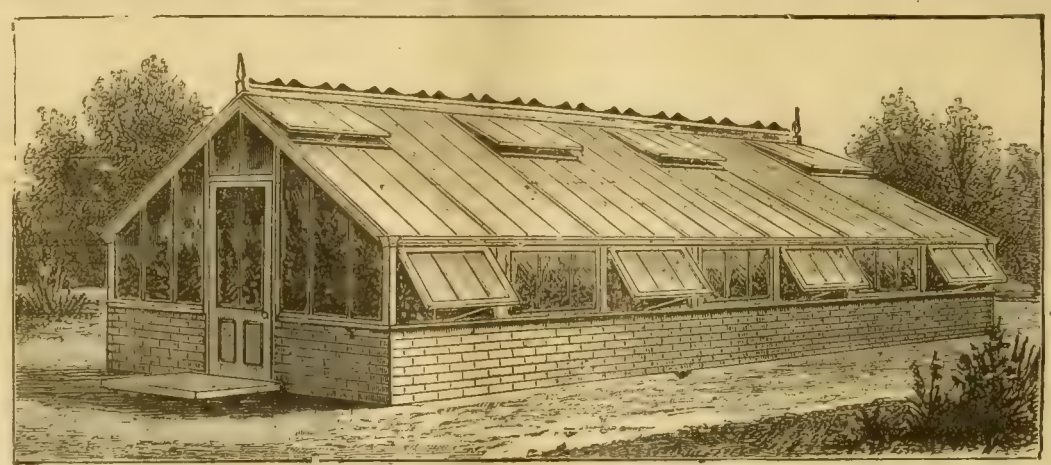
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Printed for the Proprietors by Messrs. BRADBURY, AGNEW, & Co. (Limited), Lombard Street, Precinct of Whitefriars, City of London, in the County of Middlesex, and published by HARRY GILLARD COVE, at the Office, 41, Wellington Street, Parish of St. Paul's, Covent Garden, in the said County.—SATURDAY, October 10, 1896. Agent for Manchester—JOHN HEYWOOD.

The Gardeners' Chronicle

ESTABLISHED 1841. No. 2912.

No. 512.—Vol. XX. { Third Series. } SATURDAY, OCTOBER 17, 1896. [Regt. as a Newspaper. { PRICE 3d. Post-free, 3½d.

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Thousands of Small SHRUBS for Boxes.

2000 CONIFERS,

including Retinospora plumosa, ditto squarrosa, and plumosa aurea; Golden and Tom Thumb Thujas.

2300 Best GOLDEN PRIVET,

and other varieties for boxing, viz., lucidum, japonica, and macrocarpa, from 9 to 18 inches, very bushy.

Hundreds of Specimens from their famous collection of

ORNAMENTAL TREES,

FLOWERING TREES,

A quantity of oval-leaf Privet, very bushy, 3 feet.

500 DWARF TEA ROSES, of best sorts, including William Allen Richardson, Crimson Gloire de Dijon, Niphetos, Catherine Mermet, Papa Gontier, &c.

EXTRA STRONG TEA ROSES, and Climbing ditto, in 32-pots, 6 to 10 feet high, including Gloire de Dijon, Crimson Rambler, Maréchal Niel, W. A. Richardson, and others.

YUCCAS, of sorts; a quantity of berried SOLANUMS, in 48-pots.

COBÆA SCANDENS VARIEGATA, in 48 and in 32-pots.

850 CLEMATIS JACKMANNI (improved variety), in 48 pots, in full flower. Dutch Honeysuckles and other Climbers, in pots.

A quantity of 2-year and maiden VICTORIA PLUMS.

RHUBARB, of best sorts. Hundreds of CURRANT and GOOSEBERRY TREES, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, on the premises, The Wood Lane Nurseries, Isleworth (five minutes' walk from the Isleworth Station, L. & S. W. Railway, and twenty minutes' walk from Osterley Park Station, District Railway), on TUESDAY NEXT, October 20, at 12 o'clock.

May be viewed. Catalogues may be had on the Premises; at 36, Hammersmith Road, W.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C., and Leytonstone.

Great Fruit Tree Sale.

MESSRS. PROTHEROE AND MORRIS have received instructions from Mr. W. Horne, Perry Hill, Cliffe, near Rochester, Kent (adjoining Cliffe Station, South Eastern Railway), to hold a great FRUIT TREE SALE, by AUCTION, on the Premises, on WEDNESDAY NEXT, Oct. 21, at half-past 11 o'Clock,

200,000 FRUIT TREES,

consisting of 100,000 Apples, Pears, Plums, and Cherries; 62,000 strong 2 year Crown Bob Lancashire Lad, Whisham's Industry, and Rifleman Gooseberries; 33,000 Baldwin Black and Dutch Red Currants; 80,000 Fastolf and Norwich Wonder Raspberries; 100,000 Royal Sovereign, Noble, and Paxton Strawberries; 30,000 2 year Connover's Colossal Asparagus, half a ton of the new Vegetable, Stachys tuberifera, a few lots of Early Rivers' Nectarine, new Pears Le Lectier and Conference, new Plum Monarch, new Raspberry Superlative, new Asparagus Barr's Mammoth, new Strawberries Stevens' Wonder and Monarch, 100,000 Hardy White Cos Lettuce, &c. Mr. Horne will cart all lots to rail after the Sale, free of charge. Luncheon at 11 o'Clock, Sale half-past 11 o'Clock.

Catalogues may be had on the Premises, at the Bull Hotel, Rochester, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Tottenham, N.

Adjoining the Tottenham Hale Station, G.E.R.

GREAT ANNUAL SALE, by order of Mr. Thomas S. Ware. Three days.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, the Hale Farm Nurseries, Tottenham, N., on TUESDAY, October 27, and TWO FOLLOWING DAYS, at 11 o'Clock precisely each day, in consequence of the large number of lots.

2,500 ROSES in pots, extra strong.

100,000 CARNATIONS and PICOTEES in pots, the best varieties in cultivation.

TREE CARNATIONS.

50,000 Double and Single Tuberous-rooted BEGONIAS, probably the finest collection in the world.

50,000 CLEMATIS and AMPELOPSIS, and other Climbers.

100,000 SEAKALE and ASPARAGUS. Extra strong Forcing Stuff, a specialty at this nursery.

10,000 HOME-GROWN LILIES.

200,000 Berlin Crowns LILY of the VALLEY.

FORCING PLANTS and BULBS in endless variety.

200,000 HERBACEOUS PLANTS and MISCELLANEOUS BULBS, consisting of a large quantity of NARCISSUS, best Forcing as well as Border varieties.

CHRISTMAS ROSES and other Stock, fully described in Catalogue.

May be viewed any day prior to the Sale. Catalogues may be had on the Premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Sunningdale, Berks.

SIX DAYS' UNRESERVED SALE of exceptionally well grown NURSERY STOCK.

By order of Mr. Charles Noble.

MESSRS. PROTHEROE AND MORRIS will SELL BY AUCTION, on the premises, the Nurseries, Sunningdale, close to Sunningdale Station, and within easy distance of Bagshot, S.W.R., on MONDAY NEXT, Oct. 19, and FIVE FOLLOWING DAYS, at 12 o'clock each day, without the least reserve, several acres of unusually well-grown NURSERY STOCK, the whole in the best possible condition for removal, comprising:—

10,000 APPLE TREES, standard, pyramid, and bush,
4,000 LIMES, 7 to 14 feet,
12,000 OVAL LEAF PRIVET, 1,000 bushy AUCUBAS,
3,000 HARDY GHENT and MOLLIS AZALEAS,

thousands of RHODODENDRONS, including the best named varieties and hybrids, the finest in the Trade; large quantities of useful CONIFERS for general planting, and Young Stock for potting and growing-on; EVERGREEN and DECIDUOUS SHRUBS, ORNAMENTAL and FOREST TREES, ROSES; many thousands of BERBERIS AQUIFOLIA for cover planting, and other Stock, too numerous to mention, the cream of the Nursery, and the best ever offered to the public.

May be viewed any day prior to the sale. Catalogues may be had on the premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Hanworth, Middlesex.

About a mile and a half from the Feltham Station, London & South Western Railway.

IMPORTANT TO THE TRADE.

GREAT CLEARANCE SALE of PALMS, FERNS, and other STOCK, useful to Florists, Market Growers, and others. By order of Messrs. W. COOPER, Limited, who are relinquishing this branch of their business.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION on the Premises, Cooper's Nurseries, Hanworth, Middlesex, on THURSDAY and FRIDAY NEXT, October 22 and 23, at 11 o'Clock precisely each day (in consequence of the large number of lots), absolutely without reserve,

25,000 PALMS of sorts, in 48, 60, and thumb-pots, including
10,000 KENTIA BELMOREANA and FOSTERIANA
7,000 LATANIA BORBONICA
6,000 PHŒNIX RECLINATA
50,000 KENTIA and ARECAS, seeds in boxes.
20,000 FERNS in 48 and 60-pots, consisting of Adiantums, Lomarias, Pteris, &c.; 2000 pots of SEED-SPORES. 1000 HEATHS, 11,000 CYPERUS ALTERNIFOLIUS
11,000 GENISTAS, in 48 and 32-pots
1,600 HYDRANGEAS, CROTONS, ASPARAGUS PLUMOSUS
2,500 VINES, in 48, 24, and 16-pots
2,800 MARGUERITES, 2000 ARALIAS, 1700 CALLAS, BEGONIAS, SOLANUMS
3200 ROSES in pots, in variety
45,000 PELARGONIUMS and IVY-LEAF GERANIUMS, in 48 and 60-pots; 5000 AMPELOPSIS, CLEMATIS, and other Climbers
12,000 VERONICAS

SEVERAL THOUSANDS of MANETTI STOCKS, and quantities of other useful Stock. Also four useful young Cart Horses, large pair-horse covered Van, Garden Lights, &c.

May now be viewed. Catalogues may be had on the Premises, of Messrs. W. COOPER, Limited, 755, Old Kent Road, London, E.C.; of Messrs. DOWSON, AINSLIE AND MARTINEAU, Solicitors, 19, Surrey Street, W.C.; and of the Auctioneers, Estate Agents and Valuers, 67 and 68, Cheapside, London, E.C.

N.B.—The Valuable FREEHOLD NURSERY, comprising about 64 Acres of fertile land, with 52 large Greenhouses Cottages, and Trade Buildings, will be offered at the Mart, London, E.C., in one or two lots, at the end of the present month. The Outdoor Stock will be sold on the Premises in November, unless taken by the purchaser at a valuation.

Maidenhead.

IMPORTANT SALE of choice well-grown Ornamental Specimen SHRUBS and TREES, FRUIT-TREES, &c., by order of Mr. R. Owen.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at The Floral Nurseries, Castle Hill, Maidenhead, On MONDAY, October 26, at 12 o'Clock, well-grown Ornamental SHRUBS and TREES, 100 Specimen CONIFERS, 5000 SHRUBS and Trees, 4 00 FRUIT-TREES, HERBACEOUS PLANTS, GAILLARDIAS, GREENHOUSE PLANTS, &c.

On View. Catalogues on the Premises and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Hollamby's Nurseries, Groombridge, Tunbridge Wells.

GREAT ANNUAL SALE of young, healthy, and well-grown NURSERY STOCK.

450,000 CONIFERÆ, LAURELS, HARDY CLIMBERS, ROSES, RHODODENDRONS, AZALEAS, LARCH, SCOTCH and SPRUCE FIRS, QUICK, ASH, SPANISH CHESTNUTS, BIRCH, Weymouth and other PINES, HOLLIES, YEWS, ORNAMENTAL and FOREST TREES, and other Stock, in great variety. Also 30 PIGS. By order of the Executors of the late Mr. Edwin Hollamby.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, as above, on THURSDAY and FRIDAY, October 29 and 30, at 12 o'Clock each day.

May be viewed any day prior to the Sale. Catalogues may be had on the Premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Farnham, Surrey.

About 1 mile from Farnham Railway Station, on the L. & S.-W. Railway.

GREAT SALE of NURSERY STOCK,

By order of Mr. S. Bide.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, The Alma Nurseries, Farnham, on TUESDAY, November 3, and TWO FOLLOWING DAYS, at 12 o'Clock each day—

10,000 FRUIT TREES,

comprising Dwarf-trained Peaches, Nectarines, and Apricots; Standard, Pyramid, and Horizontal Apples, Pears, and Plums.

1500 RHODODENDRONS,

2½ to 4 feet, beautifully set with bloom buds.

10,000 STANDARD AND DWARF ROSES, by name, comprising the choicest sorts in cultivation.

200,000 FOREST TREES, splendid stuff, all transplanted.

100,000 strong QUICK.

Thousands of ORNAMENTAL TREES and FLOWERING SHRUBS.

EVERGREEN, CONIFERÆ, and DECIDUOUS SHRUBS in great variety.

May be viewed any day prior to the Sale. Catalogues may be had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, E.C., and Leytonstone, E.

Normandy, near Guildford, Surrey.

The Normandy Manor Estate, adjoining the Wanborough Railway Station.

NOTICE OF SALE BY TENDER,

TO WIND UP THE ESTATE.

MESSRS. PROTHEROE AND MORRIS are instructed to SELL BY TENDER the remaining seven lots of the FREEHOLD PROPERTY, known as the Normandy Manor Estate, comprising in all 184a. 3r. 32p., which will include the unique and model Nursery and Fruit Garden, known as the Manor Nurseries, of 41a. 3r. 38p.; two productive Freehold Farms, including valuable enclosures of arable and rich pasture land and several choice freehold sites for building, all situate in the parish of Ash, in the county of Surrey.

Forms of Tender may be had on the premises; at the White Lion Hotel, Guildford; of Messrs. J. & T. PARROTT, Solicitors, Aylesbury; and of the Auctioneers, 67 and 68, Cheapside, London, E.C. Tenders will be received at the Offices of Messrs. PROTHEROE and MORRIS, 67 and 68, Cheapside, London, E.C., until 12 o'clock noon on Thursday next, Oct. 22.

The Vendors do not bind themselves to accept the highest or any tender.

Auction and Estate Offices, 67 and 68, Cheapside, E.C.

Friday Next, October 23.

SALE of RARE and SPLENDID TYPES of CATTLEYAS, obtained from the Southern Slopes of the SANTAYUNI DISTRICT. This Cattleya gigas, Sanderæ section, mixed with C. aurea chrysotoxa, is the non-plus-ultra of all that is finest in the Cattleya family, and believed to be an even finer type than those previously obtained from Santayuni. The plants were gathered on a small mountain range, and our man saw in bloom this grand type of aurea, the finest he has yet seen, growing with Cattleya gigas Sanderæ. It was from the Santayuni district we orig nally imported the regal Cattleya Oweniana, the rich purple Rothschildiana, and the marvellous white-sepalled and petalled aurea, Mrs. Fred Hardy.

GRAND EXHIBITION CATTLEYAS, a Short-bulbed Montana Type of Mendelii, from Lasanus Nevada, with spikes of a dozen large flowers, which we think points to Cattleya Sanderiana being mixed among them. We guarantee them from a district previously unsearched for Orchids. They are most remarkable in appearance, with thicker and larger spikes than any other Mendeli we know of. C. Sanderiana does grow in close proximity, and the plants consist of a Montana form of C. Mendelii, C. Sanderiana, and natural hybrids between the two. Owing to the great length of the journey, and the many mishaps which befel them, the plants are not so fresh as we should wish, but the eyes are firm and quite dormant, and we have no hesitation in saying they will plump up and do well. We commend this opportunity most strongly, for the great cost, and what must always remain a loss will prevent us ever again sending to this district.

ANOTHER PROPERTY.

ORCHIDS FROM MADAGASCAR.

For absolute Sale.

Some remarkable kinds are among them. They represent the remains of a big lot of plants collected by a French military expert, who travelled in Madagascar, lately deceased, and are sold on account of his widow and children. Among them are round-bulbed

BULBOPHYLLUMS, MEGACLINUMS, ARACRANTHES (?), PHAIUS, in way of Henryii, in grand order.

ERANTHUS ZYGOPETALOIDES (?), remarkable-looking plants received under that name.

and plants like VANDAS, many apparently quite new Orchids. Cirrhopetalum macrobrunici, C. Tonga, Cymbidium-looking plants. Also

LÆLIA CRISPA BUCHANANIANA × CATTLEYA MENDELI var. DUKE of MARLBOROUGH (unflowered).

LÆLIA ANCEPS DAWSONII, grand varieties of CATTLEYA MOSSIÆ, &c., &c.

BIFRENARIA AURANTIACA, ZYGOPETALUM ROSTRATUM, a New BRASSIA (?), STENIA PALLIDA, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, by order of Messrs. F. Sander & Co., St. Albans, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY, October 23, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

SALES BY AUCTION.

Wednesday Next.—Plants from the Continent

300 AZALEA MOLLIS, 200 A. INDICA, 50 CAMELLIAS, 50 RHODODENDRONS, and 300 Standard, Half-Standard, and Dwarf ROSES.

MESSRS. PROTHEROE AND MORRIS will include the above in their BULB SALE, on WEDNESDAY NEXT, October 21, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

DUTCH BULBS.

SALES EVERY DAY (Saturdays excepted).

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., EVERY DAY (excepting Saturdays), at 12 o'Clock, large consignments of NAMED HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other BULBS from Holland, received direct for Unreserved Sale, Lotted to suit the Trade and Private Buyers; together with white ROMAN HYACINTHS, paper-white NARCISSUS, SNOWDROPS, special TULIPS, &c.

On view morning of Sale, and Catalogues had.

Preliminary Notice.

GREAT SALE OF JAPANESE LILIES.

MESSRS. PROTHEROE AND MORRIS will offer by AUCTION, on THURSDAY, October 29,

68,00 JAPANESE LILIUM LONGIFLORUM
14,200 " " AURATUM
20,000 " " LANCIFOLIUM RUBRUM
2,000 LYCARIS RADIATA

DUTCH BULBS—DUTCH BULBS

SALES NEARLY EVERY DAY TILL THE END OF DECEMBER.

MR. J. C. STEVENS begs to announce that he has arranged with several of the first Nurserymen in Holland to Continuously Supply his Sales, during the present season, with only really First-class Bulbs, of the best quality.

WEDNESDAY NEXT.

HIGHLY IMPORTANT SALE of ROSES, SHRUBS, PLANTS, &c.

500 Choice named Standard, Half-Standard, and DWARF ROSES, from a leading Grower in Germany, including many well-known and popular sorts. (Roses from this grower sold last autumn and spring have given the greatest satisfaction during the past summer.)

Large Importations of Small beautifully-grown CONIFERS and various ORNAMENTAL SHRUBS, FLOWERING and FRUIT TREES; 500 DWARF ROSES, CLIMBING ROSES; AZALEA MOLLIS, RHODODENDRONS a variety of LILIUMS, &c., from Holland.

Azalea indica, well set with Buds; Palms in variety, from Ghent; and a selection of English grown PALMS, ASPIDISTRAS, FICUS, and other STOVE and GREENHOUSE PLANTS.

A fine Collection of SPECIAL HYACINTHS, for Glass or Pot Culture, including many of the best sorts, from a trustworthy grower.

DAFFODILS, GLADIOLI, VALLOTAS, SNOWDROPS, IRIS, IXIAS, LILIUM CANDIDUM, rare NARCISSUS.

30,000 FORCING BULBS, from France.

ANEMONE FULGENS, PANCRATIUMS, SPIRÆA JAPONICA, SPIRÆA ASTILBOIDES, DIELYTRA SPECTABILE ROSEA, and—

20,000 Best Berlin LILY OF THE VALLEY CROWNS.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, October 21, at half past 12 o'Clock precisely each day.

On view morning of Sale, and Catalogues had.

MONDAY, WEDNESDAY, THURSDAY, AND SATURDAY NEXT.

DUTCH BULBS—DUTCH BULBS

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., as above, at half-past 12 o'Clock precisely each day—

GRAND IMPORTATIONS of DUTCH BULBS

FROM LEADING GROWERS,

in the finest possible order, and specially lotted to suit both large and small buyers. A large quantity of

FRENCH FORCING BULBS, LILIUMS, &c

On view mornings of Sale, and Catalogues had.

Shepperton-on-Thames, Middlesex.

EVENING SALE of 70 first-class Plots of FREEHOLD LAND.

MESSRS. GOUGH AND DOVE will SELL the above by AUCTION, at "Railway Hotel," Shepperton, on WEDNESDAY, October 21, at 6 o'Clock.

NOTES:—
60 Plots, 40 feet frontage by 200 feet deep.
10 Plots, from ¼ acre to about 2½ acres.
Payments by Instalments.
Free Conveyances.
½ mile from Station.
17 miles from London.
Excellent deep loamy soil suitable for Tomatos.
Good position for erection of Greenhouses.

Particulars and Conditions of Sale of Messrs. CURRIE, WILLIAMS AND WILLIAMS, Solicitors, 32, Lincoln's Inn Fields, W.C.; and of GOUGH AND DOVE, Auctioneers, Suntury-on-Thames, S.W., and 2, Tokenhouse Buildings, E.C.

Addlestone, Surrey, close to Station.—Clearance Sale.

MR. BOWER is instructed by Mr. James Hoade to SELL by AUCTION, on the Premises, as above, on THURSDAY, October 22, 1896, at 12 for 1 o'Clock, including 600 CHRYSANTHEMUMS, best market sorts; 250 large WHITE AZALEA; 200 MAIDENHAIR FERNS, ASPARAGUS PLUMOSA, POINSETTIA PULCHERRIMA, a quantity of SHRUBS; nine Span-roof GREENHOUSES, 40 by 10 each; HOT-WATER PIPES; nearly new CLIMAX BOILER.

May be viewed any day prior and morning of Sale. Catalogues on the Premises, and of the Auctioneer, Addlestone, Surrey.

ABOUT Six Acres of FREEHOLD LAND old pasture, with rich yellow loam, admirably suitable for Horticultural Purposes. Within Two Minutes of Railway Station, and close to main Road. Fine open position, ten miles north. Portion may remain on mortgage if required.—Full particulars from MARK GILBERT, Auctioneer, Enfield Highway, Middlesex.

FOR DISPOSAL.—SMALL NURSERY, in good Residential Suburb of Birmingham. Suit either General Nursery or Market-work. About 1¼ Acre Land. Four Houses, each 90 feet by 12 feet, heated throughout by hot water. Stock optional. Price moderate. Particulars of—HODGES, Nursery, King's Heath, Birmingham.

FOR SALE, FREEHOLD NURSERY, THIRTEEN GREENHOUSES, well built and well stocked. Full particulars. J. H., Fernhead Nursery, Plantation Road, Hextable, Kent.

NURSERY PREMISES, consisting of well-built House, large Conservatory, 3 Greenhouses, Stable, Cart-shed, &c. The Freehold to be Sold. For full particulars apply to MARK GILBERT, Auctioneer, Enfield Highway, London, N.

A SMALL NURSERY TO BE LET, with two Greenhouses and Conservatory, fitted with Boiler and Pipes. Full particulars on application. Swiss Nursery, Perry Vale, Forest Hill, London.

WANSTEAD.—Ten minutes' walk from Snaresbrook Station, Woodford Line, G.E.R. Seven miles from London. TO BE LET, or LEASE SOLD, WOODBINE NURSERY, situate as above, about 1 acre, 5 Modern Greenhouses, 7500 super. feet heated upon best hot water principles. (Folio 8889)—Particulars of PROTHEROE AND MORRIS, 67 and 68, Cheapside, E.C.

PROTHEROE AND MORRIS, HORTICULTURAL MARKET GARDEN and ESTATE AUCTIONEERS and VALUERS, 67 and 68, Cheapside, London, E.C., and at Leytonstone, E. Monthly Horticultural Register had on application.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

EVERY GARDENER should send post-card for NEW ILLUSTRATED LIST of TEAK WOOD RECEPTACLES for growing Plants, Ferns, and Orchids; cheaper than pot ware.—C. E. WEST, F.R.H.S., Roundhay, Leeds.

Important to the Trade and Large Buyers.

APPLY to GODWIN AT ONCE for his SPECIAL OFFERS of the BEST DERBYSHIRE SPAR and TUFA.—The Rosarium, Ashbourne.

To those Re-planting Bearing Peach-trees.

WICETON has some very fine, young, dwarf-trained and half-standard well-balanced, fibrously-rooted bearing Trees, to offer "from South Walls." Price on application.—GRANARD NURSERY, PUTNEY.

Seakale, Raspberry Canes, Poppies, &c.

FOR SALE, 60 Clumps of Oriental POPPIES, Scarlet, 3 and 4 years old; about 500 head of SEAKALE, 500 RASPBERRY CANES, and a quantity of RHUBARB PAGE (opposite church), Hornsey, N.

500,000 very Healthy Thriving young FRUIT TREES for SALE,

OF THE CHOICEST MARKET SORTS, IN LARGE OR SMALL QUANTITIES.

CATALOGUES on application of—

J. SMITH & SON,

MARKET GARDENERS AND FRUIT TREE GROWERS,
SIPSON, WEST DRAYTON, MIDDLESEX,
And 458 & 459, COVENT GARDEN MARKET, LONDON.

EXHIBITIONS.

KENT COUNTY CHRYSANTHEMUM and HORTICULTURAL SOCIETY'S GRAND ANNUAL EXHIBITION of CHRYSANTHEMUMS and FLOWERS, FRUITS and VEGETABLES, at the Rink Hall, Blackheath, opposite South Eastern Railway Station, on October 28 and 29, 1896. Schedules on application to The Gardens, The Cedars, Lee, S.E. F. FOX, Hon. Sec.,

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WATFORD CHRYSANTHEMUM SOCIETY.

President—THE RIGHT HON. THE EARL OF CLARENDON.

The ELEVENTH ANNUAL EXHIBITION of CHRYSANTHEMUMS, and other Autumn Flowers and Fruits, will be held in the Clarendon Hall, Watford, on TUESDAY and WEDNESDAY, October 27 and 28, 1896, when Prizes to the value of £150 will be competed for.

RULES FOR MEMBERSHIP.

A Subscriber of 2*s* 6*d*. shall be entitled to One Admission Ticket and Two Exhibits.
A Subscriber of 5*s*. shall be entitled to Two Admission Tickets and Four Exhibits.
A Subscriber of 10*s*. shall be entitled to Three Admission Tickets and Six Exhibits.
A Subscriber of 20*s*. shall be entitled to Four Admission Tickets, and to Exhibit in all Classes open to him.

Members must reside within a radius of fifteen miles of Watford.

There are also fifteen classes for Cottagers without entrance fee.

The String Band of the Herts Yeomanry Cavalry (by permission of Colonel the Right Hon. the Earl of Clarendon), under the direction of Bandmaster W. T. Graves, will be in attendance both afternoons and evenings. Applications for Membership, Schedule of Prizes, Entry Forms, &c., to be made to CHARLES R. HUMBERT, Hon. Secretary and Treasurer, Watford, Herts. Entries close on Thursday, October 22.

EASTBOURNE HORTICULTURAL SOCIETY'S CHRYSANTHEMUM and FRUIT SHOW, November 3 and 4, 1896. SEVERAL OPEN CLASSES for Chrysanthemums and Fruit: Good Prizes. Schedules now ready. Application to E. A. NEWMAN, Sec., 21, Brooklyn Terrace, Eastbourne.

LOWESTOFT ANNUAL CHRYSANTHEMUM SHOW, November 4 and 5. Prizes, upwards of £50. Entries close October 31. Hon. Sec, J. GUILD LING, Lowestoft.

ALTRINCHAM, BOWDON, SALE, and DISTRICT CHRYSANTHEMUM SOCIETY.

GRAND SHOW of CHRYSANTHEMUMS, WINTER FLOWERS, FRUIT, &c., Nov. 6 and 7, 1896. Cash Prizes and Medals, value £60. Entries close Oct. 30. Schedules free from CHAS. HEWITT, Sec., 7, Sandiway Road, Altrincham.

HUDDERSFIELD and DISTRICT CHRYSANTHEMUM SOCIETY.

The SIXTH EXHIBITION of the above Society will be held in the Town Hall, Huddersfield, on TUESDAY and WEDNESDAY, Nov. 10 and 11, 1896. Entries close on Tuesday, Nov. 3. Entry Forms and Schedules may be obtained from—JOHN BELL, Hon. Sec., Marsh, Huddersfield.

BRIGHTON CHRYSANTHEMUM SHOW.

NOVEMBER 10 and 11.

Entries close November 4. Schedules and particulars of THE SECRETARY, 87, Western Road, Brighton.

NATIONAL CHRYSANTHEMUM SOCIETY.

GREAT JUBILEE FESTIVAL AND EXHIBITIONS.

ROYAL AQUARIUM, WESTMINSTER,

November 3, 4, 5, and 6.

£750 in Money Prizes, in addition to Valuable Pieces of Plate, Cups, Medals, &c

SCHEDULES OF PRIZES on application to—

RICHARD DEAN, *Secretary*, Ealing, London, W.

NOTICE.

HARRISON'S VEGETABLE and FARM-ROOT SHOW

Will be held on WEDNESDAY, November 11, and THREE FOLLOWING DAYS, at their Warehouse, Welford Road, Leicester, when Silver and Bronze Medals and valuable Money Prizes will be offered in competition amongst their numerous customers. All goods should be addressed to the Firm, CARRIAGE-PAID. No charge will be made for staging. Empties will be returned.

HARRISON AND SONS, Seed Merchants, Leicester.

PEACHES and NECTARINES, Standard-trained Fruiting Trees; Grape Vines, good solid Canes; also Fig Trees in Pots. Worth a visit. WILL TAYLER, Hampton, Middlesex.

ROSE TREES (Dwarf), H. P.'s, 5*s*. per doz., 25*s*. per 100. Good Plants. Leading Sorts, my selection. Cash with order. W. MAGNESS, Rose Grower, King's Acre, Hereford.

FOR SALE.—TWO LARGE PALMS (Seaforthia elegans), in New Square Oak Tubs; 15 feet high, and 7 to 8 healthy leaves. Any reasonable offer to—PETERS, Givon's Grove, Leatherhead.

RETARDED LILY CROWNS!!

Buy RETARDED LILY OF THE VALLEY CROWNS for Flowering before Christmas.

NO TROUBLE, NO LOSS AND DISAPPOINTMENT.

Write at once to—

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ANTHURIUM GALLEOTTIANUM	18	0
,, FLORIBUNDA	12	0
,, CRYSTALLINUM	30	0
,, REGALE	18	0
"GUARANA TEA," PAULLINIA SORBILIS	30	0
"AFRICAN RUBBER," LANDOLPHIA WATSONIANA	42	0
PITCAIRNIA ALTENSTEINII	18	0
,, CORALLINA	18	0
,, PLATYPHYLLA	18	0
STROBILANTHUS DYERIANUS	4	0
CYPERUS LAXUS	4	0
"CARDAMON," AMOMUM CARDAMOMUM	12	0
AMOMUM VITTATUM	18	0
VRIESIA BRACHYSTACHYA	12	0
'LOQUAT," ERIOBOTRYA JAPONICA	9	0
"FEVER-DESTROYING TREE," EUCALYPTUS GLOBULUS	9	0
IMANTOPHYLLUM MINIATUM, good established imported plants, not yet flowered in this country	12	0

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PTERIS WIMSETTII	4	0
NEPHROLEPIS BAUSEI	4	0
PTERIS SERRULATA VOLUTA (New)	6	0
LOMARIA CILIATA	6	0
BLECHNUM OCCIDENTALE	3	0
ADIANTUM CUNEATUM ELEGANS	6	0
CHEILANTHUS CHLOROPHYLLA	6	0
DOODIA ASPERA MULTIFIDA	9	0
PTERIS HASTATA	3	0
GYMNOPTERIS QUERCIFOLIA	6	0
ASPLENIUM BULBIFERUM	3	0
PTERIS INTERNATA	4	0
LASTREA ARISTATA VARIEGATA	3	0

PALMS.	Per doz.	
GEONOMA GRACILIS	6	0
,, SCHOTTIANA	9	0
COCOS WEDELLIANA	6	0
KENTIA BELMOREANA	6	0
,, FORSTERIANA	6	0
LATANIA BORBONICA	4	0

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THE

Gardeners' Chronicle.

SATURDAY, OCTOBER 17, 1896.

THE CHAMPS ELYSÉES.

THE recent visit of the Czar to Paris has been of some interest from the gardener's point of view, not only as affording an instance of the importance of trees in the embellishment of city streets in general, but more particularly because of the discussion which has taken place in this connection on this particular occasion.

The elaborate preparations made by the Parisians to decorate their beautiful city did not receive unanimous approval in France, even among the most ardent supporters of the Franco-Russian *entente*. It was not that objection was taken to the vast amount of money spent, but rather to the way in which it was spent, to the flimsy methods which were adopted in many cases, and to the inartistic effect thereby produced.

More especially was the protest made in connection with the "decoration" of the Champs Elysées, where the recent memorable cyclone and the subsequent equinoctial gales played havoc among the trees. If the beautiful avenue is really magnificent, as is indeed generally admitted, then, said the critics, it was unnecessary to suspend garlands of variegated paper rosettes to the trees, in order to atone for the prematurely-fallen leaves. More than one influential journal appealed to the authorities to prevent the perpetration of the outrage, as it was called, however natural it might appear to the theatrical decorators who had been employed to decorate the line of route. And when, at the last moment, it became apparent that the good counsels would not prevail, the *Journal des Débats* cynically suggested that, as birds are scarce in the Champs Elysées, the addition of, say, a hundred thousand mechanical songsters among the trees would not only attract more attention to the paper flowers, but would show their absurdity, and serve, moreover, as an object-lesson for future occasions, by teaching that trees may be beautiful even in the autumn, but that they may be disfigured very easily indeed.

It may be of interest in this connection to give a short historical account of the Champs Elysées, which now contain more than 5000 trees. At the beginning of the seventeenth century the site which the promenade now occupies was still land in cultivation, with isolated houses and small gardens attached. In 1616, the Queen Regent, Marie de Médicis, purchased a portion of this land, which bordered on the river, and planted a long private walk known as the Cours de la Reyne Mere, which subsequently, and until the French

Revolution, became a favourite resort of the aristocracy.

The celebrated landscape gardener, Le Nôtre, afterwards designed the adjacent Grand Cours, which, towards the end of the reign of Louis XIV., received its present name of Champs Elysées. The avenue was lengthened by the architect Gabriel in 1764, and the ownership passed from the Crown to the State in 1792. On condition of further improvement, it was ceded to the city of Paris by a law of 1828.

The law's delay was a truism also in France at that period, and it was not until 1835 that the Municipal Council of Paris appointed a commission to report upon the subject, or until 1841 that any steps for further amelioration were taken. Not, indeed, that none were necessary, because the Champs Elysées were described in 1836 as almost impassable by day on account of the bad state of the roads, and by night by reason of the hosts of vagabonds who frequented them. It would, however, be tedious to refer to the work which, since that date, has produced the promenade of which Parisians are so justly proud.

As regards the various buildings which have at various times been built in the Champs Elysées, it may be mentioned that the first concessions for this purpose were given in the reign of Louis Philippe for the erection of various *cafés* and pavilions. During the Second Empire several structures were added, including the Palais de l'Industrie, which, in 1852, was leased to the State by the municipal council at a yearly rental of £60. The rent was raised in 1890 to no less than £1000; and the total revenue received by the city of Paris for the various buildings in the Champs Elysées amounted to nearly £11,000 in 1895.

NEW OR NOTEWORTHY PLANTS.

GONGORA SANDERIANA, *Krzl., n. sp.**

AT first sight, I assumed that I had to deal merely with a variety of Gongora portentosa, Rchb. and Linden, but an examination of the plant showed so many differences, that I resolved to establish a new species. The pseuso-bulbs are nearly 5 inches high, and towards the base 1½ inch broad, the leaves are broader, the racemes fewer flowered, five or six in most specimens; and they are provided with pedicels of the unusual length of 4 inches. The side-sepals are as broad as long, the odd sepal broadly ovate; the petals and the column have the same shape as those of G. portentosa, but the lip is somewha different. The mesochile, viz., the principal part of the lip, is low from the base to the middle; elevated from the middle to the end, and forms two square-shaped side-lobes, with the two characteristic bristles on the posterior edges, whilst in Gongora portentosa the side-lobes occupy the whole length of the mesochile, ending in two prominent teeth. The bristles are placed at the anterior edges; the lip when seen from the side is much higher in G. portentosa than in the new species. The colour of G. portentosa, figured in the *Bot. Mag.*, t. 6284, is white, or partly flesh-coloured, finely spotted with more or less intense purplish colour; whereas the colour of G. Sanderiana is darker, yellowish or brownish, with numerous rose-coloured spots, especially on the whitish-yellow petals and column. The flowers when fading have the peculiar perfume of fading flowers of Stanhopea. The characters I pointed out show a plant very near to G. portentosa, but as the peculiarities of the lip are of the highest systematical value, we must admit a new species. The plant was imported from Peru by Messrs. F. Sander & Co., St. Albans, and flowered for the first time in August. *F. K.*

* *Gongora Sanderiana*, Krzl., n. sp.—Affinis Gong. portentosæ Rchb. f. Bulbis magnis anguste conoideis obtusis 10–12 cm. altis, basi 4 cm. diam.; foliis petiolatis late oblongis (excl. pedunculo) circa 25 cm. longis, 11 cm. latis quinquenerviis; racemo longo pendulo, 30 cm. excedente pauciflore; bracteis minutis triangulis, ovariis cum pedicellis 8–9 cm. longis; sepalo dorsali late ovato acuto, lateralibus majoribus latissime ovatis (aquilongis ac latis), acutis antice pone apicem sinuatis; petalis crassis carnosis linearibus antice aristatis; labelli pede descendente labelli hypochilio rectangule affixo lineari; mesochilio angusto infra rectilineo marginibus implicatis contiguis, lobulis lateralibus erectis quadratis angulo posteriore (basin versus) in cirros ipsis longiores apice circinnatos productis, rima inter lobulos angusta tuberculo crasso postice (basin versus) acuto huic rimæ antepositio apice mesochilii acutato in epichilium lineare semilongum tenuissimum angustato. Flores illos G. leportentosæ Rchb. f. et Linden, magnitudine superant color G. galeatæ typicæ. Introduxit F. Sander, Verulamensis *F. Kranzlin.*

TRICHOPILIA COCCINEA.

BY the kindness of Sir Trevor Lawrence, Bart., we are enabled to give an illustration of a very fine specimen of Trichopilia coccinea which he saw in the gardens of Mr. Otto Frœbel at Zurich, and a photograph of which he obtained, and forwarded to us remarking: "It is one of the finest examples of successful cultivation I have ever seen."



FIG. 77.—TRICHOPILIA COCCINEA: GROWN BY HERR OTTO FRŒBEL, ZURICH.

Probably, since its first introduction from Central America, where Warscewicz discovered it in 1849, no plant of equal beauty to this has flowered in gardens; and such a display of carmine-crimson flowers among the bright green pseudo-bulbs and foliage must form a charming picture, some idea of which a glance at our illustration (fig. 77) will give.

ORCHID NOTES AND GLEANINGS.

ODONTOGLOSSUM URO-SKINNERI ALBUM.

THIS plant passed into my collection on Oct. 10, 1893,* and is now again in bloom for the second time; the 1893 spike was its first appearance. The history of this rarity is as follows:—In *The Garden*, of August 21, 1886, is a note mentioning that there are seedlings of Odontoglossum in Mr. Buchan's collection at Southampton. At the sale of the collection, General Berkeley, of Southampton, purchased the seedlings that had grown fairly strong. In 1893 the first plant bloomed. It appeared at first sight to be a white-lipped O. Uro-Skinneri. The Orchid Committee gave it the A.M. under that name. There was diversity of opinion, but it was hoped that, given further time and more plants, blooming would prove it.

In 1895, Mr. E. Ashworth bought the remainder of this plant, as well as the other seedlings of the same batch. I have just had Mr. Ashworth's letter, saying none of his plants will bloom this season, much to my disappointment, for I hoped that 1896, being its tenth year, would settle the matter; but my plant is the only piece out of the batch that has as yet bloomed. Referring to the correspondence I have, commencing with the late Mr. Buchan in August, 1886, I find that his gardener, Mr. Osborne, does not remember if he crossed the Uro-Skinneri flowers, or whether it was merely self-fertilised. This is unfortunate, as there is but the plant to prove the second parent, and to those who are familiar with Orchid hybrids, this is barely enough, for in many cases it is very hard to see which the parents were With the plant now before me, as well as O. Uro-Skinneri (its known mother), and O. Bictoniense, it is hard to prove, but easy to believe that O. Rossii had a "hand in the deal," or perhaps O. Humeanum on account of the yellow sepals and petals. But the crest of the lip excludes O. Rossii *in toto*, for it is that of true Uro-Skinneri. The form as well as the colour of the lip say "Rossii" plainly enough; so here are two "points" in the chief segment of the bloom in direct opposition to each other. So the lip, barring its colour, is like that of "Uro-Skinneri." Now we come to a pure yellow column with form and wings like its mother. Where does the rosy colour go to, and where does the yellow come from under the influence of self-fertilisation? So what is the column? Now the petals? These are narrower than in O. Uro-Skinneri: they are yellow, faintly dotted all over with a darker shade. How is

* The references to this plant are in *Orchid Review* of Nov., 1893, p. 334; Sept., 1895, p. 259; Oct., 1895, p. 290, and the various horticultural papers following on Oct. 10, 1893, when part of the plant was awarded an A.M. by the Royal Horticultural Society

the banding and aggregation of brown of O. Uro-Skinneri's petals turned into yellow dots all over the petal? The sepals follow the same lines as the petals, except the depth of the keel on their backs. The spike has O. Uro-Skinneri habit on a much smaller scale, opening one or two blooms at a time, but the bracts and buds are different. Finally, the plant—its leaves and bulbs are smaller and more delicate than those of O. Uro-Skinneri, hence, the evidence is here for Rossii parentage, the leaf joins the bulb rather peculiarly, and the bulbs are more elongated and less spotted than O. Uro-Skinneri. Which was the father? *De B. Crawshay.*



Fig. 78.—Cactus Dahlia "Fantasy."

Cypripedium Chamberlainianum.

In the collection of Sam Hinchliffe, Esq., Ashfield Hall, Cheshire, is a superior variety of Cypripedium Chamberlainianum. Like most other imported species, the flower of this species differs greatly in form, colour, and size. The one in question is very robust, and has a peduncle which has reached 2 feet from the base, has been more or less in flower for two years, and shows that it has produced twenty flowers during that period. It is strikingly distinct from all other species in the curiously-formed, large walled-in greenish bracts, which impart a grotesque appearance, from which the individual flowers spring. It is growing and flowering in an ordinary conservatory, and a plant very greatly prized by its owner.

Miltonia Clowesi grandiflora.

A specimen plant of this useful species is growing in Mr. Hinchliffe's conservatory. The plant is bearing twelve racemes of flowers, each consisting of about twelve flowers of large size, much larger and brighter indeed than in the normal form. The dorsal sepal of the species stands erect, while the two inferior ones are retrorse, and as it were, hug the flower foot-stalk; the petals emerge at right angles, and then converge towards the dorsal sepal, forming an insect-looking outline. The Indian-red blotches on a yellowish-cinnamon ground, are common to the whole of the segments. The lip is large and panduriform, the blade whitish, the bridge a dull purplish-red with yellow-ridged calli, a good lasting flower, and an exceedingly effective one for specimen purposes. An intermediate temperature seems best suited for it. *J. A.*

Cattleya Warscewiczii "Countess of Derby."

This remarkable variety of Cattleya Warscewiczii is again in flower in the collection of Thomas Statter, Esq. (gr., Mr. R. Johnson), Stand Hall, Whitefield, being its third year of flowering, and the flowers are of finer quality than those of previous years. It was exhibited in 1894, and received a First-class Certificate from the Royal Horticultural Society. Unlike all other C. gigas, its segments are pure white without, and the form of the flower is exceptionally good. The beautiful crimson colour on the blade of the all but circular lip is very striking, the more so because of the purity of the white segments, and the edging is of cerise. On the blade of the lip are two large orange blotches, and then a blending of crimson, with pale orange lines run up the tube to the base of the column. The outer portion of the convolute half of the labellum is heavily marked with shaded crimson, but the albino segments puzzle one as to whether it is a natural hybrid, Warscewiczii and aurea, or a spontaneous evolution from an uncrossed Warscewiczii capsule. The plant is growing well in one of those tapering cylindrical teak baskets that are in common use at Stand Hall; and Mr. Johnson says that it may be regarded as a good grower. *J. A.*

CACTUS DAHLIA "FANTASY."

Of the numerous varieties that have been obtained in this section of Dahlias since the type originated in D. Juarezi, one of the most distinct, and one of the most quaint in appearance, is the variety under notice. "Fantasy" was exhibited at the National Dahlia Society's Exhibition at the Crystal Palace by Messrs. J. Burrell & Co., Cambridge, when a Certificate of Merit was awarded it, although doubts were expressed as to the flower-stems being so long as desirable. On Sept. 8 there were two dozen blooms of the variety exhibited before the Royal Horticultural Society at the Drill Hall, with stems as long and as stout as could be wished, and the Floral Committee recommended an Award of Merit. As will be seen from fig. 78, many of the florets are much incurved, others are twisted, and the general appearance of the flower is crab-claw-like. The colour is bright red, and very showy.

The Rosary.

NAMES OF ROSES.

While handling some of the newer Roses a day or two back, I was more than usually struck with the close similarity, the repetition, and the seemingly foolish length of many names. It is difficult for many amateurs to be certain of what Rose they are speaking, when we find no fewer than three distinct varieties under the same cognomen. As an example, let us take Madame Victor Verdier, a favourite dark Rose; this was sent out in 1864 by E. Verdier, who also introduced another H. Perpetual in 1884 under the name of Souvenir de Madame Victor Verdier; while, previous to this, we had Souvenir de Victor Verdier from the same firm, and Victor Verdier from M. Lacharme. We have by no means exhausted the Verdiers, for I find Eugénie Verdier (H.P.), Eugène Verdier (Moss), and Eugène (another H.P.), also Madame Eugène Verdier sent out by Guillot Senior, 1859; in both the H. Perpetual and Tea scented classes the latter issue of Gloire de Dijon, sent out by Ant. Levet in 1882. In fact there are a couple of Roses in the H. Perpetuals named Mademoiselle Eugénie Verdier, a seeding of Guillot Junior, 1869; and this season we have Souvenir de Madame Eugénie Verdier among the newer H. Perpetuals. Such minor cases as Charles Verdier (H.P.), and Madame Charles Verdier (H.P.), Lacharme, 1864, we might leave with Emilie Verdier, Paul Verdier, Marie Verdier, and others, were it not that we now have Souvenir de Charles Verdier in addition. But I think enough has already been noted to show how very confusing Roses under the name of this family have become.

It is almost as bad with the varieties named after the Orleans family, for we have no fewer than fourteen ending with this word. Many of them are not so short and simple as Duc d'Orleans, but give full names of princes and princesses. Here we also have Princesse Marguerite d'Orleans, both in the hybrid perpetuals and Teas. Albert la Blotais appears twice in the H.P. class; Anna de Besobrasoff, twice; Comte de Paris, among both Teas and H.P.'s; we have Victor Hugo and Souvenir de V. Hugo in the H.P.'s, also the latter among Teas. The confusion caused by Roses being named in remembrance of one who has already been honoured with a representative name in the list is increasing very rapidly. Another example from the Dukes and Duchesses may be given. We have Duke of Edinburgh in the H.P.'s, and the Duchess in two classes; Duke of Connaught

appears among H.P.'s, and among the H. Teas, the Duchess also appearing in both classes. If a person orders or speaks of Rose Duchess of Connaught or Duke of Connaught, which does he mean? Impératrice Eugénie figures four times, and in as many distinct classes. I could fill an entire page with similar examples among Roses alone, so that we should endeavour, when naming new varieties, to avoid these elements of confusion, which are becoming greater every year.

Roses named after titled persons are necessarily often of some length, but could not such as Henri Plantagenet, Comte d'Anjou, Grande-Duchesse héritière Hilda de Bade, Grand-Duc héritier de Luxembourg, Impératrice Maria Feodorowna de Russie, Kronprinzessin Victoria or Malmaison à fleurs jaunes, Régierungsrath, Stockert or Conseiller du Gouvernement Stockert, and others have been shortened? Fiançailles de la Princesse Stéphanie et de l'Archiduc Rodolphe was the name given to a Rose sent out by M. Levet in 1880-81, but now very sensibly reduced to Stéphanie et Rodolphe. There are also very many puzzling names for the average amateur to pronounce and spell, while considerable confusion is caused by one speaker pronouncing them correctly, and another in the English tongue as spelt.

I often hear complaints that a grower has forwarded the wrong Rose under a certain name, the purchasers getting a variety quite distinct from that desired, and utterly useless for their purpose. Even in a first-class Rose nursery such an error may easily occur, unless the class or section to which the desired Rose belongs be also given. Classes are a great pitfall to amateurs, but this duplication of well-known names is becoming far worse. Can any reader suggest a remedy? *A. Piper.*

GROWTH OF TREES IN NEW ZEALAND.

Probably some of our readers may be interested in the following details of the growth of trees in New Zealand. Mr. T. W. Adams, an extensive sheep farmer, of Greendale, Canterbury, has for many years devoted considerable time and attention to arboriculture, and has got together a large number of trees, of different species, Pines especially. A few months ago, at a show in Canterbury, Mr. Adams exhibited no less than sixty cones, the fruit of as many kinds of Pines. Having so large an area of trees, and being an enthusiastic arboriculturist, I wrote to him, asking if he would kindly take the trouble to measure some of his trees, their height, circumference, and general growth, for publication, as I thought such details might be of interest. In response, Mr. Adams has obtained the measurements of a great many trees, and the other day I received the following report from that gentleman, for which I thank him very much. *W. M.*:—

"Mr. W. Morgan: Dear Sir, by the mail to-day I am forwarding the promised paper. I have been long, very long in preparing it, and now it is not so complete as I should have liked to have had it, but it takes a good bit of time to take the measurements of the trees, especially as they are scattered over a considerable area. When the first settlers took up the land on the Canterbury Plains, they felt very keenly the want of firewood for domestic uses, and also shelter from the furious gales that blew unchecked across that extensive plain. Stimulated by the Forest Tree Planting Encouragement Act, and the desire to make their surroundings more comfortable, many farmers commenced to plant considerable areas; and now look where you will, groves of gum, wattle, and Pines meet the eye. And if even the extensive treeless tracts of pumice in the Auckland province are to be clothed with timber, much valuable information could be gleaned from the experience of planters in Canterbury. Seeds, too, of a very large number of species of hardy trees could be obtained from there.

"The list of trees enumerated in the following table does not contain more than half the number of species growing here. And as the area planted on this farm exceeds 110 acres, a good opportunity is given of testing the value of any tree, especially as in most cases a considerable number of each kind have been planted. There are many difficulties in the way of stating the exact rate of the growth of trees, but the figures given to represent the rate of growth will be useful, 1 representing the fastest growth, and 10 the slowest. But there are many things these figures will not explain: for instance, plant Wattles and Pinus radiata together, and for the first five years the Wattles will most likely lead, but after that the Pines will forge ahead of the Wattles, and leave them entirely in the rear. And so with many others; but the estimate made is from the experience of many years, and in most cases with a considerable number of plants of each variety.—I am, &c., T. W. Adams."

Name of Species.	Height of Tree.	Girth of Bole.	Rate of Growth.	Fruiting Commenced.	Remarks.
	ft. in.	in.			
Abies Picea) alba (White Spruce)	17 6	14	6	1890	A most useful ornamental tree.
,, excelsa (Spruce) ..	25 9	30	5	1896	Climate of Canterbury Plains too dry for it.
,, Menziesii	22 0	22	5	1892	Ornamental while young.
,, Douglasii	32 3	38	4	1890	Most valuable for timber.
,, Smithiana Himalayan Fir	7 6	—	5	-	Distinct kind for ornament.
Acer campestre (Field Maple ...	18 6	23	8	1892	Forms a pretty little tree here.
,, pseudo-platanus (Sycamore)	19 6	19	8	1884	Does not succeed here.
,, Negundo (Negundo Maple)	16 6	23	7	1887	The young shoots ornamental.
Æsculus hippocastanum (Horse Chestnut)	20 3	31	7	1889	In a favourable situation very ornamental.
Acacia dealbata (Silver Wattle)	38 0	52	4	1880	The only wattle; quite hardy.
Alnus glutinosa (Alder) ..	14 0	14	4	1892	Requires a moist situation.
Araucaria imbricata (Monkey Puzzle)	19 6	36	5	1890	A superlatively beautiful tree.
,, brasiliana (Brazilian Monkey Puzzle)	11 8	14	4	—	Hardy here and grows faster than the above.
Betula alba (White Birch) ...	22 8	27	3	1884	A most useful tree.
Cytinus Laburnum (Laburnum)	20 0	16	5	1880	Suitable for dry ground.
Carpinus betulus (Hornbeam)...	7 6	—	7	—	Used for fences.
Castanea vesca (Spanish Chestnut)	20 3	35	6	1887	Valuable timber tree.
Cedrus Deodara (The Sacred Cedar)	23 0	51	6	1893	Very ornamental; good timber.
,, Libani (Lebanon Cedar) ...	15 6	14	7	1896	Least desirable of the Cedars.
,, atlantica (Mount Atlas Cedar)	18 3	15	5		Grows remarkably well here.
Cupressus excelsa (Lofty Cypress)	7 0	-	5		Beautiful, but rather tender.
,, Knightii	11 6	-	4	1895	The fastest grower of the family.
,, Benthamiana	9 0		5	1892	Much like the above, but not so coarse in growth.
,, sempervirens (Evergreen Cypress)	19 9	37	6	1886	Very upright in growth.
,, horizontalis	21 0	27	6	1886	Like the above, but spreading.
,, Lawsoniana	18 9	32	5	1884	Well suited for ornamental planting.
,, Nutkaensis (Nootka Sound Cypress)	8 0	—	5	1893	Much like the above, but stronger.
,, torulosa (Nepal Cypress)...	27 6	40	5	1885	Promises to make profitable timber.
,, Goveniana	18 4	42	7	1897	With very wide spreading branches.
,, macrocarpa	47 3	71	4	1889	Well known.
,, Uhdeana	9 0	-	5	—	Very distinct and beautiful.
Eucalyptus globulus (Blue Gum)	65 0	100	3	1886	Attacked by a beetle which eats the leaves.
,, Stuartiana (Apple-scented)	46 6	38	2	1896	Grows faster than any other here.
,, Gunni (Cider Gum) ..	35 0	35	3	1888	One of the best for shelter.
,, amygdalina (White Peppermint)	51 0	66	2	1888	Narrow leaves; fast grower.
,, coriacea (Drooping Gum)...	48 0	58	3	1892	Very spreading when young.
,, obliqua (Stringy Bark) ...	35 0	26	3	1886	Not so hardy as the others here.
Cryptomeria japonica (Japan Cedar)	6 0	-	8	1894	Not suited; makes little progress.
,, elegans	8 2	—	9	1896	Changes its colour strikingly in winter.
Fagus fusca (Native Beech) ...	5 7	—	7		Native Beeches are all ornamental, but suffer from the drought in very dry weather.
,, Solanderi (Native Beech)...	18 6	23	7	1890	
,, Menziesii (Native Beech)...	5 0	—	7		
Fagus sylvatica (Beech)	6 0	—	8	—	Is now fruiting freely in Hagley Park, Christchurch.
Juniperus virginiana (Red Cedar)	18 6	30	8	1886	Stock will scarcely touch it.
Juglans regia (Walnut)	29 9	41	6	1886	Only grows well here when near water.
Larix europæa (Larch)	19 10	30	6	1884	Of no value as a timber tree.
Libocedrus decurrens	10 4	20	6	—	Grows well on dry land.
Morus nigra (Mulberry)	11 0	22	8	1886	A very valuable fruit tree.
Olea europæa (Olive)	12 0	20	9	1892	Hardy enough, but the fruit seldom ripens.
Populus canescens (Grey Poplar)	49 6	54	3	—	The finest of the Poplar tribe.
,, alba (White Poplar) ...	51 0	--	4	—	One of the best plants for supporting river-banks.
Abies grandis	6 2	-	5	—	Distinct and beautiful.
,, Fraseri	18 0	19	6	-	Does not look very healthy here.
,, balsamea	5 0	-	6	1896	Resembles Fraseri.
,, concolor	5 2	—	6	—	Does not succeed well here.
,, cephalonica	6 3	—	5		Often cut in the spring by frosts.
,, lasiocarpa	5 8	—	5		A good bit like P. concolor.
,, Nordmanniana	7 2	-	4	-	One of the best of this race.
,, Pinsapo	7 8	-	5	-	Very beautiful, and grows well.
Pinus austriaca	21 3	33	5	1895	Suitable for very dry ground.
,, Coulteri (large coned) ...	31 4	47	4	1892	The cones often weigh 2 or 3 lb.
,, Laricio (Corsican Pine) ...	31 0	32	4	1894	This is not surpassed by any for timber.
,, halepensis (Aleppo Pine)	25 0	25	6	1892	A very distinct tree.
,, muricata (Bishop's Pine)...	28 0	56	4	1895	Cones remain on the tree for many years.
,, Pinaster (star-coned) ...	29 0	45	4	1895	Grows well almost everywhere.
,, ponderosa (heavy-wooded)	24 4	37	4	1893	Well-suited to Canterbury Plains.
,, mitis	15 8	16	5	1894	Leaves are delicate, and cones small.
,, Sabiniana	33 0	43	3	1893	Large cones with edible seeds.
,, Strobus (rope-like cone) ...	16 2	17	5	1895	Does not grow well here.
,, pungens	15 6	21	5	1890	Distinct Pine with beautiful male blossoms.
,, Lambertiana	10 9	15	5		Not likely to prove of much value here.
,, tuberculata	29 3	41	3	1890	A good shelter Pine.
,, contorta	14 6	19	6	1893	A distinct Pine with coarse leaves.
,, Bolanderi	28 0	34	3	1892	A good Pine for ornamental shelter.
,, radiata	86 6	107	1	1882	The most rapid-growing tree planted.
,, sylvestris (Scotch Fir) ...	24 9	36	8	1890	Neither useful nor ornamental.
,, Benthamiana	25 0	40	4	1894	Grows faster than P. ponderosa.
Quercus Cerris (Turkey Oak) ...	19 6	21	5	1895	The acorns in mossy cups.
,, Robur (Oak)	29 3	48	4	1886	Makes better growth than either Elm or Ash.
,, imbricata	6 7	—	5	-	Leaves entire, and dying-off red.
,, palustrus	5 0	--	4	—	A fast-growing American Oak.
Robinia pseudo-Acacia	24 0	34	6	—	Very durable wood.
Retinospora leptoclada	9 0	12	5	—	The only tree of this family that does well here.
Tilia europæa (Lime)	19 6	24	6	—	Flat-topped tree of slow growth.
Taxus baccata (Yew)	21 6	21	10	1890	Planted in 1866; healthy, but of very slow growth.
Thuia gigantea	26 3	39	4	1895	A promising tree for both beauty and profit.
Ulmus campestris (Elm) ..	25 0	29	5	1892	The Elm grows better than the Ash here.
Wellingtonia (Sequoia) gigantea	15 3	35	5	1894	Good trees of this are growing at the Spa, Lake Taupo.

THE GENUS BRODIÆA AND ITS ALLIES.

(Continued from p. 439.)

Series II.—*continued.*

Group 5 (*Triteleia*).—Flowers few in an umbel; pedicels not articulated at the apex. Ovary sessile.—South American.

These are the South American species of the subgenus Triteleia, which have never till now been published under Brodiæa, and which stand therefore in the Kew Index under Milla, where they were placed in my *Monograph* of 1872. Except uniflora, they are little known in cultivation; and as they are fully described in my *Monograph*, I shall not repeat the descriptions. They fall into two sets, one with a

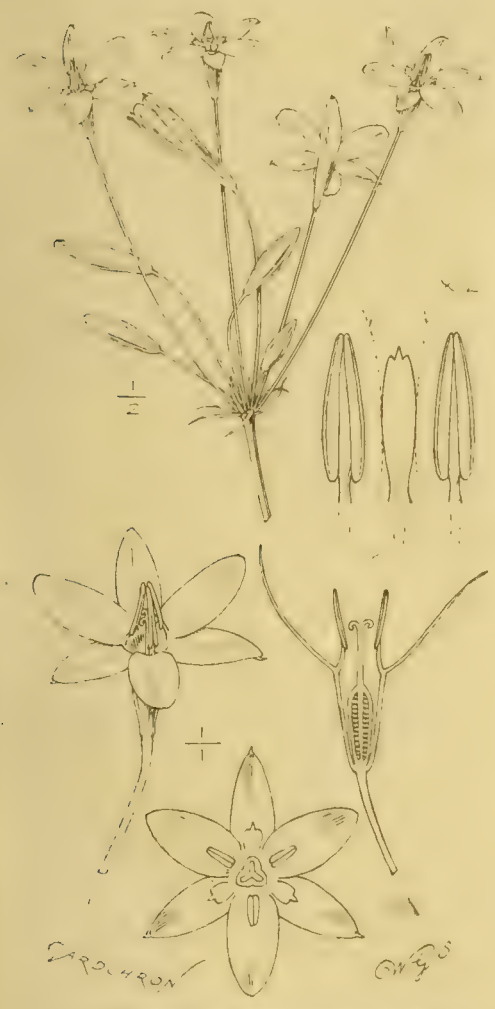


Fig. 79.—Brodiæa, probably grandiflora.
(See *Gardeners' Chronicle*, August 22, 1896, p. 213.)

comparatively long funnel-shaped, and the other with a short campanulate perianth-tube.

* Perianth-tube funnel-shaped, usually as long as the segments.

26. **B. Leichtlini** (*Milla Leichtlini*, Baker, in *Bot. Mag.*, t. 6236). Chilian Andes.

27. **B. sesiliflora** (*Milla sessiliflora*, Baker). Chili.

28. **B. patagonica** (*Milla patagonica*, Baker). Patagonia.

29. **B. uniflora** (*Triteleia uniflora*, Lindl. *Bot. Reg.* t. 1921). Buenos Ayres.

Var. **conspicua** (*Triteleia conspicua*, Baker, in *Sand Rep. Bot.*, t. 43).

Var. **Tweediana** (*Milla Tweediana*, Griseb.).

30. **B. Sellowiana** (*Triteleia Sellowiana*, Kunth). Monte Video and South Brazil.

31. **B. nivalis** (*Tristagina nivalis*, *Poppig Nov. Gen.*, t. 140). High Andes of Chili.

32. **B. Poppigiana** (*Triteleia Poppigiana*, C. Gay). Chili.

** Perianth-tube short, campanulate.

33. **B. setacea** (*Milla setacea*, Baker). Tucuman.

34. **B. hirtella** (*Milla hirtella*, Baker. *Triteleia hirtella*, Kunth). Monte Video.

35. **B. subbiflora** (*Triteleia Berteroi*, Kunth. *Allium subbiflorum*, Colla). Chili.

36. **B. vittata** (*Milla vittata*, Griseb.). Entre Rios.

37. **B. brevipes** (*Triteleia brevipes*, Kunth.). Chili.

38. **B. bivalvis** (*Triteleia bivalvis*, Lindl.). Chili.

39. **B. violacea** (*Triteleia violacea*, Kunth). Chili.

40. **B. Philippiana** (*Triteleia gracilis*, Philippi). Araucania.

Group 6.—Perianth-tube short, campanulate; segments spreading. Filaments short, broadly winged. (*Calliprora*, Lindl.)

41. **B. ixioides**, S. Wats. (*Ornithogalum ixioides*, Ait.; *Calliprora lutea*, Lindl., *Bot. Reg.*, t. 1590; Hook., *Bot. Mag.*, t. 3588).—Leaves two to three, narrowly linear fleshy. Peduncle 1 to 2 feet long. Flowers 10 to 20 in an umbel; pedicels 1 to 2 inches long. Perianth bright yellow, ¾ to 1 inch long; segments oblong, longer than the tube, keeled with green. Filaments short, furnished with a broad wing on each side, with an acute tip, like the Alliums of the section Porrum (fig. 81). Coast ranges of California, northward to Oregon.



Fig. 80.—Brodiæa (Hesperocordum) lactea.

42. **B. lugens** (*Triteleia lugens*, Greene).—Habit and size of the last, but the perianth deep saffron-coloured within, the tube and midrib of the segments brownish-black, and the wings of the filaments without the terminal teeth.

California. Discovered by Dr. Greene on mountains behind Valaville in May, 1886. Not figured.

43. **B. scabra** (*Calliprora scabra*, Greene, in *Erythea*, iii., 126).—Very like *B. ixioides*, but the margin of leaves, peduncle, and pedicels scabrous. Perianth bright yellow, half an inch long; segments ovate, twice as long as the tube, distinctly keeled with brown. Cusps of the filaments very small, erect; anthers white.

Common in the Middle Sierra Nevada of California. Our only authentic specimens are in a fine collection sent recently from the Sequoia region by Mr. G. Hansen. Not figured.

Var. (?) *anilina*, Greene.—Leaf-margins and peduncles less scabrous than in the type; pedicels purplish, and anthers blue. Same locality as the type.

Group 7.—Perianth-tube very short, campanulate. Stamens uniseriate from the throat of the lobe; filaments short, lanceolate.

44. **B. hyacinthina** (*Hesperoscordum hyacinthinum*, Lindl., H. Lewisii, Hook.). Leaves two to three, linear, ¼ to ½ inch broad. Peduncle 1 to 2 feet long. Flowers ten to thirty in an umbel; pedicels ½ to 1 inch long. Perianth purple, ½ inch long; segments ovate or oblong, thrice the length of the tube. Ovary shortly stipitate.

Var. β. *lactea*, S. Wats. (*Hesperoscordum lacteum*, Lindl., *Bot. Reg.*, t. 1639).—More slender than the type, with white flowers and longer pedicels (fig. 80).

From Central California northward to British Columbia, frequent in moist ground.

45. **B. lilacina** (*Triteleia lilacina*, Greene). Peduncle less then 1 foot long. Flowers ten to fifteen in an umbel. Perianth lilac-purple, ½ inch long. Stamens half as long as the perianth-segments; filaments hardly at all dilated.

Amador county, Sequoia region, California; discovered in 1886 by Mrs. M. K. Curran.

This concludes the list of all the species with which I am acquainted that fall under the genus Brodiæa, as defined by Bentham in the *Genera Plantarum*. I must on another occasion say a few words about three or four species allied to Brodiæa, which he admits as constituting distinct genera. *J. G. Baker.*

(To be continued.)

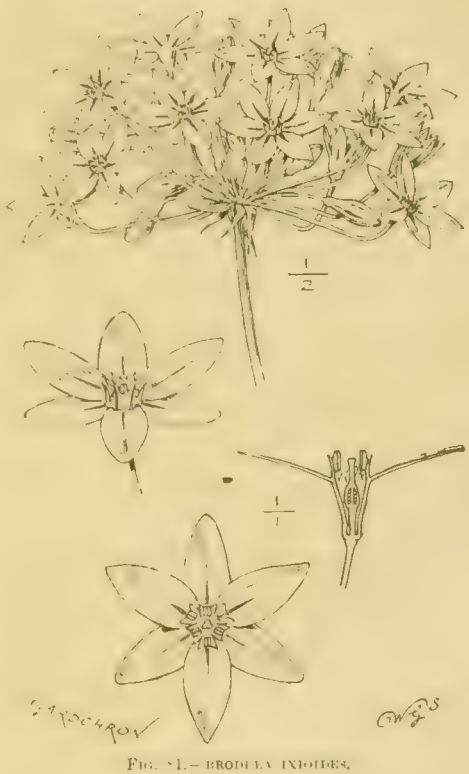


Fig. 81.—Brodiæa ixioides.

PHYSICAL PROPERTIES OF BORDEAUX MIXTURE.

(Continued from p. 428.)

"On the evening of April 12 the five jars were exposed in a garden in an open place. After April 13 they were watered simultaneously by all the rains that fell. When it did not rain for some little time, each jar was given an equal quantity of rain-water, which had been collected in advance. Each dialiser was placed separately in a funnel draining into a test-tube, in which any water poured on the apparatus finally collected. Every two or three days the water from each of the five apparatus was removed simultaneously and analysed separately. The following shows the order of appearance of the copper in the water which had drained through the mixture:—

Mixture No. 1	April 17
Mixture No. 2	April 19
Mixture No. 3	April 24
Mixture No. 4	April 25
Mixture No. 5	April 30

"Other tests of the same nature, made by washing with rain-water leaves of Spindle-wood and Box-wood (Buxus), previously sprayed with these same five types of Bordeaux Mixture, gave analogous results. In general, the copper appeared in the water which

had washed the leaves more quickly when the mixture contained less lime."

In 1890, the same authors* reported another experiment showing that Bordeaux Mixture, with 1 kilogramme of copper sulphate and 300 grammes of lime to 1 hectolitre of water, after being evaporated at 39° C., and left for days, gave no trace of soluble copper when washed in distilled water. They also state that it is the carbonating of the lime which, when completed, allows the copper to dissolve. This neutralisation proceeds very slowly in dry air, and is greatly favoured by a gentle rain of short duration. Doubtless showers, dew, fog, and even rather damp air favour the transformation. † The solvent action of rain-water after all traces of lime in the mixture have been neutralised, may probably be explained by the following hypotheses:—The ammonia or nitrates contained in rain-water dissolve a small amount of copper; the carbonic acid in solution probably dissolves some copper with chemical change; pure water, free from calcium hydroxide, dissolves slight amounts of copper hydroxide.

Regarding the first hypothesis, it is interesting to note that rain-water often contains quite appreciable amounts of nitrogen, especially in the form of ammonium carbonate, ammonium nitrate, and ammonium nitrite. The results of an investigation by Failyer and Willard on the rain falling‡ at Manhattan, Kans., from 1886 to 1890, are of interest in this connection. From the tabulation of results by single rains for 1888-89 it can be readily seen that the amount of nitrogen per litre is greater in case of light showers than for heavy rains. In rain falling in showers of about 2·5 millimètres or less, the amount of nitrogen in the form of ammonia was frequently 2 to 7 milligrammes per litre, and in the form of nitric acid 3 to 6 milligrammes per litre. On one occasion there were 12·227 milligrammes of nitrogen per litre (10·376 milligrammes as ammonia, and 1·851 milligramme as nitric acid). The results for the four years from March, 1886, to March, 1890, give the mean total nitrogen as 0·522 milligramme per litre, of which 0·888 was in the form of ammonia, and 0·156 in the form of nitrates.§ Petermann and Graftiau‖ found from an investigation of all precipitation from January, 1889, to December 31, 1891, that at Gembloux, Belgium, the average amount of nitrogen per litre was 1·49 milligramme, of which 1·14 milligramme was ammoniacal and 0·35 nitric nitrogen. This makes the percentage ratio between ammoniacal and nitric and nitrous nitrogen 76 to 24; while at Rothamsted it is 75 to 25, at Montsouris 73 to 27, and at the German and Italian stations 73 to 27. "The weight of nitrogen in the form of ammonium carbonate exceeds, therefore, that of the nitrogen in the form of ammonium nitrate or nitrite." The content of meteoric water in combined nitrogen was found by Petermann and Graftiau to be very variable; but, nevertheless, one fact of general interest appears to have been brought out, viz., a decrease of nitrogen from April to June or July, when the minimum is reached, and then an increase to a maximum in February. The amount of precipitation followed an exactly inverse rule. It is particularly interesting to note that fog, snow, and frost are characterised by a very large nitrogen content. In three cases the amounts of nitrogen in fog per litre were 2·60, 5·64, and 5 milligrammes. As to the nitrogen content of dew, little seems to be known. From the high content of fog, however, it may be suspected that dew also is rich in combined nitrogen. These very small amounts of carbonate, nitrate, and nitrite are doubtless of great importance in effecting the solutions of small amounts of the nearly insoluble copper salts present not only in Bordeaux Mixture, but in many other fungicides. Probably cupro-ammonium compounds are formed which are soluble in water. As to the details of the process of solution, however, little is known.

It is quite probable that the carbonic acid dissolved in atmospheric water may dissolve small amounts of the cupric hydroxide. However, the amount of CO_2 present, even in a saturated solution, is very small. Puchner* found the amount of CO_2 in the open air in the vicinity of Munich, Germany, to vary constantly and considerably at all heights observed (1 centimètre, 2 mètres, and 10 mètres above the ground). The following table illustrates the great extent of the variations, the amounts being the cubic centimètres of CO_2 contained in 10 litres of air, all observations being reduced to 0° C. and 760 millimètres pressure:—

Amount of Carbonic Acid in the Air in an Open Field near Munich, Germany.

Height.		Extremes.	Means.	Variation of Minimal Content.
				Per cent.
1 centimètre above ground	Day	1·998—6·805	4·817	242·30
	Night	1·750—4·318	2·568	145·74
	Mean	1·869—5·561	3·692	194·52
2 metrès above ground	Day	1·942—7·063	5·121	263·69
	Night	1·750—5·571	3·821	218·84
	Mean	1·583—6·317	4·471	241·01
10 metrès above ground	Day	1·583—4·481	2·898	185·59
	Night	2·005—4·888	2·893	144·28
	Mean	1·794—4·689	2·896	164·93

It was observed that wind diminished and snow increased the proportion of the CO_2 in the air. Puchner made many observations on air from very different situations and under as diverse weather conditions as possible. In the great majority of determinations (1527) the content varied between 2 and 5·5 volumes in 10,000 volumes of air, and averaged 3·67 to 10,000.

According to Bunsen and Pauli,† one volume of water under 760 millimètres pressure dissolves:—

At—	Parts by Volume of CO_2.
0° C.	1·7967
5° C.	1·4497
10° C.	1·1847
15° C.	1·0020
20° C.	0·9014

According to Regnault,‡ the specific gravity of CO^2, compared with air is as 1 to 1·5341. If there were 3·67 parts by volume of CO_2 to 10,000 of air, the average as given by Puchner, the pressure would be of course 0·000367 atmosphere, and 1 litre of water saturated with CO_2 would contain§:—

At—		Milligrammes CO_2.
Degrees C.	Degrees F.	
5	41	0·94
15	59	0·62
20	68·2	0·55

The extreme variations in content of the air in CO_2, as given by Puchner, would have caused the amount to be halved at minimum content, or doubled at maximum. The amount present in rain or dew may sometimes be even less than would be indicated by the figures given above, since the water might not be fully charged with CO_2 in all cases. Gayon* found that 1 litre of water charged with CO_2, at ordinary pressure, was able to dissolve 40 milligrammes of cupric hydroxide at a temperature of 15° C. If fully saturated, this amount of water at 15° C. and 760 millimètres pressure would contain 1·002 volumes of CO_2, weighing 1·8722 gramme. This would indicate that the carbonic acid contained in water can dissolve about 2·15 per cent. of its own weight of cupric hydroxide. It seems scarcely possible that the minute quantities of CO_2 contained in rain-water or dew alone could dissolve enough copper to poison any but the most delicate plants. Probably, as claimed by Gayon, the copper hydroxide present is slightly soluble in pure water. Nägeli † found, as will be seen later, that the purest of distilled water would absorb enough copper from carefully-cleaned copper or gold coins (one-tenth copper) to make the water highly poisonous to Spirogyra after a few hours. It is possible that the drops of rain or dew standing for some time on the leaves or other parts of plants may absorb from superficial cells sugar or other substances that may serve to increase the solubility of the copper. Some colour is given to this hypothesis by the observation of Büsgen,‡ who suspended carefully cleaned Grapes in water, so that the pedicel and point of attachment were not wetted, and after twelve hours detected sugar in the water. He also noted in his study of germination of parasitic fungi that the germ-tubes of many species are attracted to the boundaries between two epidermal cells where they penetrate. If leaves are placed in water full of bacteria the latter collect at the boundary-line between the cells, proving, in Büsgen's opinion, that there is a faster exomosis of dissolved matters here than over the lumen of the cells.

The germ-cells of many parasitic fungi are strongly attracted to the guard-cells, as are also bacteria. Büsgen succeeded in obtaining a thick black precipitate on the epidermis of leaves of Eranthemum pulchellum (Acanth.) and Barbarea vulgaris (Crucif.) that had been wetted with a few drops of ammoniacal solution of silver nitrate. Usually the epidermal cells remained entirely free from the precipitate. Only once, with Eranthemum pulchellum, was a heavier precipitate obtained, and this was along the boundaries of the epidermal cells. The wall was found to have no power to precipitate the silver solution, so the author concluded that the precipitate was caused by some matter which had diffused into the ammoniacal silver nitrate from the interior of the cells. It may be that the guard-cells, lacking, as they do, intercellular connections with the neighbouring cells,§ may more often contain a great excess of the products of assimilation. Now, according to Brown and Morris,‖ the first production of assimilation is cane-sugar, and only when it accumulates in excess is starch formed. Moreover, the maltose formed from the starch under the influence of diastase may be like cane-sugar and syrup in its action on copper salts. Fresenius¶ states

* Millardet et Gayon. La bouillie bordelaise céleste (Jour. d'Agr. Prat., 54e ann. T. I, No. 8, February 20, 1890, pp. 271, 272).

† The necessity for any excess of lime to be neutralised before the copper can be dissolved, is a strong argument against using any greater amount of lime than is absolutely necessary.

‡ Failyer, G. H., and Willard, J. T. Ammonia and nitric acid in atmospheric waters (Kans. Expt. Sta., Second Annual Rept., 1889, pp. 128—132).

§ There is probably some error here, as the sum of nitric acid and ammoniacal nitrogen is 0·544 milligramme, not 0·522.

‖ Petermann, A., and Graftiau, J. Recherches sur la Composition de l'Atmosphère (Bull. Stat. Agr. Gembloux, No. 52, July, 1893, pp. 1—26; reviewed in Chem. Centralbl., 44, 1893, Bd. 1, No. 15, pp. 710—712, and also quoted in A. de Ceris, Cronique agricole; Jour. d'Agr. Prat., 57e ann., T. II., No. 36., Sept. 7, 1893, p. 322).

* Puchner, H. Untersuchungen über den Kohlensäuregehalt der Artmosphare (Forsch. Geb. Agr. Physik, 15, 1892, pp. 296—388; reviewed in Biedermann's Centralbl. Agr. Chem., 23, Heft 7, 1893, pp. 433—440. Original not seen).

† Quoted from Roscoe and Schorlemmer, Ausführliches Lehrb. der Chem., Bd. I., Braunschweig, 1877, p. 536.

‡ Quoted from Roscoe and Schorlemmer, l. c., p. 527.

§ Calculated from Fowne's Manual of Chemistry (New American edition, from twelfth English edition; Lea Bros. & Co., Philadelphia, 1885, p. 1032), using Table VII. for the weight of air at the temperature given, and 760 millimètres pressure.

* Gayon et Millardet. Traitement du mildiou par le mélange de sulfate de cuivre et de chaux (Jour. d'Agr. prat., 49e ann., T. II., No. 46, Nov. 12, 1885, p. 710). Gayon found that pure water dissolves slight traces of cupric hydroxide at 15° C.

† Nägeli, C. Ueber oligodynamische Erscheinungen in lebenden Zellen. Separatab druck aus den Denkschriften der schweizerischen naturforsch. Ges., 33, Heft I., 1893.

‡ Büsgen. Ueber einige Eigenschaften der Keimlinge parasitischer Pilze (Bot. Zeit., 51, Abth. I., Heft 3 and 4, 1893, p. 67).

§ Kienitz-Gerloff, F. Die Protoplasmaverbindungen zwischen benachbarten Gewebselementen in der Pflanze (Bot. Zeit., 49, 1891, No. 4, col. 58).

‖ Brown, H. T., and Morris, G. H. A contribution to the chemistry and physiology of foliage leaves (Journ. Chem. Soc., England, 1893, pp. 604—683).

¶ Fresenius, C. R. Manual of Quantitive Chemical Analysis, translated and newly revised by S. W. Johnson, twelfth edition. John Wiley & Sons, New York, 1893, p. 176.

that in the presence of sugar or similar organic substances, caustic alkalies produced precipitates which are soluble in excess of the precipitants. Sugar and sirup have been used extensively in France to dissolve in part the cupric hydroxide and basic carbonate occurring in fungicides.

It would take but very little sugar to have as much solvent power as the traces of ammonia and CO_2 in rain or dew. Of course it is possible that other substances besides sugar might find their way from the plant-cell to the drops of liquid containing the copper, and aid in dissolving it. Pons* found that although neutral and acid salts of copper are strongly insoluble in fats and fatty matters, the hydrate and basic salts are rather easily soluble. He believes the fatty matters of the cuticle of plants are comparable with animal fats and not with wax, and consequently that they would be likely to exercise a solvent action on copper salts.

Finally, it is possible that substances secreted or excreted by cells of parasitic fungi may effect the solution of a small amount of copper. The ferments and cements secreted by the hypha tips of many parasitic fungi, especially when they come into contact with a solid body, and in case the solid particle contains copper, might dissolve a considerable amount just about the delicate growing tip.

If, as is quite possible, the copper is quickly absorbed by the fungus cells, the solvent could then take up another portion, which in turn would be absorbed by the fungus, and so on. In this manner poisoning might ensue, even though the copper were only very slightly soluble. From what has been said, it can be seen that further researches on the conditions governing the solubility of the copper compounds used as fungicides are very much needed. Scarcely anything has been definitely settled. Almost all writers have overlooked a number of the conditions influencing solubility. *Extract from "Bulletin No. 9, U.S. Department of Agriculture," Concluded.*

THE APIARY.

PACKING HONEY FOR TRANSIT BY RAIL.

Many bee-keepers after selling their honey often find it difficult to get it to its destination in safety; but a good and cheap way of sending away sections is to get a "No. 1 Tate's cube sugar-box," which will require packing at the bottom (outside) with soft hay or waste, and covered over with canvas or sacking, and tacked up round the box for about 3 inches, this preventing any damage being done by rough usage in transit. The box will take three crates of sections, each holding twenty-four 1-lb. sections; the crates should be made a little smaller than the box, to allow the ends and sides to be well packed with rolled newspaper to keep them from shaking. Two small pieces of wood should be attached to the crate on each end, to act as handles to lower into box by means of strong string. Thin pieces of wood 4¼ inches deep should be placed between the rows of sections in each crate, to keep them firm, and a sheet of newspaper laid over the top of each crate will prevent any of the sections being spoilt if any honey should run from the crate above; this little precaution will often prevent the loss of a good many sections. A cushion stuffed with shavings or chaff should be placed on the top crate; the lid should be then screwed down firmly. It has also a small crate fixed to it on the top, with glass sides, showing a dozen sections; this will prevent the case from being roughly treated, when it is seen to contain honey. A case of this sort can be sent over any railway at a cost of about one farthing a pound (owner's risk), without any damage being done, if the directions as given are properly carried out. Below is a rough sketch of case, which can be fitted up at a very nominal cost.

Packing Run Honey.

In sending a quantity away, a good plan is to borrow a milk-churn from a dairyman, which will hold over 1 cwt. Tie a piece of muslin over the top before the lid is put on, and fasten with a sealed label. In sending away smaller quantities, secure a few sweet tins holding about 13 lb. each; tie over with cloth or muslin, as in the above case, before placing on lid; pack tins in box, and pack round firmly with shavings to keep firm (see fig. 82).

In all cases in despatching honey, place a label with words on, in large letters in red ink, "Honey, with care," adding date, and time of despatch, if by rail; and write to the purchaser a day or so before, telling him by what train he may expect the consignment.

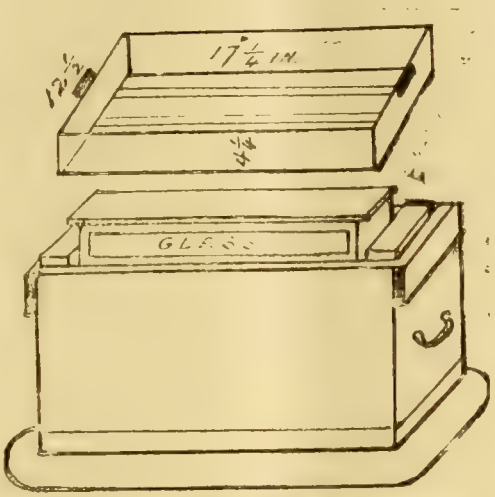


Fig. 82.—A Tate sugar-box, fitted to hold crates of cases of honey.

Winter Feeding.

Candy-cakes should be placed on hives where feeding with syrup has been discontinued, and they should be placed over the top of the brood-nest to allow the bees to get it without much trouble. Do not allow more than seven or eight frames to be left in hives, for the sake of warmth; a good plan is to place an empty frame in the centre of the brood-chamber, to allow them to cluster on it closely.

Ventilation.

Now robbing has ceased, it is as well to open the entrances a little wider to give the bees more air, as nothing tends to dispel damp so much as ventilation.

THE NEW ZEALAND FLORA.*

It will be remembered that the most famous of modern navigators, Captain Cook, was accompanied on his first voyage by two naturalists who took their place amongst the foremost scientific men of the day—Sir Joseph Banks and Dr. Solander, the entire cost of the natural-history investigations made during the voyage being defrayed by the generosity of the former. Captain Cook first landed on the shore of New Zealand at Poverty Bay, on Sunday, the 8th October, 1769, and subsequently visited Tolaga Bay, Opuaragi (Mercury Bay), the Thames River, the Bay of Islands, Queen Charlotte Sound, Admiralty Bay, &c., during which the naturalists collected about 360 species of flowering-plants and Ferns. But they were no mere collectors: folio drawings of most of the plants were made by Sydney Parkinson, one of the draughtsmen engaged for the voyage, and on the return of the expedition to England were engraved on copper; while excellent MS. descriptions were prepared by Dr. Solander, the entire cost being defrayed by Banks. Unhappily, these plates and descriptions have never been published. At the instance of Sir James Hector, the Board of Governors of the New Zealand Institute authorised the necessary outlay for copying the descriptions in London, and the MS. is now submitted for inspection. Sir Joseph Hooker, in the introduction to the original *Flora Novæ-Zelandiæ*, speaks of Solander's MS. in very high terms, and from such references as I have already been able to make, I can heartily indorse his testimony to its merit. It is most unfortunate that for a century and a quarter, plates and descriptions alike have remained inaccessible to local botanists. Had they been published by their authors, the botany of New Zealand would have been far better known sixty years ago than was possible under the conditions that then existed, a large amount of error and confusion would have been avoided, and the synonymy of many species greatly simplified. Many of Solander's names, which in the majority of species are most appropriate, have been applied to different plants, while others have not come into use in any way, many New Zealand plants having been described by Continental writers who had no knowledge of Solander's excellent work.

It is perhaps not generally known that Sir Joseph Banks was extremely anxious to accompany Cook on his second voyage, and succeeded in having a grant of £4,000 voted by the House of Commons to pay for the necessary assistance; but, owing to the resolution not being sufficiently well defined, the Comptroller of the Navy, who from some obscure cause wished to thwart Banks, succeeded in preventing him from joining the expedition. John Reynhold Forster, and his son George, were appointed chief naturalists, and received the sum voted by the Government at the instigation of Sir Joseph Banks. Their botanical work, although of great value, was not equal to that of Banks and Solander either in extent or quality. Their collection of New Zealand phænogams and Ferns comprised only 160 species, of which about 150 were published in George Forster's *Florulæ Insularum Australium Prodromus*. A few others were described in *Characteres Generum* and *De Plantis Esculentis Insularum Oceani Australis Commentatio Botanica*, but the descriptions are very meagre, and suffer greatly by contrast with the excellent work of Dr. Solander. The specimens collected by the Forsters were arranged in fasciculi, and distributed to various museums and private collections. Unfortunately, in some instances a plant has received different names in different fasciculi, resulting in a large amount of error and confusion. Their drawings of the plants and animals collected during the voyage were purchased by Sir Joseph Banks for £400, and are included in the Banksian Collections now in the British Museum. It is worth while to remark that the three works already mentioned, with another, *De Plantis Magellanicis et Atlanticis*, all published between 1776 and 1787, comprise all that was published respecting the botany of Cook's first and second voyages, and therefore all that was published respecting the botany of New Zealand prior to M. A. Richard's *Essai d'une Flore de la Nouvelle Zélande*, in 1832. In this connection I should like to state my sense of personal indebtedness to C. R. Carter, Esq., who, at my suggestion, has kindly placed copies of these books in the fine collection of works on New Zealand, which he has so generously presented to the New Zealand Institute. Apart from their special value to the botanist, a considerable amount of historic interest must be attached to them by all New-Zealanders.

The Minister of Education has sanctioned the small outlay necessary for obtaining a complete set of proofs from the Banksian drawings of New Zealand plants in the British Museum, and copies reduced by photo-lithography will be printed at the Government press, to form a special volume of illustrations for the *Student's Flora of New Zealand*, now in preparation. The MS. volume of descriptions will be bound for the library of the New Zealand Institute.

I am reluctant to allow this opportunity to pass without expressing my thanks to Sir James Hector for his continuous and loyal efforts to insure the new Flora being made as complete and exact as possible. When its publication was first mooted some years back, he advised the Government that, as a simple matter of business, it would be wise to send the

* Pons, B. Le cuivre et le mildiou (Jour d'Agr. prat., 4e ann., T. II., No. 34, 1890, p. 276.

* Notes on MS Descriptions of Collections made during Captain Cook's First Voyage. By T. Kirk, F.L.S. Read before the Wellington Philosophical Society, Sept. 25, 1895.

editor to London to examine the collections of New Zealand plants made by the early botanists, and especially the vast accumulations that have been sent to Kew during the last thirty or forty years. The same course had previously been suggested by Sir Joseph Hooker, but had not been brought under the notice of the Government. When the Government declined to adopt the advice, Sir James warmly supporteed the proposal to secure the MS. copy of Banks' and Solander's unpublished Flora, which is now before the meeting, and thus rendered material assistance. He has done everything in his power to facilitate the work, and render it as nearly perfect as possible.

NOTES ON PLANTING BUSH FRUITS.

Bush fruits, by which are meant Currants, Gooseberries, Blackberries, and Raspberries, being mostly European plants, are easily grown, which may, perhaps, account for plantations of them often being found in a neglected condition. The bushes succeed best upon loamy soils, sheltered yet open to the sun, and on land sufficiently elevated as to suffer but little from spring frosts. Light dry soils are unsuitable for these fruits, and particularly so in southern English counties. The unsuitability of such land may be, however, in a measure, counteracted by planting in partially-shaded positions, and by applying dressings of heavy soil and decayed cow-manure. As an instance of this, I have Gooseberry-bushes growing satisfactorily upon a north border, shaded by a wall in a garden, whilst they failed in the open quarters. In preparing for planting, the first consideration is to attend to the proper draining of the soil, which is best secured by 3-inch tile drains, placed 3 feet in depth, and 15 feet more or less apart, according to the character of the subsoil; always bearing in mind that it is safer to err in placing them rather closely, than by having them too far asunder. The soil should next be trenched to a depth of at least 2 feet, and as the top spit invariably consists of the best soil, it should be kept on the surface; while, as the operation proceeds, deep-rooting weeds, and large stones should be removed. The best results follow when this work is done in fine weather, i.e., at a season when the soil is workable; and it is advisable to accomplish it some months previous to the time of planting, to allow of its settling. After the trenching is completed, the land should receive a liberal dressing of decayed farmyard-manure, that from cow-sheds, as already stated, being best for light soils, while stable-manure is preferable for that of heavy soils, and this should be forked into the surface. The most suitable time for planting is the end of October, or early in November, although it is better to defer it to a later date than do it when the soil is wet, and will not crumble. Should the bushes be received when the soil is in a wet condition, they should be laid in by the heels, till a favourable time for planting offers. In planting upon good soil, all the varieties of Currants and Gooseberries grown as bushes should stand 6 feet apart each way, and care should be taken that they are not placed deeper in the soil than they were when lifted from the nursery lines. Straggling or badly-bruised roots must be removed, and the remainder spread out at the bottom of the hole, making the soil firm about them, completing the job by mulching each plant with short manure. The cordon mode of cultivating Gooseberries has its advantages, and plants of this description can be planted in lines in the open ground, and look nice by the sides of the walks, or upon walls. They are very useful, owing to the fruit keeping till late in the autumn, when grown upon north walls. Gooseberries and Red Currants may also be grown as standards, and compact-growing varieties, upon 3 feet stems neatly staked, and carrying crops of ripe fruit, are certainly ornamental. Raspberries, particularly the strong varieties, should be planted in rows at 6 feet apart, and the plants at 2 feet asunder in the rows.

For ordinary requirements the growing of numerous varieties of these fruits is not advocated, although several are necessary in order to include the best for special purposes; and in conclusion I will name a selection of good varieties, although others equally good might be enumerated.

Gooseberries.—For cooking when green: Antagonist, Industry, Keepsake, Lancashire Lad, Crown Bob, and Berry's Early Kent. For flavour: Early Sulphur Glenton Green, Whitesmith, Warrington, Green Gascoigne, Green Sage, Red, and Yellow Champagne. For bottling: Rumbullion. For preserving: Warrington, Ironmonger, and Keen's Seedling. For exhibition: Speedwell, Dan's Mistake, Leveller, Catherina, Telegraph, Thumper, Antagonist, and Snowdrop.

Currants.—Black: Ogden's Black, Lee's Prolific, and Black Naples. Red: Cherry-Currant, Reine Victoria, Red Dutch, and La Constante (the latter is a valuable late variety). White: White Dutch, and Cut-Leaved.

Raspberries.—Red: Superlative, Semper Fidelis, Carter's Prolific, and Baumforth's Seedling. Yellow: Yellow Antwerp. Autumn-fruiting: Belle de Fontenay. *Thomas Coomber.*

KEW NOTES.

Orchids at Kew.—Among the many species at present in flower in the Orchid-houses at Kew the following are noteworthy. In addition there are many in flower which although not showy, are yet interesting botanically. There is promise of a good display of Dendrobiums, Cattleyas, &c., in the fine growths made this year under the influence of the exceptionally large amount of sunshine experienced during the summer: — Angræcum bilobum and the variety Kirkii, A. Scottianum, Cattleya labiata, C. aurea, C. Holfordii, C. Bowringiana violacea, Cirrhopetalum ornatissimum (what a nauseating odour the flowers of this plant have!), C. pulchellum, Cycnoches Egertonianum (a spike 18 inches long, bearing numerous yellow and black-purple flowers with curiously bunched lip), C. chlorochilon, C. Loddigesii, Cypripedium concolor, C. Stonei, C. Charlesworthii, Epidendrum prismatocarpum, Habenaria carnea, Lælia elegans, Odontoglossums, various; Oncidiums, various; Phalænopsis Esmeralda, P. Lowii, P. violacea, Sobralia sessilis, true, a lovely species; S. Wilsoni, apparently only a variety of S. macrantha; Stenoglottis longifolia, and Vanda cœrulea. *W. W.*

The Week's Work.

THE ORCHID HOUSES.

By W. H. White, Burford, Dorking.

Catasetum, Mormodes, and Cycnoches.—Plants of these species now out of bloom, or which have finished their growth without flowering, should now be removed from the East Indian-house to a very light position in the Mexican-house, and on no account be shaded at this season, direct sunlight being necessary to harden and mature the latest-made pseudo-bulbs. The plants will require scarcely any water in dull weather, but plenty after sunny days till the leaves have fallen, when, if well matured, they will need no water for a period of several months. Badly-ripened growths, on the contrary, require water once a week or fortnight, in order to preserve them in a plump state. Catasetums, after producing their first flower-spikes, if strong, frequently send out others a few weeks later, but these it is advisable to pinch off, to prevent the new pseudo-bulb being weakened and hindered in the finishing.

Odontoglossum citrosmum. — Plants which during the summer months have been hung up in the Cattleya-house, but which may have made little progress lately owing to lack of sunlight, may be removed to a light airy position in the East Indian-house, or warm stove, keeping them well supplied with water at the root. The plants under this sort of treatment will finish up in good time, and become properly ripened before the winter sets in.

Dendrobium Phalænopsis.—The large importations offered for sale at London auction-rooms recently will have induced new men to attempt their cultivation, and a few hints as to the management of the plant on arrival will be useful to many. The plants on being unpacked should be closely examined for a destructive beetle usually infesting the species, and boring small holes in the pseudo-bulbs. The only means of extermination is to remove the pierced bulb, and burn it immediately. Each pseudo-bulb should be cleaned with a sponge dipped in warm water after all the decayed parts and dead roots have been removed, then place the plants in pots or baskets just large enough to hold them for one season, making the plants firm by tying the pseudo-bulbs to neat sticks, an important point in obtaining a good root-hold, and use nothing about the roots but clean crocks. To revive the plants, it is advisable to place them in a moderately dry intermediate-house. It is not good practice to attempt to make them suddenly plump, or to excite growth before natural activity commences, or the plants may fail to produce growths when the proper time for so doing arrives. But little moisture should be afforded for several months after potting, the crocks being merely moistened occasionally. Many of these imported plants are approaching their flowering stage, and no doubt the buyers of them will be impatient to see their plants in flower; but I would strongly advise them to pinch out every flower-spike, for the reason that flowering will debilitate the plants greatly. The cultivator should, moreover, avoid any kind of treatment that would tend to cause growths being made during the winter; but in the spring, when growth commences anew, the plants may be potted in peat and sphagnum-moss, using but a thin layer of it, and Orchid-pots small in proportion to the size of the plants, gradually inuring the plants to a greater degree of warmth. When in full growth they will require the warmest house and lightest position in it that is available.

THE KITCHEN GARDEN.

By Charles Herrin, Gardener, Dropmore, Maidenhead.

Lettuce and Endive.—Some garden-frames may now be prepared for holding a number of nearly fully-grown Lettuces and Endives, which should be lifted with as large balls of soil as convenient, and transplanted in the soil in the frame at about 6 inches apart, or at such distances that they will stand clear of each other. The frame-lights should only be made use of to shelter the plants from rain and night frosts. The curled-leaved varieties of Endive are very apt to rot if allowed to get wet, and for this reason the broad-leaved Batavian Endives are the best for winter use. During sharp frosts mats or litter should be placed over the frames. The later-raised Lettuces have not made much progress owing to the cool temperature and excessive rainfall, and it will be advisable to plant a good batch of the stronger seedlings at the foot of south and west walls and other somewhat sheltered places; the smaller ones being planted a few inches apart in cold frames, sheltering them in severe weather with mats, &c.

Cabbages.—A second planting of Cabbages should now be made. The young plants have not made much progress, and the Cabbages that were first planted out have not made gross growth, or such as might not be able to withstand the severities of an ordinary winter. The first planted Cabbages should now be lightly earthed up with the hoe when the ground can be caught in a dry state. If planted on firm ground, such as that which carried this year's Onions, the growth will be stocky, and with the earthing up properly carried out, frost and wind will do them little harm.

Asparagus.—The stems of the plants in the permanent beds having matured, may be cut off and cleared away before the berries drop off. There is, I believe, no advantage gained by allowing the stems to remain after the leaves turn yellow. Cut them off close to the ground, and remove forthwith from the beds. The stems on plants in newly-made beds will probably continue to grow some little time longer, and this being so, they should not be removed before they are ripe. The cleared beds should be weeded either by hoeing, or by hand if the surface is very moist, and the first opportunity taken to slightly loosen the surface. The manuring of the beds is often done at this season, but in the case of heavy land, it is not an advisable practice; but where the land is of light nature, manure may now be applied in a half-rotten state. As the roots of the plants are not injured by even severe frost, the beds are the better for being left uncovered by manure, and open to the sweetening influences of frost and wind till early spring, when thoroughly rotted manure should be used to top dress them.

Hints on Work in General.—The late successions of Celery should now be freed from the small basal leaves and the suckers that spring from the crowns, and when dry afforded an earthing-up of 1 or 2 inches in height—not more, or the heart-leaves will be over topped. The stems of fruiting Tomatos growing out-of-doors should be severed at the ground-level, the leaves removed, and hung up in a warm place, such as the back wall of a late vinery, where some of the fruits may ripen sufficiently to be useful in

the kitchen. The plants in the late sown Spinach quarter should be thinned somewhat, so that they stand just clear of each other.

FRUITS UNDER GLASS.

By W. Pope, Gardener, Highclere Castle, Newbury.

The Pinery.—The pinery in which are plants of the Queen required to ripen their fruits in the months of May and June, 1897, should have the temperature gradually reduced to about 60° at night, and from 65° to 70° in the daytime, giving air, more or less, according to the conditions prevailing out-of-doors. The bottom-heat should be kept at 75°. The aim of this reduction of warmth, is the affording of a period of comparative rest till the beginning of the new year. The plants being in pots plunged to the rim in moist tan or leaves, and not being in the neighbourhood of any hot-water pipes, will need very little water till a greater degree of heat is afforded when starting them into fruit, although an occasional examination of the soil will be necessary, great dryness at the root being dangerous. Maintain a rather moist, genial atmosphere in the house in which fruits are swelling off, sprinkling the paths and walls daily, and the surface of the bed occasionally, but the plants themselves should not be syringed. The amount of water afforded the soil must be sparing, the aim of the cultivator being the keeping of the soil in a moist, but not a wet state; and throughout the winter water may be withheld altogether as soon as a fruit begins to colour, any excess of moisture at the root at this stage and season often causing blackness at the core. A night temperature of 70° should be maintained, and by day 75° to 80°; bottom-heat being steady at 85° to 90°. Suckers on these fruiters, when of fair size, should be twisted off, and after laying in the Pine-stove to dry somewhat they should be potted into deep 6-inch pots, and plunged in a bed having a brisk heat, with the tips of the leaves nearly touching the glass. Roots are quickly formed under these conditions, and the leaves do not become drawn as is the case with suckers left on the old stools till the spring arrives. Those suckers which were potted late in the summer should be making free growth, and will be benefited by having plenty of air on favourable days, and a smaller amount of water at the roots, although these must not be kept very dry. Examine them at the least once a week during the winter months, and afford water when it is necessary. Those standing in small pots and likely to become pot-bound shortly, may be repotted into slightly bigger pots rather than run the risk of their starting prematurely into fruit. It is advisable to let the temperature fall for these young plants to about 60° at night, or 65° in mild weather by day, with a steady bottom-heat of 80°.

Cucumbers.—As the days shorten, moisture at the roots and in the air of the house must be correspondingly reduced, discontinuing overhead sprinkling, and relying for aërial moisture on sprinkled paths and other surfaces. Undue dryness of the soil should be guarded against by affording as much water as will prevent flagging, or just enough to keep the bed in a moist state. Admit a little air on bright mornings, and closing early. The lateral shoots should be stopped at every joint, and all mis-shapen fruits removed as soon as observed. The plants should be lightly cropped, and no fruit allowed to remain uncut after having become large enough for consumption. A few fresh horse-droppings spread over the surface of the bed at short intervals of time will be beneficial by affording a supply of ammonia to the plants, and tend towards keeping them free from red-spider. Keep free from thrips and aphides by timely light fumigations with tobacco, and dust with sulphur for mildew should it appear. A night temperature of 70° will be suitable, rising to 75° or 80° in the daytime.

PLANTS UNDER GLASS.

By Jno. McIntyre, Gardener, Woodside, Darlington.

Ixoras.—Such of these as are now past their best and showing signs of cessation of growth, may be removed to a cooler house, and the quantity of water afforded at the root reduced, but at no time altogether withheld, or the shoots will shrivel. A late vinery, if warmth be afforded to dispel damp from the Grapes, forms a very suitable place for storing Ixoras. Here the plants may stay for three months; indeed, such quarters are very suitable for any species of stove-plants that needs to be kept cooler when at rest.

Palms, &c.—Any which from various causes have had their growth checked, should be placed in the stove to make new leaves in readiness for use another year. This holds good of the plants that have been much employed in house-decoration, or that have frequently been sent to shows; it applies also to Cycads. I have a large plant of Cycas circinalis that was checked in its growth during the summer, and it is throwing up a fine crown of leaves under this kind of treatment. Old specimen Cycads should have their stems abundantly sprinkled. Autumn-struck stove plants of any kind, if rooted, should be placed in pots of a size likely to carry them through the winter, and put on a shelf near the glass.

Potting Soils and Composts.—Where open or closed sheds exist, and the space can be spared, the various materials used in potting plants should be got together without delay and placed therein. The loam, which ought to consist of light and heavy qualities, should have been in stack for one year or longer, for the grass-roots, &c., to have become partially decayed. The loam that gardeners like the best is that which has been taken from a sheep-pasture or other grazing-land, but as this cannot always be obtained, then such as comes nearest to it should be obtained. The country gardener can usually stack his turfy soil in the open one year or more before he uses it; the town amateur, on the other hand, buys what he requires of the soil-dealer, and has but little choice in the matter of quality, but he at least should stipulate for being supplied with turfy soil—not sub-soil, destitute of fibre. If turf be cut at home, it may range in thickness from 1½ to 3 inches, according to the quality of the soil—thick on good loam, and thin on poor or gravelly ones. When carted to the soil-yard, stack the sods or turves solidly together, and finish off the heap as a ridge or a cone, with a sharp slant to throw off the rain; and keep it free from weeds. When the grass grows out at the sides, as it will do in the summer, shave the sides thinly with a sharp spade, and then it will not give any further trouble. Where the potting shed is furnished with soil-bins, these should be filled. Do not omit to store in the dry a sufficient quantity of well decayed and partially decayed leaf-soil. These should be passed through fine-meshed sieves to remove undecayed portions, sticks, and rubbish. For the making of leaf-soil as many Oak, Chestnut, and Beech leaves should be collected as possible—one can scarcely have too much of it in the garden. The leaves of the Lime, Elm, Horse-Chestnut, and Sycamore do not make such good leaf-mould, although when mixed with dung they make fairly lasting hot-beds. Peat, both hard and soft, is to be met with near some large gardens, the former being good as a potting-soil for hard-wood plants and others, which like those have fine hair-like roots, and that do not like frequent root-disturbance; the latter does well for growing Ferns, some kinds of Orchids, Achimenes, Gesneras, Anthuriums of the leafy species and varieties, and for mixing with loam and leaf-mould for a great variety of uses. Like loam, it should have been in stack for at least a year before it is used for potting, although when employed in conservatory borders it may be used in a fresh state at or near the bottom of such, being very good at that depth for keeping the borders well drained, decay taking place but slowly when it is removed from the action of the air. Failing a home supply of peat, recourse must be had to the soil-dealer; and the buyer should insist on being supplied with an article which being cut at least one year, is fit for immediate use in potting his plants. Then there is Orchid-peat and sphagnum-moss, which every Orchid cultivator must have in store. A stock of sand, both pit and river kinds, should be stored, and it ought to be clean, that is, free from loam or other soil. Sea-sand answers well for most things, and if it be stored for a time out-of-doors, the rain frees it from much of the salt particles it contains. The above constitute the greater part of the gardeners' laboratory, and he merely requires a few such aids to growth as dried cow-dung, fowls', or pigeons' dung, that has been fermented in a big heap; some well-decayed stable-dung passed through a half-inch-meshed sieve, a bag or two each of crushed bones, bone-meal, Peruvian-guano, Vine-manure, and super-phosphate of lime, to be prepared for any emergency.

THE FLOWER GARDEN.

By Hedley Warren, Gardener, Aston Clinton, Tring.

Spring Bedding.—Except in very sheltered places, the plants will have become so unsightly as to make it desirable to clear them away forthwith, and proceed with the planting of bulbs and spring-flowering plants. Before digging the soil in the beds, it is generally advisable to dress it well with rotted dung, which is better for the future occupants than summer manuring, and one dressing usually suffices for the entire year. Having made preparations for planting the beds, and having decided on the manner in which they will be filled, planting in masses of one or two harmonising colours only if the beds are small should be done. No two colours may be placed close together that would have a discordant effect, such as purple near red, or scarlet or blue with red, unless [its complement yellow be in the near neighbourhood. Brown and white are tolerable, as for instance, Wallflowers and a white Narcissus, or Tulips, or Hyacinths. Daisies of decided colours are useful as edgings, and for filling quite small beds; also Scillas, white and blue. Chionodoxas less so, the habit of the plants being more straggling. Silene and Saponaria ocymoides; and Forget-me-Nots in variety are all of use. Plants that are of dwarf growth, such as Aubrietias, Daisies, &c., may be planted thinly as groundwork or edging, the intervening spaces being planted with Sedums, Herniarias, Antennaria, &c., or with dwarf Tulips, Crocuses, or Scillas, as may be desirable. In some instances small evergreen shrubs may be used as "dot" plants, and these serve to relieve the beds of flatness, and save the expense of using Dutch bulbs. Other spring-flowering plants, are alpine Auriculas, Primroses and Polyanthuses, perennial Arabis in variety, Alyssum saxatile, Pansies, Erica carnea, &c. Of bulbs there are Crocus, Hyacinths, Narcissus, Tulips, Snowdrops; tubers of Eranthis hyemalis Winter Aconite, Ranunculuses, &c. It should be borne in mind that in beds planted in patterns, the latter should be simple, beds thus planted usually affording the most satisfaction. A simple and telling arrangement for a circular bed about 12 feet in diameter, may be made as follows:—A central plant of Yucca recurva, a groundwork over the whole of the bed of yellow Polyanthus, dotting over the whole Scarlet Tulips; and if an edging be thought desirable, using Aubrietia purpurea. Another simple arrangement may be as follows:—Plant a groundwork of alpine Auriculas, dotting the whole with Narcissus "Golden Spur," placing the latter not less than 9 or 10 inches apart; and where an edging is required, use the red or white Daisies. Beds occupied solely with bulbs, or in which other plants are thinly disposed, should receive a surfacing of Cocoa-nut fibre.

General Work.—All tender plants used for bedding purposes should now be got under cover, and afforded free ventilation in mild weather. Cuttings of bedding Pelargoniums should be frequently examined for decaying foliage and flower-buds, which should be sedulously removed.

THE HARDY FRUIT GARDEN.

By G. Woodgate, Gardener, Rolleston Hall, Burton-on-Trent.

Planting Fruit Trees.—Before proceeding to plant on ground long occupied by fruit trees, the infertile soil of the tree stations should, to a large extent, be dug out to a depth of 1½ to 2 feet, and wheeled on to the kitchen garden quarters, where it may be spread about, and other soil from another part of the garden substituted, adding to this some pasture loam, lime rubbish, and charred soil and refuse. If there are drains under the trees or in the adjacent soil, they should be examined as to their efficiency. The layer of rubble which ought always to be laid over the drain-pipes, and should not be less than 6 inches in length, should be freed from soil and then covered with thick turves. After filling in the stations with the new mixture of soil, &c., make it firm by trampling lightly if it be sufficiently dry to allow of this being done, otherwise it must be left to settle by its own weight. This sort of preparatory work should be undertaken in dry weather, planting being done as soon as the trees come to hand from the nursery.

Peach and Nectarine Pruning.—The shoots of the late varieties which have borne fruit this year should be removed, and a light brushing with a new birch-broom be afforded the entire trees as soon as the leaves attain their autumnal tint, always drawing the broom from the centre to the extremities. This may require occasional doing at intervals of a week. If the fallen leaves are burned forthwith, many insects or their eggs, which might ultimately cause trouble, will be destroyed. In the borders of many kitchen gardens, fruit trees are planted in lines parallel with the walks, and in symmetrical order, and when a vacancy occurs in the lines, some of the worn-out soil should certainly be replaced with that which contains more fertility, and which has not carried fruit trees in recent years. The quarters intended to be planted with bush fruits of all kinds should be well dressed with rich farmyard manure.

APPOINTMENTS FOR THE ENSUING WEEK.

SALES.

MONDAY, Oct. 19—Unreserved Sale of well grown Nursery Stock, at The Nurseries, Sunningdale, by order of Mr. Chas. Noble, by Protheroe & Morris (six days).
Dutch Bulbs, at Protheroe & Morris' Rooms.
Important Collection of Dutch Bulbs, at Stevens' Rooms.

TUESDAY, Oct. 20—Annual Special Trade Sale of Nursery Stock, at the Wood Lane Nurseries, Isleworth, by order of Messrs. Chas. Lee & Son, by Protheroe & Morris.
Dutch Bulbs, at Protheroe & Morris' Rooms.
400 Pens of High-class Poultry and Pigeons, at Stevens' Rooms.

WEDNESDAY Oct. 21—Great Sale of 200,000 Fruit Trees, at Perry Hill, Cliffe, near Rochester, by order of Mr. W. Horne, by Prothere & Morris.
Dutch Bulbs, at Protheroe & Morris' Rooms.
Great Sale of Roses, Plants, Shrubs, Dutch Bulbs, &c., at Stevens' Rooms.

THURSDAY, Oct. 22—Great Clearance Sale of Palms, Ferns, and other Stock, also Cart Horses and Van, by order of Messrs. W. Cooper, Ltd., by Protheroe & Morris (two days).
Dutch Bulbs, at Protheroe & Morris' Rooms.
Tenders to be received at Messrs. Protheroe & Morris' Office, *Re* Normandy Manor Estate, Guildford.
Dutch Bulbs, Liliums, Shrubs, &c., at Stevens' Rooms.

FRIDAY, Oct. 23—Orchids from Messrs. F. Sander & Co., at Protheroe & Morris' Rooms.
Dutch Bulbs, at Protheroe & Morris' Rooms.
Scientific and Miscellaneous Property, at Stevens' Rooms.

SATURDAY Oct. 24—Dutch Bulbs, at Stevens' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—49·2°.

Baron von Mueller.

BY the death of Baron FERDINAND VON MUELLER, or, to give him his British style and title, Sir FERDINAND MUELLER, on the 9th inst, as announced by telegram a week ago, Australia has lost its greatest botanist, science generally one of its most devoted disciples, and humanity one of its greatest benefactors. Personally he was known to few of us, having, in 1847, left Europe to which he never returned; yet there are probably few botanists and horticulturists in the wide world who have not been in correspondence with him, or who are not in some way acquainted with his writings. Apart from an inborn egotism that marred, to some extent, all his writings and speeches, he was a most estimable man, expending his income for botanical and charitable purposes, generous and helpful in all ways. He has done more than any other single individual for the advancement of science in the southern hemisphere. A conscientious and earnest man in all that he undertook, yet withal a little unpractical!

FERDINAND MUELLER was born at Rostock in 1825, and studied medicine and natural history at Kiel, graduating there as Ph.D. Between 1840 and 1847, he investigated the flora of Schleswig and Holstein, but, so far as we know he published nothing relating thereto. At the latter date he had premonitory symptoms of phthisis, and having previously lost both his parents, he emigrated to Australia. The change of climate had the desired effect, though he never attained to a robust physique. He commenced his career as a chemist's assistant in Adelaide, where he soon attracted attention by his study of the native plants. Four years were devoted to the botanical exploration of South Australia at his own cost, and to the last he gave valuable guidance to younger men; taking special interest in the exploration of New Guinea and the antarctic regions. In 1852, under the administration of LA TROBE, the first governor of Victoria, he was appointed Government Botanist. His first contribution to the botany of Australia appeared in the *Linnæa*, vol. xxv., 1852, under the title of *Diagnoses et Descriptiones Plantarum Novarum, quas in Nova Hollandia australi præcipue in regionibus interioribus detexit et investigavit.* This was succeeded by a number of papers on the botany of the same region in HOOKER'S *London Journal of Botany*; and then, in 1855, he published in the first volume of the *Transactions of the Philosophical Society of Victoria*, descriptions of the interesting novelties discovered by himself in the Australian Alps. After this, not a month passed from that time to the present without some further contribution to the flora of Australia.

In 1855-56 he was attached to an expedition sent out under Gregory for the exploration of the Victoria River, and other districts in Central and North Australia; and as early as 1863, he had already, in his various journeys, travelled upwards of 20,000 miles! The estimation in which his labours as an explorer are held by geographers, is evidenced by the fact that a river in Queensland, a mountain in Spitzbergen, a range of mountains in New Guinea, a cataract in Brazil, and a glacier in New Zealand, all bear his name. In 1857 he was appointed to the directorship of the Melbourne Botanic Garden, a post he held until 1873, when, much against his will, he was relieved of the functions belonging thereto, in consequence of his not meeting the popular requirements of the period, and of the desirability of appointing a practical horticulturist to manage the garden. This was a bitter mortification which he never forgot, as to the last, his letters contained references to it. But, to the credit of the colony, be it said, he was retained as Government botanist at his former salary. The herbarium and library just outside the Botanic garden remained under his control; the garden itself he never entered after his removal.

In 1858-59 the first volume of his *Fragmenta Phytographiæ Australiæ* was published. This was continued down to about 1882, comprising eleven thin volumes, and a fragment of a twelfth, of Latin descriptions, giving evidence of the progress of botanical discovery in Australia.

In 1861 the question arose of preparing a *Flora* of the whole of Australia, written in English; and although it was the ambition of his life to carry this out, and for it he had so long been collecting materials, he magnanimously and unselfishly gave up the task to the late Mr. BENTHAM, because it was essential to its satisfactory accomplishment that the author should be able to examine the types of the multitude of previously-described Australian plants deposited in European herbaria. How faithfully and pleasantly VON MUELLER assisted BENTHAM in the seven volumes of the *Flora Australiensis* may be gathered from the prefaces to the first and last volumes of that great work.

The whole of VON MUELLER'S extensive Australian herbarium was transmitted to Kew, case after case, and the whole was returned without the slightest mishap. VON MUELLER'S feelings towards BENTHAM are expressed in his written inscriptions in the first and last volumes of the *Fragmenta*, presented to the latter, and now in the Kew library. In the first, the dedication runs thus:—"*Botanico quam maxime æstimando Georgio Bentham, &c., opusculum offert auctor.*" In the last, long after



THE LATE FERDINAND VON MUELLER.

the completion of the *Flora Australiensis*, he wrote:—*Illustrissimo G. Bentham Phytographorum venerabili, Nestori Regni Plantarum Australiæ probissimo, perlustratori volumen modestum Scriptore oblatum.*

These tributes to the merits of BENTHAM, whom he might have regarded in the light of a rival, are more eloquent of the worth of the writer than anything we could say in his praise.

Of late years he was collecting materials for a Flora of New Guinea, and published numerous leaflets on the subject, a form of publication that is not a little inconvenient.

As may be imagined from what has already been said, a complete bibliography of MUELLER'S writings would fill many pages; therefore, we must be content with mentioning a few of his more important works. Prominent among these are his illustrated monographs of the genera Eucalyptus, and Acacia, and of the Orders Myoporineæ and Salsolaceæ, most valuable works from a practical as well as from a scientific point of view. The *Eucalyptographia* is, indeed, specially remarkable among similar publications. Then there are the various editions of his *Census of Australian Plants*, a compilation of the utmost value to botanist and horticulturist alike. Among the multitudinous works that have issued from the prolific pen of the deceased, there is one deserving of special mention. It is that on *Select Extra-tropical Plants readily eligible for Industrial Culture, &c.* The first edition, if it may be so termed, consists of a series of papers, partly lectures, delivered or published between 1857 and 1871. A second, consolidated edition, appeared in 1876, and since then augmented and revised editions have succeeded each other until last year, when the ninth was published. From a small beginning it developed into a general handbook on plants suitable for cultivation in extra-tropical countries. Taking the editions in the order they appeared, the fourth was in the German language, translated by our old correspondent, Dr. ED. GOEZE, Curator of the Botanic Garden at Greifswald. Then there is a French edition, conjointly edited by MUELLER and CHARLES NAUDIN, and published under the auspices of the French Acclimatisation Society. Works intended to popularise the study of botany, such as the *Introduction to Botanic Teachings at the Schools of Victoria—the Key to the system of Victorian plants*, illustrated with numerous cuts, and various others, attest alike the broad sympathies and the prodigious industry of the author. The depressed financial condition of the colony hampered him in his publications, but in his last letter to us he mentions his intention to resume at once the publication of his monograph of the Candolleaceæ (Stylidiaceæ of others), to complete that of the Salsolaceæ, and to bring out supplements to his monographs of Eucalyptus and Acacia, while he even hoped to bring out one more edition of his *Select Plants!*



FIG. 84.—AGARICINEÆ. (SEE P. 466.)

In the distribution of botanical specimens, and in the communication of plants of horticultural or economic value, he was equally energetic. There is scarcely a botanic garden here or on the continent that has not been enriched by him; not a colony, nor a dependency which does not owe to him some valuable introduction. Eucalypts, Acacias, pasture-grasses for arid climates, fruit trees, timber trees, tanning materials, perfume plants—nothing likely to be useful in any particular colony was omitted. At the same time, he was indefatigable in developing the resources of his adopted country, and directly or indirectly was the originator of many now flourishing industries. Nor was his attention confined exclu-

sively to plants, for we read of the *introduction* to central Australia, at his instigation, of the Camel for transport purposes.

One illustration of his zeal for horticulture is shown in the great numbers of Fellows of the Royal Horticultural Society who were proposed by him. The Society, indeed, owes no little to the unselfish action of Baron von Mueller, who, when the Society threw off South Kensington shackles, and started on its career of pure horticulture, expressed his sympathy in the way just mentioned. Indeed, in the last letter received from him shortly before the telegraph brought news of his death, there was a proposal-form for the election of yet another Australian Fellow of the Royal Horticultural Society.

von Mueller was a most voluminous correspondent. For nearly forty years, the present writer has been in correspondence with him, and of late years hardly anything has happened with such regularity as the receipt on every Monday morning of one or more communications of some kind from Baron von Mueller. Two or three such communications were received weekly on the average, but the number has occasionally mounted up to as many as seven and even nine! The last of these communications utilised in this journal was one on a new Musa from New Guinea, printed in our last issue, p. 360. Since then, indeed, on Monday last, we received an original sketch of the inflorescence of this plant (fig. 85), which we now reproduce on p. 467, not only for its own sake, but *in memoriam*.

Sir F. Mueller was at the head, or intimately associated, with every movement for the promotion of intellectual culture, not only in Melbourne, but directly or indirectly throughout Australasia. He was truly an enthusiast in all that related to the botanical and geographical exploration of his adopted country; yet, none the less, a strong supporter of the renowned musical society, known as the Melbourne Liedertafel, and other social institutions.

In a short notice, as this must necessarily be, it is difficult to do his memory justice, and yet be faithful to the truth. There is no doubt that he denied himself the pleasures of matrimony partly from conscientious motives, but particularly in order to be free to give his time and his income to his favourite pursuits; his house was blocked with specimens, so that sitting room and domestic comforts were deficient. Yet, in contrast with this self-denial, he was insatiable in his desire for titles and notoriety. This weakness caused him to publish botanical contributions in every possible organ open to him, and occasionally led him to the commission of regrettable inconsistencies in botanical nomenclature.

With all that one can say in praise and honour of his intense energy and industry manifested in spite of a somewhat delicate constitution, and one can hardly say too much, it would be affectation to ignore the fact that he needlessly added to the synonymy of Australian plants by simultaneously publishing many of them under two generic names, so that whichever view one might take of generic limits, his name would still stand as the authority! He also indulged in other vagaries, incomprehensible, considering his vast experience. For example, he reduced all the numerous and often very distinct species of Epilobium found in New Zealand to the common E. tetragonum; and under Styphelia (Epacrideæ) he ranged nearly a dozen genera, commonly accepted as distinct.

With regard to honours and distinctions, of which, as we have said, he was inordinately proud, he was what most persons would consider overwhelmed, being a corresponding member of over 150 learned societies, and the recipient of orders and decorations in embarrassing profusion. He was elected a Fellow of the Royal Society in 1861; in 1871 he was created an hereditary Baron by the King of Wurtemburg; he was one of the first to be appointed to the Order of St. Michael and St. George; in 1879 he was made a Knight Commander of that Order; and in 1888 he was awarded one of the Royal Medals of the Royal Society of London.

We in the mother country can estimate the value of his services to science, and believe that all Australia will join us in saying that he deserved well and highly of his adopted country.

At present we have only telegraphic notice of his death, and do not know how it came about.

Drawings of Mushroom-like Fungi at the British Museum, Cromwell Road.—A few weeks ago we published a brief notice of the exhibition of coloured horticultural and botanical drawings in the Department of Botany at the British Museum, as arranged by Mr. George Murray, the Keeper of Botany. In our present number, as typical of the season, we are able to give a much-reduced copy of a drawing (one of a series of six), made by Mr. Worthington G. Smith, to illustrate the chief Orders of the larger fungi. The illustration gives typical examples of Mushroom-like fungi. The other five drawings in the British Museum, made at the suggestion of Mr. George Murray, give types of Boleti, the woody Polyporeæ of trees, the Morels, the Puff-balls, the Clavarieæ, or Club-fungi; and the Jelly-fungi, or Tremellineæ. Close by these drawings are nearly fifty others, made by the same draughtsman. In our illustration (fig. 84) the top left-hand fungus is Agaricus mucidus, a white, highly mucilaginous and sticky fungus, frequent on old Beeches; said by some enthusiasts to be edible. The large Agarics on the left represent A. rubescens, another esculent. The two smaller examples close to the left-hand margin belong to the green-blue and poisonous A. æruginosus. The minute white specimens with hair-like stems growing on the dead leaf at the bottom left are A. capillaris. The three Agarics on the top right are the splendid glutinous orange-coloured A. adiposus. The three large black fungi on the right are the fœtid and poisonous "Magpie Coprinus," C. picaceus. The Agaric in the centre of the drawing is the scarlet-topped and poisonous A. muscarius, and the tall slender-stemmed examples just beneath are the beautiful yellow-topped A. epipterygius, common on dead bracken. The small fungi growing close together, like a regiment of soldiers, at the bottom right, represent a colony of A. disseminatus, an Agaric common in damp hedgerows at this time of the year, remarkable for its peculiar habit of growing in closely compacted companies.

Gardeners' Royal Benevolent Institution.—It is with much pleasure we make the announcement that Lord Rothschild has kindly expressed his intention to preside at the next festival dinner (58th) in aid of the funds of this admirable charity, to be held on a date to be fixed by his lordship in June, 1897—the month in which the Queen, who has been the gracious patroness of the Institution for so many years, will, if spared, complete the sixtieth year of her reign. We have no doubt that Lord Rothschild will be well and influentially supported on the occasion, and we trust the funds of the charity will be greatly benefited.

Battersea Park Chrysanthemum Show.—The exhibition of Chrysanthemums, as we are informed by Mr. Coppin, will be open to the inspection of the public in the frame-yard, at Battersea Park, on Saturday the 17th inst. and for some weeks, from 10 A.M. until dusk.

Bruce Findlay Memorial Fund.—The appeal on behalf of the three daughters of the late Mr. Bruce Findlay, has been liberally responded to in Manchester and elsewhere, the amount already received or promised amounting to £1220, and as the need is great, it is hoped that this sum will be largely increased.

"Botanical Magazine."—The plants figured in the October number are:—

Actinidia polygama, Planchon, tab. 7497.—A climbing half-hardy shrub with purplish petioles, oblong, finely-serrulate, glabrous leaves, and racemes of nodding sub-globose flowers, each about ¾ inch in diameter. The plant belongs to the Ternstrœmiaceæ, and is a native of Japan.

Alocasia reversa, N. E. Brown, in *Gardeners' Chronicle*, 1890, ii., 38—tab. 7498.

Lathyrus undulatus, Boissier, tab. 7499.—This is the plant known in gardens as L. Sibthorpii (Baker, in *Gardeners' Chronicle*, 1890, ii., 764). It flowers earlier than L. rotundifolius, and is smaller than that species. From L. latifolius it differs in its broader leaflets, and more numerous flowers.

Fritillaria nobilis, Baker, tab. 7500.—A pretty little Fritillaria, remarkable for its dwarf-habit, and large dark claret-coloured flowers. It was discovered by Sintenis in Armenia, and introduced into cultivation by Herr Max Leichtlin.

Parrotia Jacquemontiana, Decaisne, tab. 7501.—A Himalayan shrub having, as the editor remarks, little in common with Parrotia, but more with Fothergilla. It has roundish puckered leaves covered with stellate hairs, and numerous small flowers aggregated in heads surrounded by conspicuous white bracts.

The Decorative Uses of Flowers.—The use of flowers for interior decorations, particularly on occasions of ceremony and festivity, has always been a universal custom among the Japanese, and out of this pastime they have elaborated a method distinctly their own, which, upon examination, reveals æsthetic principles of a high order. With the October number of the *Studio*, which is the first part of a new volume, will be commenced a series of illustrated articles fully describing, for the first time in any European publication, the wonderfully original methods of flower arrangement adopted in Japan. This number will also contain the first of a series of illustrated articles upon the Arts and Crafts Exhibition at the New Gallery.

The Surveyors' Institution.—The first ordinary general meeting of the session 1896–97 will be held at the temporary address, Savoy Street, Victoria Embankment, W.C., on Monday, Nov. 9, 1896, when the President, Mr. Daniel Watney, will deliver an opening address. The chair will be taken at 8 o'clock. Members attending the meeting will enter by the main door of the Medical Examination Hall, fronting the Embankment.

Ealing Gardeners' Association.—An interesting and lengthy paper was read at the meeting of this body of Ealing gardeners on October 6, by Mr. A. Wright, gardener at Falkland Park, Norwood, the subject-matter of which was "The Cattleya-house, and what may be done with it." The methods of arranging the interior so as to show off the plants in the best manner, and yet secure healthy growing conditions for them; and for securing a moist atmosphere at the smallest expenditure of labour. Cultural details of a general character were also fully dealt with, and the kind of plants noted, which may be allowed in the house at seasons when the Cattleyas have but little bloom upon them.

"Florilegium Harlemense."—The wish has been repeatedly expressed that the *Album van Eeden*, an illustrated work on bulbous plants, published from 1872 to 1881 by the then existing firm, A. C. van Eeden, should be continued. Fifteen years passed before the fulfilment of this desire seemed practicable. When the question came before the "Algemeene Vereeniging voor Bloembollencultuur," there appeared to be insurmountable difficulties in the way of its being published by that body. Finally, an agreement

was made between the directors of the "Vereeniging" and the Messrs. De Erven Loosjes, publishers, of Haarlem, whereby the latter undertook the publication under the superintendence of the abovementioned directors. The first number of this new publication, which bears the general title of *Florilegium Harlemense*, is now ready. It is composed of three coloured plates, with accompanying text in Dutch, English, French and German. The plates are chromo-lithographs from the firm of J. L. Goffart (formerly G. Severeyns), of Brussels, the well-known specialist for reproducing pictures of flowers and plants. The original drawings were made by Dutch artists. For the following numbers the publishers have secured the co-operation of Mr. A. Goossens of Brussels. Two editors have been chosen by the "Algemeene Vereeniging voor Bloembollencultuur," and to these gentlemen is left the selection of the plates, with the understanding that no plate shall appear in the *Florilegium Harlemense* until it has received the approval of the directors. This work is not only valuable to bulb-growers and to those in the trade, but should be in the possession of all lovers of plants. The plates are of quarto size, the flowers being represented of their natural dimensions and colour on a dull brown background. The plants figured are single Hyacinth La Grandesse, raised by M. Vincent van der Winne about thirty years ago, and which is still considered the best single white for trade purposes. The second plate represents four early Tulips:—1, Keizerskroon, the oldest early single in cultivation (scarlet, bordered with yellow); 2, White Pottebakker; 3, Proserpina, crimson; 4, Vermilion Brilliant. On plate 3 are shown four varieties of Narcissus, viz, maximus, John Horsefield, and albicans. The publication is likely to be very serviceable, as giving representations of the best varieties for cultivation, with details of their history. The illustrations are faithful representations, devoid of exaggeration.

Ripening of Lily Seeds.—Lindemuth describes experiments (*Ber. d. Deut. Bot. Gesellsch*, August, 1896), showing that it is possible to ripen the seeds of Lilium candidum and of Lachenalia luteola if the fruiting-stalk is cut away from the bulb and laid aside; whereas he states that the seeds do not ripen on the plant. The inference is, that if the stalks are left on the plants, the bulbs withdraw materials down from the fruits, and the seeds cannot be ripened. That the stalks, &c., contain much nutrient substance seems proved by the fact that in Hyacinthus orientalis and Lachenalia luteola they will develop bulbils if cut pieces of them are placed in water. These bulbils do not develop ordinarily, because the excess of material from which they are formed would then pass to the filling bulbs below ground. Now, if this is so, i.e., if the flowering-stalks, &c., of plants like Lilies, Hyacinths, Lachenalias, &c., contain important food-supplies which go to feed the bulbs, it must be a mistake to cut off the flowering-stems when the flowering is over, under the impression that the bulb is strengthened. And, further, if seeds are prevented from obtaining the stores in the stalks owing to the draught in the filling bulbs, some explanation of difficulties in raising Lily-hybrids may be forthcoming, and more success ensured. It would be interesting to know what raisers have to say.

Dyed Flowers.—"Button-holes" of a clear lilac colour are being sold in the streets of London which may well puzzle the uninitiated. They resemble, when seen at a distance, Parma Violets or double Hepaticas. A little examination, however, reveals that they are the flower-heads of some white Composite, probably the double-flowered form of Achillea Ptarmica. These have been dipped in some violet dye; at any rate, they have a more natural appearance than the green Carnations once popular, whilst for the majority of button-holers botanical anomalies are matters of indifference.

Jubilee Year of the Melbourne Botanic Gardens.—The jubilee of the Melbourne Botanic Gardens has been reached, and appropriately celebrated by further improvements. There are several historic trees in the gardens, some planted by Mr. La Trobe, others by his daughter and by Mr. John Arthur, the first Curator of the gardens. A Norfolk Island Pine was planted by Mr. John Dallochy, Curator, in 1850; it is now 62 feet high, with a diameter of 2 feet 10 inches at 7 feet from the ground. The islets in the large lake have been recently finished. They will represent tropical islets, with a vegetation chiefly of Palms, which have been transferred from other parts of the garden by the system of transplanting the Director has used with such good effect. In Mr. Finn's *Chronicles of Early Melbourne*, it is stated that 50 acres of ground were marked off by Mr. Hoddle at Batman's Hill for a botanic garden in 1842, but were afterwards found to be unsuitable. The present site was then a beautiful valley. From



Fig. 85.—Inflorescence of Musa alosperma.

(See description by Baron Ferdinand von Mueller, p. 360, in our issue for September 26, 1896; also p. 466.)

1836 to 1841 it was a sort of missionary school-ground for the aborigines, and it was next occupied by the Messrs. Hawdon as a slaughtering-place. The Botanic-garden reserve was proclaimed by Mr. La Trobe in February, 1846, on the recommendation of a committee of the City Council; and by May 1, 1847, Mr. John Arthur, the first gardener, had it in excellent condition. Mr. Arthur died in 1849, and was succeeded by Mr. Dallochy. Baron von Mueller (first appointed Government-botanist in 1852) became director in 1857. The management of Mr. W. R. Guilfoyle, who was appointed when Mr. J. J. Casey was Minister of Lands, dates from 1873.

The United Horticultural Benefit and Provident Society.—The annual dinner of this Society was held on October 7 at the Holborn Restaurant, London, when W. J. Nutting, Esq., officiated as Chairman, being supported by Sir Clarence Smith, Messrs. H. B. May, James H. Veitch, John Gould Veitch, W. Y. Baker, A. F. Barron, Geo. J. Ingram, and other well-known supporters of this now rapidly-increasing benefit society, which has for its exclusive object the assistance of gardeners during sickness, calamity, and old age. The chairman in a most practical and suggestive manner laid before those assembled the benefits which are afforded to members, urging those present to make its advantages better known. On behalf of the society the Treasurer replied, thanking the chairman for his advocacy of its claims on the horticultural community. Other speakers followed during the evening; amongst the toasts that of "The Press," thanking them for their continued valuable support, was received with enthusiasm. Mr. Geo. Gordon, who replied to the latter toast, alluded to the fact that those who are employed on the horticultural papers, being gardeners, are admitted as members. The present value of the invested funds is £13,700, which, with cash in hand, makes the handsome sum of £14,000. This fact alone should be sufficient to claim the confidence of the entire community, and be the means of many more joining its ranks. Over one hundred sat down to dinner. The Chairman, before the conclusion of the meeting, informed those present that Mr. H. B. May had promised to fill the chair at the next dinner in 1897. The Secretary's address is, Mr. W. Collins, 9, Martindale Road, Balham, London, S.W.

Foreign Correspondence.

JADOO FIBRE AND VINES.

I have experimented with Jadoo fibre with the greatest care in two different modes:—1st. I grafted some French cuttings on American roots, and made a nursery of 600 plants with Jadoo, and alongside it the same quantity of plants grown in the ordinary way in earth. The Jadoo had no bad effect (as I had thought it might have) on the success of the grafting itself, and the shoots at the end of the summer were longer and a deeper green in the Jadoo-nursery than in the adjoining one; the roots were more numerous, stronger, and longer where Jadoo was employed than without it. Without any possible question the employment of Jadoo has given the best results. 2nd. At the end of March last, I replenished the missing plants in the open vineyard with grafted American Vines planted in Jadoo. It is right to say that the roots of these Vines were very badly developed. On September 20 we laid bare the roots of some of these Vines, which had thrown up magnificent shoots, and we were pleased to discover that their roots were developed in Jadoo in a truly extraordinary way; and the result appeared to us as conclusive as that of the other expe riment. We intend to make a plantation of young Vines, and use Jadoo about the roots. *De Merona, Château la Bégorce, Margaux.*

Home Correspondence.

Pernettya mucronata, etc.—As the outdoor flowers become more scarce, the beauties and usefulness of the berry-bearing shrubs become more evident, and where due thought has been given to the planting of these, as it has in the pretty hill-side gardens of Frank E. Marshall, Esq., Newlands, Harrow-on-the-Hill (gr., Mr. Page), the brightly-coloured fruits of the different species of Crataegus, of Rosa rugosa, &c, harmonise well with the soft blue tints of the species of Aster, the bright yellow of the autumnal Helianthus, the showy heads of Chrysanthemum uliginosum, and the colours of the few remaining summer and autumn flowers. In one of the large beds a number of good bushes of Pernettya are planted, and these are among the most beautiful objects in the garden, laden as they are with a profusion of berries, which exhibit great variety in their colours. Here, as in many other gardens, where Pernettyas thrive and berry well, the fact may in a great measure be attributed to their being planted in a situation where there is a good clear light, while at the same time

they are sheltered by other low-growing shrubs. In the same bed Galtonia candicans is flowering for the second time this year; and Andromeda japonica, and other Andromedas are well set for flower. In the plant-houses the Begonias and zonal Pelargoniums are gay; and a neat specimen of Lælia anceps is sending up a good supply of flowers. *B.*

BUDDLEIA VARIABILIS.—A word of answer to a paragraph in "Kew Notes," in the *Gardeners' Chronicle*, September 26, p. 362, about Buddleia variabilis. I think the Chinese plant is in cultivation. Lemoine, of Nancy, sold this year under that name a plant which agrees with Mr. Hemsley's description. *Marc Micheli.*

DELPHINIUM ZALIL (*D. sulphureum*).—My experience with this charming Larkspur is, that it must certainly be called a perennial. We have plants here which have flowered several seasons in succession, forming quite strong tufts of several stems every year. I find it does well in a good loamy soil, either in the herbaceous border or on the rockery. I remember when several years ago it flowered here for the first time, I felt much disappointed with the poorness of flower and its colour and decided to discard it; but seeing it a week later in an Erfurt garden, the plants being there in splendid condition, with flowers of an almost bright yellow colour, I altered my opinion, and we have grown it ever since, classing it among the most desirable of hardy perennials. It seems to do best in summer, with an abundance of sunshine, and preferring rather a dry to a moist soil. *G. Reuthe, Tottenham.*

—— Mr. Arnott, on p. 405 of the *Gardeners' Chronicle* for October 10, has some remarks on this plant, and inclines to think it is an annual. It has proved itself a perennial with me, but a very unsatisfactory one. Early in the season, the leaves became spotted with fungus, and by the time the flowers opened they were nearly all destroyed with it, so that the flowers made a sickly show. If I remember rightly, it was introduced from a dry region of Africa, or Arabia [Afghanistan], and it evidently will not succeed in damp districts, like Dumfries and Rothesay. It is a pity, it being a distinct and beautiful pecies. *Michael Cuthbertson, Rothesay.*

ACIDANTHERA BICOLOR.—With regard to the history of this plant, I beg to state that I received bulbs of it from young Mr. Schimper in 1872; he was then a student at Karlsruhe, and had the bulbs from his father, who was a son-in-law of King Johannes of Tigre. Some bulbs also went to the Grand Duke's garden, but it flowered first in my garden about 1875 or 1876. It requires a hot summer to ripen well, and to grow its bulbs to size. *Max Leichtlin, Baden-Baden.*

MAIZE, OR INDIAN CORN.—If Mr. Christy will oblige me with some seeds of the variety he refers to, or will let me know where they are to be obtained, I will try them under various conditions, and report the result. As good seeds cannot be ripened with certainty in this climate, it would be necessary to know the correct name and place of origin. I have grown the Zea Curagua 11 feet high, with cobs weighing half a pound each. *Thos. Fletcher, Grappenhall, Warrington.*

TURNIPS, WHITE AND YELLOW.—I see no reference to the remarks of "D. T. F." in your issue of September 26 ult. in any of your issues subsequent to that date. That his remarks with reference to the varieties of Turnips are perfectly justifiable (it being quite the exception to see any white varieties grown north of the Tweed), is indisputable. It is likewise well known that the Swede is largely cultivated in Scotland for culinary purposes, so that the affinity in colour of the Orange Jelly Turnip and the Swede may have something to do with the favour it receives in the North. Couple this with the matchless superiority of the Orange Jelly as a main-crop variety, and we have, as far as I can gather, the only argument that can be adduced in favour of this variety being chosen by our northern neighbours in preference to such sorts as Chirk Castle, Red Globe, &c. *Albert Upstone.*

—— I for one quite agree with Mr. J. Mayne, on the above subject. Certainly, as an early Turnip, Extra Early Milan should have the first place; and next comes Snowball, which I consider to be the best white Turnip that we have. But for how long a time will these or any other white Turnip stand in first-rate condition?—not for very long; therefore, gardeners must grow the varieties, especially where space is limited, which are the best keepers, and I grow Golden Ball. English and French cooks have often told me that yellow Turnips are preferable during autumn, winter, and spring at the best table, because of their superior flavour; and that is also my experience. *A. McInnes, Falkland Palace, N.B.*

SWEET PEA CUPID.—The experience gained by cultivators in many parts of the country of the behaviour of this kind of Sweet Pea is, that it is useless for outdoor culture. I sowed some seed in pots early in February, which did fairly well, but the plants did not flower till the first week of May, and the flower-stalks are so short that we could not use them for filling flower-glasses; and thinking to increase the vigour and size of the blooms, I tried a little artificial manure on some, and very shortly afterwards these plants turned quite sickly-looking, and stopped flowering. I also took some of the flowering plants outside, and very soon after removal from the greenhouse no more flowers could be got to expand on them. No more Cupid Sweet Pea for us. *Alex. McInnes, Palace Gardens, Falkland, Fife.*

GRAPES AT THE CRYSTAL PALACE.—Your correspondent, "A. D.," p. 436, under the above heading, complains that Gros Maroc was classed with Gros Colmar, and thinks that Gros Colmar is the better Grape. I think that is quite a matter of opinion, for with us Gros Maroc, in the same house and on the same stock, was a good-flavoured and useful Grape; whereas Gros Colmar was very poor, so much so, that I cut it out, and I have seen the variety at several places where it has not been a success. The quality and nature of the soil, and special culture, may, however, make the difference. Our Gros Maroc here is worked on Muscat of Alexandria. A few years since I called upon Mr. Turton at Maiden Erlegh, and he said that his employer, the late Mr. Hargreaves, was fond of Gros Colmar; still, I think that it is a matter of opinion as to which is the better all-round Grape. *R. M., Newbury.*

—— A correspondent of yours, who prefers Gros Colmar to Gros Maroc, either is gifted with an eccentric palate, or has made a slip of pen. The former is scarcely ever fit to eat, and is perhaps the worst of all the Grapes we grow; but the latter is not far inferior to Black Hamburgh. *Vinitor.*

A PRECOCIOUS BUSH OF THE WHITE LILAC.—As showing the unusually warm character of the past season, we have a large bush of white Lilac in bloom in the gardens at Beachley. It is an old bush, at present shedding its leaves, and flower-spikes are small. *R. Turnbull, Beachley.*

PROGRESS IN THE REIGN OF VICTORIA.—I see no reference in your columns to the progress that our profession has made during the long reign of our Queen. Horticulture at the commencement of that period must have been at a very low ebb. Under her wise and successful reign the horticultural profession has done glorious work for the destinies of this great empire. We have only to look at our three 100-feet houses ablaze with bloom of zonal Pelargoniums at the present time, and compare them with those grown by the aid of the old brick-flue Polmaise system of heating of sixty years ago. Greenhouses in those days were simply wooden sheds; now they are nearly all glass, light, and airy, and this artificial arrangement is as nearly consistent with Nature as it is possible to be. How different is the genial warmth we apply at the present time by hot-water pipes hung along and from the roof, and by the utilisation of as much sunlight during winter as can be got. These low, angle-shaped structures grow plants immensely better than houses of that period, and which were called "Plant Killers;" to say nothing of the abominably ill-constructed fire-place, that was a continual source of hard, black work and annoyance to cultivators. As a proof of how things have improved in floriculture, I have sent you flowers of the old—then exclusively called—scarlet Pelargonium Tom Thumb. This now insignificant flower was at that time the pride and glory of every well-kept garden, and up to thirty years ago "scarlet Geranium" was the general term, for the simple reason that we had no other colours; now, from this exceedingly bright and brilliant scarlet we have many decided colours, and innumerable intermediate shades and tints—pure white, salmon, pink, orange, and plum, bordering on purple. I have sent you pips of these, the time gone-by Tom Thumb, and it will be asked, "Is it possible that all these other colours and immense additional size have been bred and sprung from this?" The answer is "Yes," and he exclamation can be no other than "It's marvellous!" Now let us look at their size; the old favourite measures barely 1 inch across the top petals, whereas some of this year's raised seedlings, which I send you, are over 2¾ inches across. The substance of flower sixty years ago, and these had best not be compared for fear that the consequent word of exclamation be questioned. I think flowers have done their part in advancing with the times, and that horticulturists also have done honour to their Queen and their country. Perhaps no government or country ever did so little as our's in acknowledging and encouraging the good and all-important work that has been going on during all these many years. Fruit of all kinds has made as much progress. Strawberries, for instance, in those days were Strawberries in name only, poor diminutive fruit tied on straws and so carried about and sold; now we have immensely improved form, size and flavour. I am at this moment writing with a 43-acre field in view, and during the past fruiting season I counted twenty special trucks from other companies' lines waiting at our station to be filled with this refreshing fruit, and despatched to nearly every large city and town in the North. To send off 70 tons of this fruit in one day, and from one station, to say nothing of what was carted by road to London during the day and night, must fill everyone with admiration. And nearly all other kinds of fruit have advanced both in quantity and quality at the same ratio. Vegetables: Potatos sixty years ago were like Strawberries, nobody knew how to grow them; their nature and constitution had not been entered upon, the result was that only the very inferior ones—hardly good enough for the pigs—were cultivated, and even these were considered a luxury. Whereas, this last spring, in consequence of the improved cropping and disease-resisting qualities, they were so abundant that a farmer (Mr. T. Wood) positively sold 60 tons at 10*s.* per ton. I have known similar kinds of Potatos sell at £10 to £20 per ton twenty-five years ago. And so I think the whole system of horticulture has done noble things in feeding and making us more comfortable than ever before; so one and all, let us give three hearty cheers for Queen Victoria, may she continue to reign over her millions of subjects for many years to come. *H. Cannell, Swanley.* [We admire Mr. Cannell's enthusiasm, and sympathise with his patriotism, but we have not done yet. Mr. Cannell has more wonders in store, we doubt not; and the electric light has not yet been adopted in our market gardens, as it will be, and the course of progress has only begun. ED.]

DWARF-GROWING CALLAS.—In your report of the exhibition of the National Chrysanthemum Society, you state that I exhibited Callas of the Little Gem type under distinctive names, the reason for which was not apparent. Had your reporter ever grown many of the Little Gem the reason would have been most apparent, for the simple fact that it is not possible to obtain two or three dozen plants of Little Gem in bloom at this time of the year. The varieties I exhibited are distinct from Little Gem. Devoniensis compared with Little Gem is much earlier, and will produce ten times the quantity of spathes, and is superior in form and substance. The "Godfrey Calla" has also the above-mentioned good qualities, but is double the size of Little Gem. I think if these facts can be proved, I am justly entitled to affix distinctive names. *W. J. Godfrey, Exmouth.* [It would be better if some one else—say the judges—affixed them. ED.].

NEW INVENTION.

NEW KINDS OF GARDEN OR FORESTRY TOOLS.

UNDER the name of "Sharpington (patent) combined pick and shovel," two tools of this description, a short-handled and a long-handled one, have been sent for our inspection. The long-handled is suitable for emigrants for use in breaking up virgin-soil where the pick would be in constant use in loosening stones in the soil and breaking up the sub-soil. The short-handled implement is simply a coal-miner's pick and spade combined, and we are incompetent to form an opinion of its general usefulness. Some means should be adopted to prevent the point of the pick, when it is laid back on the shaft, running into the hand, as it might do when worn by use.

Trees and Shrubs.

CUPRESSUS MACROCARPA LUTEA.

This beautiful Cypress, raised by Messrs. Dicksons, of Chester, is an undoubted acquisition, and the tree when it has acquired age, retains its beautiful yellow tint; the habit is compact, but not so much so as to be formal, and the foliage is finely divided. The word variegated, as applied to this plant, is scarcely correct, the whole of the foliage being suffused with yellow; even the rind of the branchlets harmonises with the general colouring. There is no difference either in shape or arrangement of the leaves between the species and variety, these being short, awl-shaped, and loosely imbricated. It makes a good pot-plant. *A. D. Webster.*

Rhus cotinoides.

The Sumachs are famous for the beauty of their autumn colouring, and there is no species that does more to justify their reputation than R. cotinoides. This shrub, in addition to the charm of its beauty, is a plant of great interest as well. The genus Rhus, as now constituted, comprises two groups, one of which is the old genus Cotinus, the other the one to which the Poison Ivy (R. toxicodendron), the Stag's-horn Sumach (R. typhina), and numerous others belong. Of the Cotinus group there are only two species, viz., the well-known Venetian Sumach (Rhus Cotinus), a native of Europe and Asia, and the species under notice, which comes from the Southern United States. It is a very rare shrub, and is said to be found wild only on two or three of the mountains between Northern Alabama and Western Texas. It appears, indeed, to be in process of extinction. As its name implies, it bears much resemblance to its Old World prototype, having larger leaves with a more obovate outline, but of the same smooth, rounded character. I have not seen it flower in this country, but it has the same feathery style of inflorescence as our European plant. Just now, however, it is very noticeable for the rich and glowing beauty of its leaves. They are red, more or less suffused with orange, and give the species a prominent place among the trees and shrubs with beautiful autumn foliage.

Lespedeza Sieboldi.

The number of autumn-flowering shrubs is so limited that every one with any pretensions to beauty has a claim to be brought into notice. Such a claim has this Lespedeza—a leguminiferous shrub, introduced from Japan by Siebold, but a native also of China. It is seen at its best during a warm September and October, such as that of 1895, and the very reverse of what we have this year experienced. In spite of these recent adverse conditions, it has managed to give a pretty display, the beauty of the flowers being much enhanced by the graceful habit of the shrub. It dies down to the stool each year, but sends up slender shoots during the summer 6 feet long. The flowers are borne at and near the ends of the shoots, a slender panicle springing from the axil of each leaf, and the whole forming a large branching raceme 2 feet long. The flowers are of a rosy-purple colour. The plant is of easy culture, thriving in any soil that is fairly rich and moist. The old stools ought to be divided at intervals of every few years, the result being a more vigorous growth and blossoming. The species is known also as Desmodium penduliflorum, and erroneously as Lespedeza bicolor, which is a very different, earlier-flowering shrub, of dwarfer habit.

The Honey Locust (Gleditschia triacanthos).

Although a perfectly hardy tree in Britain, this does not acquire the same striking character that it does in sunnier climates. In the south of France, especially about Hyères, it can be seen growing in hedgerows, and at this season presenting a remarkable appearance, by reason of the great number of large, broad, twisted pods that hang loosely on the trees, and rattle with every breeze. It has flowered and fruited this year in the South of England, and might possibly have ripened seeds had the last month or six weeks been more sunny. The flowers are green and inconspicuous. The tree is worth growing for the bright yellow colour its foliage turns in September. A good-sized tree, not far from the Palm-house at Kew, is a most conspicuous feature every autumn, especially on bright mornings or afternoons when the low, almost level rays of the sun light up the foliage into a brilliant mass of vivid yellow. The spines with which the tree is so formidably armed, are not so strikingly developed as in the hot Mediterranean country, where they stand out from the stems stiff and sharp as bayonets, and branching. But even in this country, it would have to be a serious peril one would elect to escape from by climbing the Honey Locust.

Cratægus punctata.

Among the many Thorns which this autumn have beautified our gardens by their abundant fruits, few have been more striking than this American species. It has an obovate leaf, the blade sending down two narrow wings almost to the base of the petiole; it is 2 inches to 4 inches long, irregularly toothed, except at the base, smooth, and dark green on the upper surface, paler and pubescent below. The wood is light-coloured, and occasionally armed with stout, straight spines 1½ inches long, which become branched on the older wood. The flowers appear in May and June in broad, flat corymbs, each flower being ¾ inch across, and pure white. The fruit is one of the largest of all the Haws, measuring close upon 1 inch across; it is almost globular, and the calyx, with its five narrow-pointed sepals, still adheres at the top. In the ordinary form the fruits are red when ripe; in the variety aurea they are bright yellow; and in the variety brevispina they are of a dark, dull purplish-red. In almost every case they are sparsely dotted, a character to which the name refers. The species is a small tree, and was introduced in 1746; it is one of the most desirable of American Thorns. *W. J. B.*

RAMIE AND CHINA GRASS.

Ramie and China Grass are the commercial names for two varieties of an Indian nettle-like plant, Bœhmeria nivea, and its variety tenacissima. Generally, however, the term Ramie is applied indiscriminately to both. These two plants are the source of a fibre which for strength, fineness, and lustre, is pre-eminent among vegetable fibres, and is said to be inferior only to silk. They are easily cultivated, very prolific in fibre-yielding stems, and easily manipulated. They are abundant, either wild or cultivated, in various parts of India, Malaya, China, Japan, &c. Under cultivation in this country one of them yields annually at the rate of twenty stems per square yard, and they are as easy to cut, bind, and handle, as Osiers.

But no means of extracting the fibre so as to make it pay have yet been revealed, although prizes and rewards have been offered by the Indian, French, and other governments, for a machine or process that would separate the fibre from the stem and bark cheaply and expeditiously. Experiments have been going on for the last twenty-five years, and capitalists have been impatiently waiting, money in hand one might say, for the right invention to make Ramie a promising speculation. China Grass may be successfully grown in this country, as is shown by its behaviour at Kew, and it has been suggested that the cultivation of this plant might be profitably undertaken in the south of Ireland.

The demand made upon Kew for a supply of fresh stems for experimental purposes has led to the cultivation of China Grass on a somewhat extensive scale there, about a hundred square yards being planted with it. The average yield is at the rate of twenty stems per yard, the height of the stems being from 5 to 6 feet. These are developed in about four months, and are at their best in September.

China Grass (Bœhmeria nivea) has a root-stock formed of interlacing, somewhat fleshy rhizomes, up to half an inch in thickness. To test the value of these for purposes of propagation, about one hundred pieces an inch long were planted in the spring in a cocoa-nut fibre bed in a warm-house. In ten days from the time of planting, they had each developed numerous shoots 2 inches long. Some of these root-cuttings were grown on and planted outside in June, where they formed large plants, producing about six good stems each by September. From this it is evident that to work up an unlimited supply of plants is merely the work of a few weeks. The quarter upon which the bulk of this plant is grown having become poor, the plants were lifted early in the year, cut up with a spade into clumps from 6 inches to a foot through, and replanted 2 feet apart after the soil had been broken up and manured. In this quarter there is now a fine crop of stems, which were ripe for cutting in September, and a second crop of young stems has already reached a height of 2 feet. Evidently, therefore, had the first crop of stems been cut as soon as they were ready, a second crop, almost equal to the first, might have been got in one year. Some of the stems grown this year have been tested. Twenty green stems with leaves removed weighed 4 lb.; these yielded 1¼ lb. of wet ribbons (filasse), and this, when dry, weighed 5 oz. From this it is roughly calculated that 1 acre would yield about 2 tons of dry filasse per crop.

This plant is quite hardy at Kew. The stems are annual, perishing with the first severe frost.

Ramie (B. nivea var. tenacissima) differs from the type in having distinctly cordate not cuneate leaves, and in their being green on both sides, the leaves of the type being silvery beneath. It also differs in being less hardy, plants placed out-of-doors under favourable conditions this year having produced stems only 2 feet high, whilst the leaves suffered with the first chill. In a hot-house the stems have grown to a length of 4 feet. The green fibre from the plants grown at Kew is much stronger in China-grass than in Ramie. They are both equally prolific of fleshy roots and stems, and they may be propagated with equal facility from root-cuttings. In this country the green form (Ramie) is practically worthless. It should be borne in mind that the term Ramie is applied to the hardier and more valuable form. *W. W.*

Societies.

ROYAL HORTICULTURAL.

(*Concluded from* p. 428).

Third Day's Conference.

GATHERING, STORING, AND PROFITABLE UTILISATION OF APPLES AND PEARS

Mr. Philip Crowley, F.L.S., Treasurer of the Royal Horticultural Society, and Chairman of the Fruit Committee presided on this occasion.

Mr. John Watkins of Hereford read a paper on "Gathering, Storing, and the Profitable Utilisation of Apples and Pears." He said that anyone looking round the grand collections of fruit at that show, must be struck by the fact that our growers could produce as good fruit as anyone in the world. Why then had the foreigner captured our markets? We could grow the fruit, but that was only one part of the business of fruit-growing for a profit. He had known many excellent growers fail to make both ends meet from ignorance on the best method of harvesting and turning their fruit into money.

The time of gathering Apples depended, to a great extent, upon the variety, the season, and the state of the market; but, as a rule, most large, early, soft-fleshed Apples, such as Ecklinville Seedling, Lord Suffield, and others of the same class, should be gathered early, before they were fully ripe. They would then travel much better. Early dessert Apples, on the other hand, were generally best left on the trees until fully ripe. They then developed their best flavour and colour. Both should be marketed as quickly as possible, as it was wonderful how soon the early Apples lost their freshness, and therefore their marketable value, after being gathered. If there were heavy crops, it was a good plan to thin the fruit very considerably—even to the extent of half the crop—before they were nearly fully grown, and to market those picked. It was more than probable that the remaining crop would develop so much better, and more profit would be made, with less strain on the trees. To make fruit-growing a commercial success, crops and home markets had not only to be studied, but also the reports of crops and markets abroad. If Apples were selling well, and there was a prospect of heavy importations from abroad, the fruit should be gathered early, and marketed with the early sorts; but if English crops were heavy, and there was no fear of large importations, the mid-season Apples should be allowed to remain on the trees to fully colour and mature. They would then keep longer for later markets, and be more attractive when sold, if carefully packed. Last year, the general quality of the American and Canadian fruit was not good, consequently, when the glut of fruit was over, the English grower who kept his fruit well, was rewarded by a large advance in price. This year, how-

ever, there was a prospect of heavy importations of good fruit, and he would advise growers to market early, and keep only their best late-keeping sorts. It was stated that Canada alone would export 1,500,000 barrels. The general opinion was that Apples should be perfectly dry when picked, but from his own long experience, he had never found any harm done to the Apples for market purposes, if picked when a little damp, provided that they were not very wet, and stored so thickly as to heat—indeed in many cases they had kept fresher and plumper, though, perhaps, at the expense of their best flavour if used for dessert.

Pears did not require quite the same treatment in gathering as Apples. Early Pears should always be gathered for market before fully ripe. Late Pears, like late Apples, should be left to fully mature on the trees, or they did not ripen or keep well.

As to the mode of gathering Apples and Pears, this could not be done too carefully. All fruit should be carefully placed in the basket, which should have a swing handle, and be lined or padded. Fruit should never be dropped into the basket, but placed there by the hand. Choice specimens of Apples and Pears should be placed in very shallow baskets. Large crops of commoner fruit should be allowed to gently roll out of the basket. Fruit could not be too carefully handled, nothing could be more harmful to fruit than the plan adopted by some pickers, who slung a bag round their bodies and dropped the fruit into it.

To make the most money of fruit it would sometimes have to be stored—probably for some months, and upon the construction of the store-room depended to a great extent the condition and market value of the fruit. For high-class or specimen fruit a properly-constructed fruit-room with shelves, was necessary This need not be an expensive structure, but it should be built so that a low and uniform temperature could be maintained. It should be quite free from draughts, but capable of being ventilated when necessary. Apples required good ventilation for the first three weeks or a month after being gathered, but after this time, the more securely they are kept from the air and draught, the better they would keep. Apples, too, were best kept from the light, and darkness did not interfere with their colouring after being stored. The fruit-room should be frost proof. Apples kept best just above, but never below, freezing-point. The rooms should have double walls, and double windows and doors. The frost would not pass between two such walls even if thin, as the air between effectually prevented it, but the inner wall should not touch the outer wall, as the frost would enter at that point. He had often had specimen fruit from two seasons in such a room at the same time, and could always make a fair display at the Royal Agricultural Society's show, which was held in June. Large quantities of fruit would keep well if laid on the floor 12 or 18 inches deep, and covered up from the light. Should frost enter, the fruit affected should not be touched until the frost had disappeared. The loss from frost would thereby be greatly lessened. The less an Apple was handled after being picked the better it would keep, and he found no necessity for following the old fashioned method of frequently wiping the fruit to remove the moisture. Pears, on the contrary, required a rather higher and drier atmosphere than Apples.

He next turned to the all-important step in fruit-growing—the marketing and profitable utilisation of the fruit. Different markets had to be studied, and the classes of fruit they sold best ascertained. Some markets disposed most readily of large cooking Apples, another market preferred high colour to quality, and it was no use sending common fruit to Covent Garden Market; but there were markets which would take it. Large coarse sorts of Apples, such as Cat's-heads, would not sell in London, but they would do so in Wales and the North. The grand Cox's Orange Pippin would make a high price in London, but it would not do nearly so well in Manchester. Wykin Pippin, a high-flavoured but not very attractive-looking dessert Apple, would sell well in Birmingham, but buyers in other parts of the country would not look at it.

Everything, however, turned on the way in which they did their grading, and they could depend upon it that the future of the English fruit trade depended upon that most important operation. Other countries surpassed us only by the fact that they understood the art of sending their fruit to market in an attractive condition, and by sending to this country only their best. Of course, no grower could grow all best, and there were markets for the seconds and thirds, as well as for the very choicest. If, however, all these were sold ungraded they would fetch but a third-rate price for the lot, whereas if they were properly graded, the best would make the best price in the market for the high-class fruit, the seconds would make their value, and the thirds could be utilised for some other purpose. There should also be a fourth grade for extra selected choice specimens, which would fetch the highest price for special occasions and decorative purposes. In September he had sold by public auction, at Hereford, Apples (Peasgood's Nonsuch) at 4*s.* 6*d.* to 5*s.* per box of one dozen—and that to dealers; whereas plenty of common fruit sold at the same sum per hundredweight. The thirds could be very profitably disposed of to jam-makers; and the smalls were suitable for cider, although he warned them that sharp, sour cooking Apples would not make good cider. Rich, sweet, and highly-flavoured Apples made good cider; but the best dessert Apples were worth too much money to be utilised for cider, and it would be folly to use them when as good, or better, cider could be made from less costly fruit. Large fine fruit from young trees did not make as good cider as smaller fruit from old trees. If the thirds could not be utilised for any of these purposes, they should not hesitate to throw them away, rather than mix them with the better class—that was, if they had no pigs or other stock requiring to be fed It would pay them better. Pears should be graded in the same way as Apples.

Then the greatest care and discrimination should be exercised in the packing. Different sorts should never go in the same package. The best grades should be branded, and whatever the package, it should be packed fairly, but as attractively as possible. Inferior fruit should not be covered over by good fruit, but the fruit should be of the same class throughout. That gained the confidence of buyers and the public. The English packer was gaining wisdom in this respect, and as home grown Apples were more in demand than they were some years back, it was for ourselves to say whether that demand should or should not be maintained and increased.

The Rev. P. CLEMENTI-SMITH, F.R.H.S., said he had had some experience in packing, and he received fruit from his friends in Como, Quebec. He rather took exception to forcing Apples into barrels. The way they did it in Canada was to loosen the rings of the barrel until it was full, and then tighten the rings. Apples should not have any "play." There was a feeling, however, in Canada that the barrel system was not altogether successful. He personally preferred the Australian system of oblong or square boxes.

Mr. ROUPELL (Streatham Hill) said last year he had a few tons of Apples sent up from one of the fruit districts, and he particularly requested that care should be taken in packing the fruit. The fruiterers sent in large barrels, containing about 112 lb. The barrels were lined with a thick spongy paper, and on the top there was a pad of paper with some straw, a wicker cover being drawn tightly over the whole with strings. The Apples arrived in capital condition, and the only objection to the wicker top was that it was rather a temptation to the railway men to open the barrels and occasionally test the quality of the fruit. Some of the finest fruit was very impatient of bruises. There was even a difference in that respect between American, Australian, and English Apples. He fancied English Apples were more juicy and more impatient of bruises than the others. The Blenheim Orange was a favourite Apple, and there was an almost unlimited demand for it in London. There was hope for all who would take the trouble to grade properly. With reference to the storing of fruit, Mr. Watkins had stated that it was better to err on the side of dampness rather than dryness. He wished Mr. Watkins had been more emphatic on that subject. Generally speaking, gardeners kept their fruit a great deal too dry, and when it was sent into the house it was often shrivelled. He remembered when a boy feeling for Apples in the long grass, and he found some Mannington Pearmains in excellent condition, although they had lain in the snow. Some varieties would burst with the frost, but Cox's Orange Pippin, Sturmer Pippin, and Mannington Pear main would stand several degrees of frost without injury. Washington and American Mother would stand the frost very well; but still it was important to keep the frost out. If, however, that could not be done, they should not despair, and if they only refrained from handling the fruit, their less from frost would be inconsiderable.

Mr. F. B. PARFITT (Reading) asked whether Apples packed by the dozen in card-board boxes would find a market in London.

Mr. WATKINS replied that such boxes might find a ready sale among private consumers. He did not think smaller quantities than two or three dozen would pay for market purposes.

A hearty vote of thanks was then accorded to Mr Watkins for his paper, and the proceedings ended.

OCTOBER 13.—A meeting of the Committees of this Society was held in the Drill Hall, James Street, Westminster, on Tuesday last. In most respects the display was more than equal to our expectations, the hall being fairly well filled with miscellaneous exhibits. The absence of Chrysanthemums in any quantity, again formed a subject of remark, and it is evident that collections generally are very late. It is seldom that two Gold Medals are awarded to exhibits at one meeting, but on this occasion the Orchid Committee recommended this highest honour to a magnificent plant of Vanda Sanderiana, from J. GURNEY FOWLER, Esq.; and the Fruit Committee made a like award to a very representative collection of garden produce, consisting of most kinds of fruits and vegetables, from Mrs. WINGFIELD. The weather was exceptionally cold, but nevertheless there were many choice species of plants staged, including a group of Adiantum tenerum var. Farleyense, and a considerable number of Orchids. The collections of Dahlia blooms, and out-of-door Roses, are probably the last of the kind we shall see exhibited this season.

Floral Committee.

Present: W. Marshall, Esq., Chairman; and Messrs. Jno. Fraser, H. B. May, H. Herbst, R. Dean, Robt. Owen, Geo. Stevens, J. F. McLeod, J. H. Fitt, R. B. Lowe, C. J. Salter, W. Bain, J. D. Pawle, Geo. Nicholson, Chas. E. Shea, J. W. Barr, George Gordon, J. T. Bennett-Poë, Geo. Paul, C. Beckett, Chas. Jeffries, H. H. D'Ombrain, H. Turner, Ed. Mawley, C. T. Druery, Jno. Laing, R. M. Hogg, and J. Fraser.

A collection of Michaelmas Daisies, shown by Mr. J. HUDSON, Gunnersbury House Gardens, Acton, Middlesex, consisted of a number of plants in flower in 5-inch pots. Many varieties were noticed, and the plants bore a profusion of bloom. The plants were obtained from cuttings which were inserted in a cold frame on May 30 last (Bronze Flora Medal).

A group of plants of Adiantum Farleyense, from Mr. H. B. MAY, Dyson's Lane Nurseries, Upper Edmonton, exhibited this handsome species of Fern in capital condition. A few plants of the excellent winter-flowering Begonia Gloire de Lorraine hidden by blossoms, were from the same nursery also (Silver Banksian Medal).

Messrs. YOUNG & DOBINSON, Stevenage, Herts, made an exhibit of sprays of Michaelmas Daisies, and other hardy species of flowers.

Messrs. H. CANNELL & SONS, Swanley, Kent, exhibited a few sprays of Cannas in variety, including such capital varieties as Queen Charlotte, Ed. Meig, Sénateur Montefiore, Capt. P. de Suzzoni, yellow, with faint marks; Dr. Vergely, and Beauté Poitevine, an intense, self-coloured variety.

Messrs. J. CHEAL & SONS, Lowfield Nurseries, Crawley, made a large and—considering the cold—a surprising display with Dahlia blooms. Decorative Cactus and single blossoms were well represented, and three Awards of Merit were obtained. The varieties so honoured were Mrs. Kingsley Foster, a fine Cactus-shaped flower of amber colour; Miss Kathleen Goschen, a single flower of good form, centre of petal white, and margins deep crimson; and Miss Hudson, also single, with rose-coloured petals, the centre of which is partially white (Silver Flora Medal).

Messrs. JAS. VEITCH & SONS, King's Road, Chelsea, exhibited some plants in flower of Amasonia punicea, and a number of sprays of their hybrid greenhouse varieties of Rhododendrons.

Mr. THOS. S. WARE. Hale Farm Nurseries, near Tottenham, made an extensive display with cut flowers, including early-flowering Chrysanthemums, a few Michaelmas Dahlias, &c. Mr. WARE also exhibited a few Nerines in flower, including a seedling variety named Novelty. The flowers are large, in a rather loose umbel; they are rose coloured, the petals are long and only slightly recurved, and the flower is very distinct. A Bronze Banksian Medal was awarded the group.

The best exhibit of Chrysanthemums was from Mr. W. WELLS, Earlswood Nurseries, Redhill, Surrey. The new variety, Madame Gustave Henry, was shown in several instances, and a plant containing two blooms also. An Award of Merit was recommended, and it will be remembered that at the National Chrysanthemum Society's Show the variety was given a First-class Certificate.

Mr. WELLS had twenty-four large blooms of different varieties, including Graphic, Thomas Wilkinson, Reine d'Angleterre, Hairy Wonder, Madame C. Champon, Ernest Fierens, Surprise, &c.

Messrs. FRANK CANT & Co., Braiswick Nursery, Colchester, exhibited a group of flowers of late blooming Roses. These bunches of blooms, cut with plenty of foliage, were very attractive, and were unusually good for so late a date (Bronze Banksian Medal).

Mr. GEO. PRINCE, nurseryman, Oxford, showed some Tea Roses in glasses, arranged upon a half pyramid with narrow shelves which were covered with black velvet (Silver Banksian Medal).

Mr. Willard, gr. to the Baroness BURDETT-COUTTS, Holly Lodge, Highgate, exhibited some plants of a variegated sport from Begonia metallica. The variegation is distinct and good, and the variety is to be known as B. M. Regina (Award of Merit).

Mr. C. TURNER, Royal Nurseries, Slough, exhibited a few Dahlia blooms, and Awards of Merit were made to Ophelia, a finely-shaped Cactus bloom of bright cerise colour; to Clarissa, a pretty pale yellow Pompon; and to Geraldine, one of the tinted Pompons, the prevailing tints in which are rose and buff.

Mr. R. OWEN, Maidenhead, exhibited blooms of a New Seedling Chrysanthemum, named Lady Grey, a Japanese, reflexed, with white and fairly broad florets; and of Golden Sheaf, apparently most useful for decorative purposes.

From Mr. W. F. ROSOMAN, The Nurseries, Sholing, Hants, was exhibited blooms of Chrysanthemum Beauty of Sholing, a variety of some merit.

Flowers of varieties of Nerines were sent by Mr. F. W. MOORE, Botanic Gardens, Glasnevin, Dublin; and by Mr. J. L. MANSELL, Guernsey.

Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, Chelsea, were awarded a First-class Certificate for Aglaonema Curtisii. The leaf-blades of this handsome plant are about 10 inches long and 3 inches wide, and the stalk 6 inches long. They are green, with white bands running diagonally across the leaf.

Mr. H. B. MAY, Dyson's Lane Nursery, Edmonton, showed a handsome new Asplenium, named A. Herbstii. The plant was apparently a young one, the fronds very foliaceous, and a bright olive green colour (Award of Merit).

An Award of Merit was also recommended to Lobelia Gerardi, a variety with moderate-sized blue flowers; and to Salvia splendens grandiflora, with larger, and handsomer flowers than the type, both from Sir TREVOR LAWRENCE.

A First-class Certificate was awarded to Pteris Childsii, a plant of which was exhibited by Mr. T. Childs, New Eltham. It has compound fronds with much subdivided pinnæ. The tips and margins of the fronds being very prettily tasselled or percristate.

Mr. ANTHONY WATERER, Knap Hill Nurseries, Woking, exhibited several specimens of the Scarlet-leaved Oak.

A first-rate collection of Asters or Michaelmas Daisies was contributed by Mr. Beckett, gr. to the Rt. Hon. H. H. ALDENHAM, Aldenham Park, Elstree. Varieties of a large

number of types were well represented, and a Silver-gilt Banksian Medal was deservedly awarded.

Messrs. Barr & Sons, King Street, Covent Garden, made a display consisting of out-of-door Chrysanthemums, several species of Lilies, also Aconitum autumnale, Astrantia major, Michaelmas Daisies, &c. (Bronze Flora Medal).

Orchid Committee.

Present: Harry J. Veitch, Esq., in the chair; and Messrs. Jas. O'Brien (Hon. Sec.), T. B. Haywood, Sydney Courtauld, J. Gurney Fowler, Thos. Statter, Elijah Ashworth, H. Ballantine, H. M. Pollett, W. Cobb, De B. Crawshay, H. J. Chapman, W. H. White, J. Jaques, E. Hill, and T. W. Bond.

J. Gurney Fowler, Esq., Glebelands, South Woodford (gr., Mr. Davis) exhibited a magnificent specimen of Vanda Sanderiana, which might well be described as a great bush, bearing many grand flower-spikes with an aggregate of 127 flowers—one of the very finest specimen Orchids ever seen. The plant had recently 137 blooms, but one spike has passed. For excellence of culture and profusion of flower, a Gold Medal was awarded.

Messrs. Jas. Veitch & Sons, Royal Exotic Nursery, King's Road, Chelsea, had a tastefully-arranged group of rare Orchids. Their novelties were three in number, by far the best being Cattleya × Apollo (C. Mossiæ ♀, C. Aclandiæ ♂), a hybrid of quite new features. The fine flowers, which were nearly as large as those of C. Mossiæ, more resembled in form and in their firm substance those of C. Aclandiæ. The sepals and petals, which are well displayed, are of a peculiar buff-pink colour, lightly veined with rose, and with some distinct purple markings irregularly displayed. The broad scoop-shaped lip is bright crimson-purple in front, with yellow markings in the centre; the side lobes being blush-white, edged with rose—a very striking flower (First-class Certificate). Another pretty new hybrid was Lælia × Clarinda (L. Perrini ♀, L. pumila ♂), a neat flower, with pale purple-tinted sepals and petals, and intense dark purple-maroon front and veining to the lip; and Cattleya × Minucia (Loddigesii ♀, Warscewiczii ♂) with delicately-tinted flowers, has improved, its prettily shaped cream-white, yellow and rose labellum being a very attractive and distinct feature.

In Messrs. Veitch's group were good examples of Cattleya × Wendlandii (Bowringiana × Warscewiczii); C. × Mantinii (Bowringiana × Dowiana) L.-C. × Nysa, L.-C. × Eunomia, Cattleya × porphyrophlebia, the elegant little Cœlogyne Veitchii, with its drooping sprays of white flowers spirally arranged; Cypripedium × Milo, C. × T. B. Haywood and many other Cypripediums; Peristeria elata, several fine Cattleya Dowiana aurea and C. labiata, and many other rare species. The group was awarded a Silver Flora Medal.

Thos. Statter, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson), again showed the noble white Cattleya Warscewiczii "Countess of Derby," which had previously received a First-class Certificate. On this occasion a Silver Flora Medal was voted. Mr. Statter also showed Cattleya bicolor cœrulea, with slate-blue lip; and C. × Prince of Wales.

Elijah Ashworth, Esq., Harefield Hall, Wilmslow, Cheshire, showed the beautiful Cattleya labiata autumnalis "Mrs. E. Ashworth," with pure white sepals and petals. The lip was marked in the front with bright purple, and margined with white (First-class Certificate).

Cattleya Dowiana, Wheatley's variety, sent by F. Wheatley, Esq., Devon, afforded a similar case of suppression of the colour of the sepals and petals as that in Mr. Ashworth's C. labiata. The sepals and petals were white, with the faintest trace of yellow, the lip being that of a good C. Dowiana aurea (First-class Certificate).

C. L. N. Ingram, Esq., Elstead House, Godalming (gr., Mr. T. W. Bond), staged a small group of very fine hybrid Orchids, for which a Silver Banksian Medal was awarded. Of them Cattleya × Triumph (C. Luddemanniana × Lawrenceana) was a charming plant, with flowers of one uniform lilac tint, and with a slight purple marking on the lip. It resembled C. Lawrenceana, concolor in tint (First-class Certificate). Cattleya × Eclipse (C. maxima × Skinneri), was a very distinct hybrid, with much resemblance to C. maxima, but with a more trumpet-shaped lip (Award of Merit.) C. × Jupiter (Lawrenceana × Warscewiczii var.) was a very pretty hybrid, resembling a light form of C. Luddemanniana (Award of Merit); Lælio-Cattleya × T. W. Bond (C. labiata autumnalis × L. purpurata), resembled L.-C. × Eximia, but the autumnal labiata wrought a change in the time of flowering; L.-C. Firefly (L. Dormaniana × C. Bowringiana) was a singular little rose-purple flower; and the L.-C. × (C. bicolor × L.-C. × elegans), was a pale form of L.-C. × Andreana, previously shown.

Messrs. Hugh Low & Co., Clapton, staged a good group, in which the central figure was Cypripedium Charlesworthii, Lowe's variety, a grand and massive flower, good in every respect, and by many thought worthy of a higher award than the Award of Merit accorded. The dorsal sepal was 3½ inches across, and perfectly flat. In Messrs. Low's group also were Cattleya × porphyrophlebia (intermedia × superba); several fine C. Dowiana aurea and C. labiata; Oncidium ornithorhynchum album, Cypripedium × Madame Georges Truffaut, C. × James Buckingham (Enfieldiense × bellatulum), C. insigne Lutwychei, C. × Chas. Canham, Cycnoches chlorochilon, &c. (Silver Banksian Medal).

Messrs. B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, N., staged a group, in the centre of which was a fine plant of Arachnanthe Lowii. With it were Vanda tricolor superba, Cattleya × blesensis, C. labiata varieties, Dendrobium Phalænopsis Schroderianum, Cypripedium Adonis pictum, a very neat and pretty flower; C. × Arthurianum, C. tonsum, C. insigne Wallacei, C. × Pitcherianum Williams' var. C. × Crossianum, Cœlogyne Massangeana, Cochlioda vulcanica var. grandiflora, Oncidium ornithorhynchum album, O. Forbesii, &c. (Silver Banksian Medal).

Messrs. Sander & Co., St. Albans, had a very effective group, in which were Lælia pumila delicata, a nearly white form; four plants of the singular Habenaria Susanna; Odontoglossum grande, a fine specimen of Dendrobium aureum, Vanda cœrulea, Cypripedium × Fairy Queen (Curtisii × Druryii), C. × McNabianum (callosum × concolor), resembling a pale C. × Marshallianum; C. × Alcides, C. × Uihleinianum, C. × Maynardii, C. × nobilior, Calanthe vestita Sander's var., Cœlogyne Swaniana, Oncidium Krameri, and a singular little greenish Epidendrum named profusum (Silver Banksian Medal).

A cultural commendation was given to J. C. Ramdens, Esq., J.P., Willinghurst, Shamley Green, Guildford (gr., Mr. A. Nash), for a splendidly-grown plant of a very fine variety of Vanda cœrulea, with two spikes, bearing together twenty-five flowers.

A. H. Smee, Esq., The Grange, Carshalton (gr., Mr. Cummins), showed the beautiful little Comparettia speciosa, with three spikes of its showy light orange flowers (Award of Merit).

T. W. Swinburne, Esq., Winchcombe, showed a good Cypripedium Charlesworthii.

De B. Crawshay, Esq., Rosefield, Sevenoaks (gr., Mr. S. Cooke), again exhibited Odontoglosum Uro-Skinneri album, the extraordinary form raised from seeds, and which have produced plants in which the colouring of the lip is entirely suppressed.

G. Sherland Ball, Esq., Ashford, Wilmslow, Cheshire (gr., Mr. A. Hay), sent a fine flower of Cypripedium insigne Sanderæ.

Fruit Committee.

Present: Philip Crowley, Esq. (chairman), and Messrs. Geo. Bunyard, H. J. Pearson, Jos. Cheal, G. W. Cummins, A. F. Barron, A. H. Pearson, J. Wright, Alex. Dean, H. W. Ward, W. Pope, W. Farr, Chas. Ross, G. Wythes, Jas. H. Veitch, H. Balderson, and Geo. T. Miles.

An extensive collection of fruits and vegetables was shown from the gardens of Mrs. Wingfield, Ampthill (gr., Mr. W. J. Empson). Black Hamburgh and Golden Queen Grapes were very good; Apples and Pears were present in numerous varieties, and Gourds of differing form, colour, and size added to the attractiveness of the exhibit. A few Plums, Damsons, Walnuts, Cob-nuts, Medlars, Oranges, Melons, excellent Tomatos, Quinces, Capsicums, and Cucumbers were noticed. Of vegetables there were many meritorious varieties including Cauliflowers in several varieties, large Carrots, Parsnips, good Leeks, excellent Ailsa Craig and Holborn Model Onions, Turnips, Kohl Rabi, Beet, Standard Bearer Celery, Carter's Little Prize, and Carter's Early York Cabbage, Ne Plus Ultra and Jubilee Beans; also Kale, Lettuce, and a number of varieties of Potatos were all included in this most representative exhibit of garden produce. A Gold Medal was deservedly awarded to this exhibit.

One hundred dishes of Apples and Pears were included in a commendable exhibit from Mr. Geo. Wythes, gr. to Earl Percy, Syon House, Brentford, which was displayed over white tissue paper, and Ampelopsis leaves and bunches of berries were strewn between the dishes. Some little groups of Apples and Pears, exhibited upon partially-coloured Vine leaves, were more pleasing in effect than others in the usual plates. Many of the Apples exhibited a considerable amount of colour, and Beurré Diel and other Pears were good (Silver-gilt Knightian Medal).

The best Pear before the committee in the Veitchian competition was Doyenné du Comice, shown by Mr. C. Herrin, Dropmore Gardens. They were from a bush-tree on the Quince, in an open situation. The 2nd prize was taken by a dish of Thompson's, shown by Col. Brymer, M.P. These were from a tree upon a west wall upon light soil in Dorsetshire.

The 1st prize for Apples was given to Cox's Orange Pippin, from Mr. Geo. Wythes, Syon House Gardens, from pyramid trees, four to six years old, on the Paradise stock; 2nd, Ribston Pippin, from Orchard standard trees, shown by Mr. C. Herrin.

Mr. Jas. Hudson, Gunnersbury House Gardens, showed a basket of first class fruits of Newton Wonder Apple from dwarf trees on Paradise stock, planted on grass-land in November, 1894 (Cultural Commendation).

Mr. Hudson had also dishes of six varieties of Peas, the pods being capitally filled. They were Sutton's Bountiful, sown on July 20; Criterion, sown on July 7; Sutton's A1, sown on July 20; Empress of India, July 10; William I., July 20; and The Duchess, July 7 (Cultural Commendation).

Mr. J. Harris, Waddon House Gardens, Croydon, exhibited a Seedling Melon named Harris' Favourite, a scarlet-fleshed variety.

Mr. J. C. Tallack, Livermere Park, Bury St. Edmund's, had a seedling variety of Apple, much-coloured fruits, but not perfectly ripe.

Another Melon was shown by Mr. G. Tulford, West Park Gardens, Damerham, Surrey; and a seedling Potato by Mr. Geo. Wythes.

Some fine roots of Celeriac were shown by Mr. Bain, gr. to Sir Trevor Lawrence, Bart., Burford, Dorking; and two large Gourds by Mr. A. G. Freer, New Brompton (Vote of Thanks).

The Lecture.

In the afternoon, a paper by Mr. Burrell upon "Hardy Summer Flowers," was read by Mr. Jno. Weathers, Assistant-Secretary. After remarking that such a subject might perhaps have been more opportune earlier in the season, when it could have been illustrated by specimens from the beds, Mr. Burrell said that he intended only to speak of a few genera that had during the last few years obtained a much higher place in popular estimation than formerly, and instead of dealing with the hardy flower-garden generally, he should only refer to plants suitable for beds or borders in the near vicinity of the dwelling-house. A few remarks were made upon the planting of geometrical beds with such flowers, close to the house, and emphasis was placed upon the importance in such cases of making the selection of plants very carefully, and carrying out the planting with much taste. But isolated beds upon turf were very much more suitable situations for hardy perennial flowers. Some of the genera selected for mention were Phlox, Delphinium, Antirrhinum, Campanula, Carnation, Helianthus, Asters (perennial), Veronicas, Lobelias, Pyrethrums, Pentstemons, and Violas.

Before speaking of some of these individually, Mr. Burrell remarked upon the wonderful improvement that had been obtained in several of these genera, in Phloxes, Delphiniums, Violas, Pentstemons, &c. One characteristic of hardy plants was an advantage, a new variety or choice specimen could be multiplied by propagation (which in most instances was very easy), and a good number of plants obtained in a very short space of time. Phloxes could be propagated by cuttings, layers, or division of the crown.

The soil at Claremont was very light and sandy. Antirrhinums did capitally. The old plants were cut back in autumn, and the surface of the soil loosened with a fork, after which, a mulching was applied before winter. A few cuttings should be taken every year to maintain a vigorous stock, and the spikes of bloom were better removed as soon as the lowermost flowers were well expanded.

Campanulas were satisfactory in special beds. They were invaluable, and would furnish flowers in colour from Cambridge blue to intense purple, and the white ones were pretty also. Campanulas, Megaseas, and Saxifragas, were some of a number of plants that were more satisfactory when planted by themselves than if mixed with other species. Carnations did very well at Claremont, and were layered early each season, not more than 5 per cent. failing to make good plants.

In such soil Mr. Burrell had found it useful to employ spent Mushroom-bed manure or similar material, and when planting is finished a mulch is given. Delphiniums were not so happy upon the light land, and flourished best where the land had been improved by the addition of more retentive constituents. Helianthuses were easily cultivated, and gave excellent results. Lobelias had been much improved. They were best planted in bold clumps upon a groundwork of Pinks or similar habited plant. They were perfectly hardy at Claremont, but were mulched in early winter. A few remarks of a general character were made upon the other genera.

Mr. Douglas (chairman) said that Phloxes should be propagated from cuttings, and clumps ought not to be left more than two years undisturbed. Carnations should always be planted out in the autumn; they are perfectly hardy.

DEVON AND EXETER GARDENERS' ASSOCIATION.

October 7.—Mr. W. Charley delivered a practical lecture on this date at the Guildhall, Exeter, before the members of the Devon and Exeter Gardeners' Association, on "Soils." Mr. A. Hope presided, and there was a numerous attendance.

Mr. Charley devoted the opening passages of his address to an explanation of the degrees and qualities of soils, their ingredients, the provision of proper subsoil, &c.

At the conclusion of the lecture Mr. Charley showed several examples of Devonshire soils, pointing out their chief characteristics.

An interesting discussion followed.

Several members gave in their names to enter for the course of lectures on "Plant Life," now beginning under the University Extension Technical Course. A number of the seeds containing larvæ of Carpocapsa saltitans were shown, and the description as given in the *Gardeners' Chronicle* of November 12, 1859, was read, showing that this entomological curiosity, to which so much attention has recently been given, was known in England nearly forty years ago.

FUNGUS FORAYS.

Leicester.—The annual Foray of the local society took place on Thursday, October 8, and fortunately was favoured with dry weather. The members mustered more strongly than was anticipated, so that an extra vehicle had to be provided for the ride to Charnwood Forest, or what remains of it.

The start was made at 1.30, and the return before six, so that it was only a moderate half-day excursion, of which about two hours was occupied in riding; hence a record of between eighty and ninety species may be regarded as a satisfactory result. That out of these nearly a score were new to the record of Leicestershire fungi was gratifying to the organisers of the outing. The only species collected in sufficient number to be prepared for tea were Trichotoma nuda, and Amanita rubescens, both of which gave satisfaction to the consumers. In no case were the specimens numerous, and

some of them were much saturated with moisture. It was remarked that some of the commonest species were conspicuously absent, and although the common Mushroom has been noted as plentiful in many other localities, not a single individual was seen. This was but a shadow of what fungus forays were a few years ago, since the number of specimens of any single species was exceedingly small, but the enthusiasm was little diminished, and the number of species recorded was about of an average for the length of time occupied and the number of collectors. Of the ladies present, one at least rose to the exigencies of the occasion, and manifested an intelligent appreciation of the opportunity to acquire cryptogamic knowledge.

WEST KENT NATURAL HISTORY SOCIETY held its annual Fungus Foray on Saturday afternoon, October 10, starting from Orpington Station about 2 o'clock, for a quiet walk to Paul's Cray Common, picking up stray contributions by the way. It was not a great party, but a genial one, and the weather, for once, was of the same disposition. One little mannikin of ten years old exhibited as earnest and intelligent an interest in the proceedings as any of his elders, and some of the best things of the day came through his hands. Of course, his father was a fungus-hunter, and had "trained up his child in the way he should go," with success. If more fathers followed the same course the next generation would realise its benefit, but, as it is, "cram" and not recreation, is the order of the day —for juveniles. Upwards of sixty species were collected and identified before 5 o'clock, when the little party settled down at the "Bull" at Chislehurst to a repast, which was accompanied by a dish of Blewits, well prepared, and a smaller one of Amanita rubescens. Somehow all these forays are strongly utilitarian, and the question of the day is invariably—"Is it good to eat?" Edible fungi were rather scarce in the field, and most of them too much saturated with the late rains; but the little black Mycena pullata was one of the finds, for almost the first time since its discovery at Epping. Boletus piperatus and Clitocybe clavipes are by no means common in the Home Counties, but were represented by single specimens. Although we heard of some of the members enjoying that phase of natural history which is represented by football and bicycle, those who were present did not appear to regret it. *M. C. C.*

Obituary.

PETER WHITTON.—This well-known Perthshire gardener passed away on the 5th inst., at Methven Castle, where he had been head-gardener to the Smythes of Methven, for nearly fifty years. Though not an exhibitor, he was a thorough all-round gardener, and a member of the Royal Scottish Arboricultural Society. It is not given to everyone to strike cuttings and live to see them grow to trees 60 feet high. The Conifers he planted are indeed now admirable specimens.

This year, the kitchen garden attains its centenary, and it is remarkable that during that period there have been only three head gardeners at Methven. In "the sixties," when the pleasure-grounds were extended, Mr. Whitton planted many Conifers, the main feature being an avenue of Cedrus Deodara, commonly called "The Simla Walk," from the fact that the plants were raised on the place from seeds sent from Simla to Mrs. Smythe by her cousin, the Earl of Elgin, then Viceroy of India.

Mr. Whitton took an active part in the affairs of the parish, being president of the village library for over thirty years, and an elder in the parish church for thirty-six years. His funeral was largely attended, many head gardeners being present; and an act which spoke volumes for the respect in which he was held by the family he so long and faithfully served, was that Colonel Smythe attended his funeral.

Of his five sons, two followed gardening, one being the Superintendent of the Glasgow Public Parks, and the other Superintendent of the Dooars District of one of those new gigantic Tea companies in India. Mrs. Whitton predeceased her husband only six weeks.

Mr. James Jackson, an old pupil whom Mr. Whitton had recommended, has been appointed his successor.

AN AGRICULTURAL AND HORTICULTURAL COLLEGE FOR CHESHIRE.—The Cheshire County Council, at a cost of £10,000, has established a new college at Holmes Chapel, which was opened recently by the Duke of Westminster. It is intended to impart sound instruction in all that concerns the cultivation of the land, the complete course extending over three years, and no pupil can enter for a shorter period than one year.

MARKETS.

COVENT GARDEN, OCTOBER 15.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Arums, p. 12 blooms	3 0	6 0	Orchids:—		
Asters, English, doz. bunches ...	3 0	6 0	Cattleya, 12 blms.	6 0	12 0
Bouvardias, per bn.	0 4	0 6	Odontoglossum crispum, 12 bm.	2 0	6 0
Carnations, 12 bun.	4 0	8 0	Pelargoniums, scarlet, per 12 bun.	3 0	6 0
— 12 blooms ...	1 0	2 6	— per 12 sprays...	0 4	0 6
Chrysanthemums, doz. bun.	3 0	6 0	Pyrethrums, 12 bn.	2 0	4 0
— doz. blooms	1 0	4 0	Roses, Tea, per doz.	0 9	1 6
Eucharis, per dozen	2 6	4 0	— coloured, doz.	0 9	1 6
Gardenias, per doz.	1 0	3 0	— yellow (Marechal), per doz.	3 0	6 0
Gladiolus, coloured, per doz. sprays ...	1 0	2 0	— red, per dozen	0 6	1 0
Lilac, wh. (French), per bunch ...	3 6	5 0	— red, doz. bun.	6 0	12 0
Lilium Harrisi, per doz. blooms ...	3 0	6 0	— Gloire, doz. bn.	4 0	6 0
— lancifolium, doz. blooms ...	1 0	2 6	— Safrano, p. doz.	1 0	2 0
Maidenhair Fern, per 12 bunches ..	4 0	8 0	Stephanotis, 12 sps.	3 0	4 0
Marguerites, per 12 bunches	1 0	2 0	Tuberoses, 12 blms.	0 2	0 4
Mignonette, per doz. bunches ...	2 0	4 0	Violets (French), doz. bunches...	1 6	—
			— (Eng.), per doz. bun.	1 6	2 6
			— Parme (Eng.). doz. bun.	3 0	4 0

ORCHID-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Adiantum, per doz.	4 0	12 0	Ferns, small, doz....	1 0	2 0
Aspidistras, per doz.	12 0	30 0	— various, doz.	5 0	12 0
— specimen, each	5 0	15 0	Ficus elastica, each	1 0	7 6
Asters, doz. pots ...	3 0	5 0	Foliage plants, doz.	12 0	36 0
Chrysanthemums, per. doz.... ...	4 0	9 0	Heliotropes, p. doz.	4 0	6 0
Coleus, per doz. ...	2 0	4 0	Marguerites, p. doz.	6 0	10 0
Dracænas, each ...	1 0	7 6	Mignonette, p. doz.	4 0	6 0
— various, p. doz.	12 0	24 0	Palms, various, ea.	2 0	10 0
Ericas, p. doz. ...	10 0	12 0	— specimens, ea.	10 6	84 0
Evergreen Shrubs, in variety, doz....	6 0	24 0	Pelargoniums, Scarlets, p. doz. ...	2 0	4 0
			Solanums, p. doz....	12 0	15 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples, cooking, in variety, per sieve... ..	2 0	2 6	Grapes, Muscat, 2nd qual., p. lb.	10	1 0
— dessert, in variety, per ½-sieve... ...	2 6	4 0	— Channel Islands, per lb. ..	0 9	1 0
Grapes, Alicante, 1st quality, per lb.	1 0	1 3	— Gros Maroc, per lb	1 0	1 3
— Alicante, 2nd quality, per lb.	0 6	0 8	Medlars, per ½-sieve	2 6	3 0
— Hamburgh, 1st quality, per lb.	1 0	1 3	Melons, each ...	2 0	2 6
— Hamburgh, 2nd quality, per lb.	0 6	0 9	Nuts, Cob, per 100 lb.	25 0	27 6
— Gros Colmar, per lb.	1 0	1 6	Pears, Pitmaston, p. half-sieve ...	3 0	4 0
— Muscats, English, 1st quality per lb.	2 0	2 6	— Doyenné du Comice, per ½-sieve	6 0	7 0
			— Duchess, per ½-sieve	4 0	4 6
			Pine-apples, St. Michael, each ...	5 0	6 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Cauliflowers, 5 doz.	2 6	3 0	Tomatos, home-grown, smooth, per doz. lb. ..	3 6	4 0
Cucumbers, home-grown, per dz.	2 0	3 0	selected ...	4 0	4 6
Mushrooms, (Indoor) per lb.	1 0	1 6	— ord. kinds, do.	2 0	2 6

POTATOS.

Best Potatos wanted, 70*s.* to 80*s.*; sound second-class firm, at 40*s.* to 45*s.* Fear the weather will cause further disease. Supplies short, in consequence of rain. *J. B. Thomas.*

SEEDS.

LONDON: *October* 14.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report to-day's market as thinly attended. Good yearling Red Clover seed continue to meet with considerable favour, and prices stand very firm. Alsyke and White keep exceedingly strong. Trefoils just now are neglected. The Canary seed market is depressed, owing to an expected early heavy arrival of new Turkish. Hemp seed is firm. There is no demand for Tares. Rye is inquired for. Wisconsin boiling Peas meet an improved sale. Rape seed is again dearer. In Mustard likewise the tendency is upwards. Some fine new Californian Haricot Beans are now offering on tempting terms. New white Runner Beans are just landing.

FRUIT AND VEGETABLES.

LIVERPOOL: *October* 14.—Potatos, Giants, 2*s.* to 2*s.* 4*d.* per cwt.; Main Crop, 2*s.* 6*d.* to 3*s.* 6*d.* do.; Suttons' Abundance, 2*s.* to 2*s.* 3*d.* do.; Bruce, 2*s.* 2*d.* to 2*s.* 6*d.* do.; Gartons, & to 2*s.* 3*d.* do.; Turnips, 6*d.* to 9*d.* per dozen bunches; Swedes, 1*s.* 3*d.* to 1*s.* 6*d.* per cwt.; Carrots, 6*d.* to 8*d.* per dozen bunches; do., 2*s.* 6*d.* to 2*s.* 9*d.* per cwt.; Onions, English, 5*s.* to 5*s.* 6*d.* per cwt.; do., foreign, 2*s.* 6*d.* to 2*s.* 9*d.* do.; Parsley, 4*d.* to 6*d.* per dozen bunches; Cauliflowers, 6*d.* to 10*d.* per dozen; Cabbages, 6*d.* to 1*s.* do.; Celery, 8*d.* to 1*s.* 6*d.* do. Birkenhead: Potatos, 6*d* to 8*d.* per peck; Cucumbers, 3*d.* to 6*d.* each; Grapes, English, 1*s.* 6*d.* to 2*s.* 6*d.* per pound; do. foreign, 4*d.* to 6*d.* do.; Pines, English, 4*s.* to 8*s.* each Mushrooms, 6*d.* per pound.

GLASGOW: *October* 14.—The following are the averages of the prices at market during the past week:—*Fruit:* Pears, 2*s.* 3*d.* per case; Apples, 6*d.* per pound; Tomatos, Guernsey, 4*d.* to 5*d.* do.; do., Scotch, 7*d.* to 9*d.* do.; Plums, 3½*d.* to 4*d.* do.; Grapes, home, 2*s.* do.; Vegetables:—Turnips, white, 2*s.* 6*d.* per dozen bunches; Swedes, 1*s.* to 1*s.* 3*d.* per cwt.; Savoys, 1*s.* 3*d.* per dozen; Cabbages, 8*d.* to 9*d.* per dozen; late, do., 1*s.* to 1*s.* 6*d.* do.; Red, do., 2*s.* 6*d.* to 3*s.* do.; Cauliflowers, English, 2*s.* to 2*s.* 6*d.* per doz.; do., Edinb., 2*s.* to 2*s.* 6*d.* per doz.; Parsnips, 4*s.* 6*d.* per cwt.; Herbs, assorted, 1*d.* to 2*d.* per bunch; Leeks, 1*s.* to 2*s.* 6*d.* per doz. bunches; Mint, 6*d.* per bunch; Onions, Dutch, 3*s.* to 3*s.* 6*d.* per bag; do., Portugal, 10*d.* per stone; do., Globe, 3*s.* to 3*s.* 6*d.* per cwt.; Parsley, 5*s.* to 6*s.* do.; Syboes, 4*d.* to 5*d.* per doz. bunches; Celery, table, 2*s.* to 2*s.* 6*d.* per bunch; do. common, 9*d.* to 1*s.* do.; Potatos, best, 8*d.* per stone; Carrots, 3*s.* to 4*s.* per cwt., Cucumbers, 4*s.* to 4*s.* 6*d.* per dozen; Lettuces, 6*d.* to 9*d.* per dozen bunches; do., Cos, 9*d.* do.; Radishes, 9*d.* to 1*s.* do.; Horseradish, 2*s.* per bunch; Beans, Broad, 1*s.* to 1*s.* 3*d.* per stone; do., French, 2*s.* to 2*s.* 6*d.* do.; Scarlet Runners, 1*s.* 6*d.* do.; Mushrooms, 1*s.* to 1*s.* 3*d.* per lb.; Rhubarb, natural, 2*s.* per cwt.; Beetroots, 7*d.* per dozen; do., new, 3*s.* 6*d.* to 4*s.* per dozen bunches; Cress, 3*d.* per basket Brussels Sprouts, 1*s.* 6*d.* to 2*s.* per stone.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (−) the Mean for the week ending October 10.	Accumulated. Above 42° for the Week.	Accumulated. Below 42° for the Week.	Accumulated. Above 42° difference from Mean since December 29, 1895.	Accumulated. Below 42° difference from Mean since December 29, 1895.	Rainfall. More (+) or less (−) than Mean for the Week.	Rainfall. No. of Rainy Days since Dec. 29, 1895.	Rainfall. Total Fall since Jan. 1, 1896.	Bright Sun. Percentage of possible Duration for the Week.	Bright Sun. Percentage of possible Duration since Dec. 29, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch		Ins.		
0	3 −	30	6	+ 228	− 323	12 +	193	44·2	24	24
1	3 −	32	8	+ 177	− 244	10 +	161	21·5	37	30
2	1 −	46	0	+ 255	− 225	6 +	136	15·8	23	29
3	1 +	67	0	+ 220	− 233	3 +	137	18·2	32	35
4	0 aver	55	0	+ 218	− 255	5 +	137	18·4	27	32
5	1 +	83	0	+ 310	− 243	6 +	126	18·3	29	38
6	3 −	33	2	+ 263	− 231	16 +	172	36·2	19	32
7	2 −	50	0	+ 352	− 261	15 +	156	27·5	20	32
8	1 −	63	0	+ 398	− 208	13 +	136	23·3	32	41
9	4 −	32	4	+ 268	− 232	9 +	178	31·8	19	28
10	3 −	41	0	+ 370	− 214	10 +	153	28·1	27	33
*0	aver	91	0	+ 539	− 109	6 +	144	19·5	35	47

The districts indicated by number in the first column are the following:—

0, Scotland N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending October 10, is furnished from the Meteorological Office:—

"The *weather* was in a very rainy and stormy condition generally. Sleet and hail showers were experienced at many northern and north-western stations, both at the beginning and end of the period. Thunder and lightning occurred in several parts of the kingdom during the earlier days of the week, and again over the north of England at its close.

"The *temperature* was below the mean in most districts

but just equalled it in the 'Midland Counties' and the 'Channel Islands,' while in 'England, E. and S.' it was a little above it. The highest of the maxima were recorded on rather irregular dates, and ranged from 64° in 'England, S.,' and 63° in 'England, E.' and the 'Channel Islands,' to 58° in 'Scotland, W.,' and to 57° in 'Scotland, N.' The lowest of the minima, which were registered about the middle or end of the week, ran from 28° in 'Scotland, N.,' and 30° in 'Scotland, E.,' to 39° in 'England, N.W.,' and to 34° in the 'Channel Islands.' By the end of the period temperature had fallen quickly over the northern half of the kingdom, and the decrease was spreading southwards.

"The *rainfall* exceeded the mean, the fall being more than twice as much as the normal in nearly all the western and northern districts.

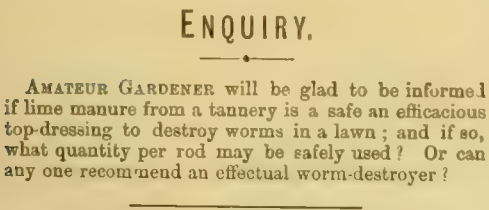
"The *bright sunshine* was again deficient generally, but equalled the mean in 'Scotland, N.,' and exceeded it in 'Scotland, E.'"

TIGRIDIAS IN SCOTLAND.

At Logan House, in Wigtonshire, these pretty flowers have been cultivated during the last two seasons with exceptional success. Mrs. McDonall, of Logan, is an ardent horticulturist, and the Tigridia is one of her favourite flowers. Seed brought from Mexico by Messrs. Kenneth & Douglas McDonall, and sown in May, 1895, produced plants which flowered in July of the same year. They received no protection during the following winter, and this year they came up in remarkable strength. On a plot of ground devoted to their culture, 15 feet in length by 5 feet in breadth, the Tigridias produced between July 12 and October 1, 3,751 flowers. Many of the plants reached the unusual height of 3 feet 3 inches above the ground. For these statistics, I am indebted to Mr. Douglas McDonall; and having frequently visited Logan Gardens during their period of floral development, I am in a position to certify that they are absolutely correct in name. The fact that the seed was obtained in Mexico, the native land of those exquisite semi-tropical flowers which equal the finest Orchids in artistic impressiveness, has doubtless had much to do with their marvellous success. The varieties most cultivated at Logan House were pavonia, grandiflora alba, conchiflora, and immaculata. The last-mentioned variety, which is a pure white, is especially fine. I have always been of opinion that the evanescence of Tigridias, which, like the Ipomœas of California, seldom last for an entire day, is largely attributable to their perpetual habit and extraordinary productiveness. No sooner has one brilliant flower disappeared than another is preparing to occupy its place. Their rapid development is not less wonderful than their unique perpetuality. *David R. Williamson.*

ENQUIRY.

Amateur Gardener will be glad to be informed if lime manure from a tannery is a safe an efficacious top-dressing to destroy worms in a lawn; and if so, what quantity per rod may be safely used? Or can any one recommend an effectual worm-destroyer?



Camellia Fruiting: *Ed. S.* It is not an uncommon occurrence for these plants to bear seeds, especially the semi-double and single-flowered varieties. See *Gardeners' Chronicle*, December 27, 1873, for figure of seed-pods. We do not think that the bearing of fruits is the cause of the sickly foliage that coming, probably, from a soured, ill-drained soil.

Correction: In article on Rose Season, p. 426, col. 2 (about half-way down), should be read, "Messrs. Harkness & Sons, of Bedale and Hitchin, have carried off both Trophies," &c.

Fungus: *D. F. Wright.* Only one specimen received, and that a section of large brown-spored Cortinarius, insufficient for its determination.

Erratum: At the Fruit Show held at the Crystal Palace, Oct. 1, 2, and 3, Class 129, for Pitmaston Duchess Pears, the 2nd prize was awarded to Mr. W. Mancey, not Manning, as reported.

Grubs on Primrose Roots: *C. L.* We believe them to be those of the smaller cockchafer.

Names of Fruits.

*** *The application to name fruits, and especially fruits, are so numerous at this season, as scarcely to tax our resources. They entail an expenditure of time, labour, and money, of which our readers have little idea. We are most desirous to oblige our correspondents as far as we can, but we must request that they will observe the rule that* not more than six varieties *be sent at any one time. The specimens should be good ones, just approaching ripeness, and to prevent disappointment, they should be properly packed and carefully packed. We do not undertake to send answers through the post. Delay in any case is unavoidable.*

T. J., Epsom. 1, Cox's Pomona; 3, Adams' Pearmain; 4, Dumelow's Seedling; 5, Forge; 7, Golden Noble; 8, Dutch Mignonne; 9, Marie Louise; 10, Reinette du Canada.—*A. L. T.* 19, 25, Dumelow's Seedling; 17, Rymer; 13, Ecklinville Seedling; 18, Ribston Pippin; 16, Catshead.—*Hillingdon Heath.* Pear, Pitmaston Duchess; 1, New Hawthornden; 2, Lord Derby; 6, Catshead; others not known.—*Johnson & Sons.* Your Apple is not recognised.—*H. & Co.* 1, Doonside; 2 Rymer; 3, Claygate Pearmain.—*T. H. G.* 1, Thompson's; 2, decayed; 3, Duchesse d'Angoulême; 4, Josephine de Malines; Apples, 6, Golden Noble; 7, Scarlet Nonpareil; 9, Reinette du Canada; 11, Besspool, 10, Blenheim Orange.—*Memorandum.* 1, Doyenné Boussoch; 2, Fondante Charneu; 3, Gloria Mundi; 4, Van Mon's Léon le Clerc; 6, Vicar of Winkfield; 5, not known. Thanks for the care that was taken to send the specimens in good condition.—*H. C.* 1, Winter Strawberry; 2, Small's Admirable; 3, Fearn's Pippin; 4, Mère de Ménage; 5, Golden Noble; 6, Beurré d'Amanlis.—*G. Shotton.* 2 and 6, Dumelow's Seedling; 4, Queen Caroline; 8, Yorkshire Greening; 9, Smart's Prince Arthur; 16, Blenheim Orange; 12, Lord Suffield; 15, Alfriston; 13, Gloria Mundi; 14, Cellini.—*T. W. Swaffield.* 1 and 2, Comte de Lamy; 4, Emille d'Héyst; 5, Beurré Diel; 6, not known: a big, worthless variety.—*Wm. Geo. Gough.* 1, Beurré Clairgeau; 2, Napoléon; 3 and 4, Beurré Diel.—*J. J. F.* 1, Alfriston; 2, Brabant Bellefleur; 3, Hambledon's Deuxans (?); 4, Round Winter Nonsuch; 5, much bruised, but believed to be Gravenstein.—*Kent & Brydon. Pear:* Duchesse d'Angoulême. *Apples:* 2, Hoary Morning; 4, Yorkshire Greening; 5, Tom Putt; others not known.—*R.* Yours are mostly strange to us. 1, Lord Derby; 4 and 5, Brabant Bellefleur; others not known.—*J. F. Davies.* Pear too much decayed to be named; it is attacked by a fungus.

Names of Plants: *Correspondents not answered in this issue are requested to be so good as to consult the following number.*—*M. D.* Picea ajanensis.—*R. B.* 1, Cephalotaxus pedunculata; 2, Cupressus obtusa var. (Retinospora of gardens); 3, Cupressus obtusa; 4, Cupressus pisifera var. filifera (Retinospora); 5, Tsuga Pattoniana; 6, Cupressus nootkatensis.—*H. K. Farleigh.* Cycnoches chlorochilon, the Swan Orchid—*W. H. W.* 1, Croton angustifolius; 2, Croton Aigburth Gem; 3, Croton Evansianus; the others without numbers are Dracæna ornata and Begonia.—*R. K.* 1, Davallia Mariesii; 2, Davallia bullata; 3, Asplenium lucidum; 4, Zingiber officinale (Ginger-plant); 5, Leycesteria formosa.—*T. W. R., Westmbirt.* Yes. No. 6, with yellowish fruits, is Cratægus orientalis var. odoratissima (there are two varieties of this species, the other is called C. orientalis var. sanguinea, and has dark red fruits). The other specimen is C. coccinea var., an extremely variable species.—*A. H.* Cestrum (Habrothamnus) fasciculatum.—*T. G.* Acer eriocarpum, Sir Charles Wager's Maple.—*J. E.* 1, Calycanthus occidentale; 2, Garrya elliptica, male plant; 3, Staphylea pinnata.—*H. H.* 1, Lælia Perrinii; 2, Jasminum Sambac; 3, Geranium sanguineum; 4, Geranium pratense.—*J. E.* Viburnum Opulus, not the Dog-wood. *O. B.* 1, Thuya orientalis var. Sieboldi; 2, Cupressus Lawsoniana; 3, Syringa Josikæa; 4, A Holly which we cannot name; 5, Taxus appressa.—*J. B., Manchester.* Cratægus pyracantha, Daphne Mezereum.—*Cigar Box, N.* Celsia cretica; Orchid next week.

Notice to Leave: *J. M.* Your case is complicated by the fact of notice having been given by an "agent," who may or may not have had adequate authority to act. A full month's notice was necessary under the circumstances. If a false accusation can be proved, you can sue for defamation. Consult a solicitor.

Pelargonium Sport: *J. P.* The sport, with green and white foliage, and pure white flowers, is very pretty, and from the description you give of the plant's habit, the variety would appear to be well worth preserving. To ascertain if a similar one is already in commerce, communicate with some firm which makes a spécialité of Pelargoniums.

Tennis Court on a Slope: *S. E.* Having determined on the site for the court, make a commencement by cutting a level drift from a spot about 15 yards down the slope, and push this drift into the slope until you reach the upper limit of the space to be excavated, or a little more. This drift will afford a guide in removing the soil from the higher part of the site to the lower, as levels can be taken from it to the right and left. The removed soil must be firmly trampled as the work of raising the level of the land proceeds; but we do not think that any ramming is required, as that would be liable, if the soil is heavy, to make it impervious to water, with the result that it would be a long time in drying and becoming fit to play upon after rain. In fact, it would be advisable to lay down three rows of pipe-drains 3 feet, letting these run in the direction of the slope, and empty themselves on to the turf some few yards down the slope. The sides and ends will have to be made as long sloping banks, merging gradually into the surrounding grass land. Your spirit-level and a builder's "straight-edge" 12 feet long are all the levelling instruments required; although some stout wooden pegs driven into the ground after duly levelling from one to the other will assist in obtaining a true dead level. A coating of good mould should be spread on the surface before laying the turf. To accommodate the court and the players, a lesser length than 30 yards by 15 yards will not do.

Tree Seeds (American): *Enquirer.* Mr. J. H. H. Boyd Cagle, Tenn., U.S.A., supplies these wholesale.

White Carnation: *H. H.* A good double flower, but the splitting of the calyx is a serious fault, although a common one. Like that of most seedlings, the constitution is, as you remark, very strong, so that the variety will, for some years to come, not be so liable as older Carnations are to fall a prey to fungus diseases.

Words ending in "i" and in "ii": *Enquirer.* In practice this is pretty much a matter of individual preference. If you are a Latin scholar, you will have no difficulty with purely Latin words; but when a word from some other language becomes Latinised, there is room for difference of opinion, and still more for variation in practice. So far as any rule at all can be laid down, we think euphony suggests the following practice:—

Words ending in a consonant have a single "i" in the genitive—thus, Alocasia Sanderi.

Words ending in a vowel have two "ii" in the genitive—thus, Alocasia Backhouseii.

Words ending in an aspirate take the double "ii"—thus, Alocasia Veitchii.

Words ending in a sibilant take the double "ii"—thus, Alocasia Williamsii. But as we have already said it is, except in purely classical words, a case of do as you please!

Communications Received.—Traveller & Co. (no letters enclosed). W. G. S.—H. M.—P. C. M. V.—W. B. H.—W. C.—H. M. W.—E. J. L. G. H.—A. J. M.—W. C.—T. F. D. J. P.—A. C. F. A. P.—Pampas Grass.—B. R. & Co.—E. H.—Sir Chas. Strickland.—R. T. J. W. A. C.—W. C.—A. G. B.—W. Henderson.—J. B.—J. H. J. E.—J. Edlin—H. Weir.—R. D.—J. D.—W. B. H.—E. B.—H. M.—A. D.—E. C.—W. L.—J. C.—T. C.—J. B.—H. J. V.—E. H. A.—J. Henderson.—F. F. G.—J. Cater & Co.

Photographs, Specimens, &c., Received with Thanks.—A. H.—J. P. G. H. A. D. W. (many thanks).

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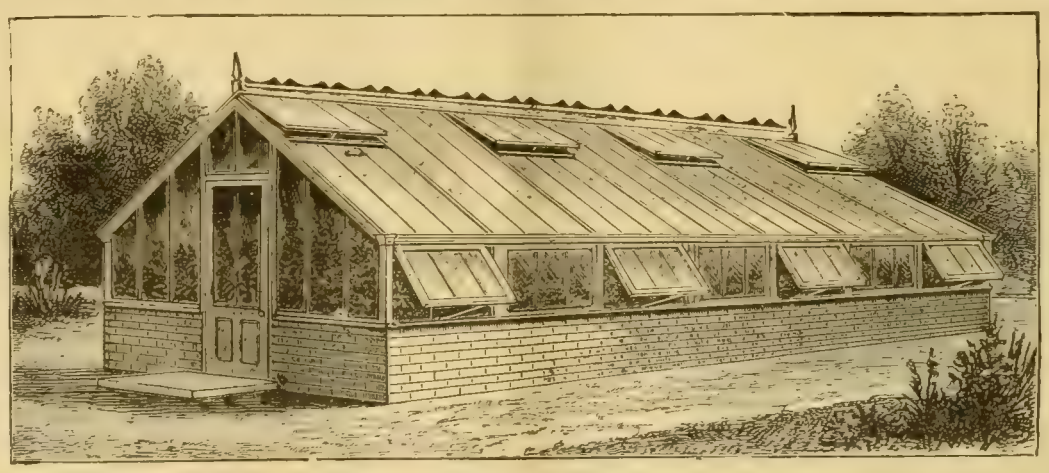
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XL ALL PERFECTLY SOLUBLE MANURE.

FOR TOP DRESSING or APPLYING IN SOLUTION.

Where there is a Heavy Crop of Fruit or Flowers to finish off—Use this!

TO OBTAIN A QUICK and BENEFICIAL RESULT.

In 1*s*, 2*s.* 6*d.*, 5*s.*, and 10*s.* tins. The small quantity necessary will make it a cheap manure.

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NEW CUTTING
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ORCHID PEAT.
Also PEATS for
STOVE AND GREENHOUSE PLANTS,
Selected Large Square Turves, full of Bright Brown Bracken Fibre.
And all other qualities of the
PURE BROWN BRACKEN FIBRE.

RHODO. PEAT, to clear ground, 15*s.* per ton, F.O.R.
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TO THE PUBLISHER,
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LONDON, W.C.

_____ 1896.

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G. C.
Oct. 17, 1896.

THE GARDENERS' CHRONICLE

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10	„ ..	0	6	0	21	„ ..	0	11	6
11	„ ..	0	6	6	22	„ ..	0	12	0
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All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months. Post-office Orders to be made payable at the Post-office, Great Queen Street, London, W.C., to H. G. COVE.

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STOCK SIZES—in inches.

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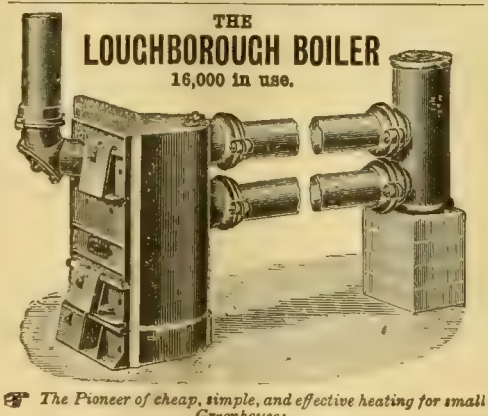
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English Glass, cut to buyer's sizes at lowest prices, *delivered free and sound* in the country in quantity.

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Stock Lists and Prices on application. Please quote *Gard. Chron*

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16,000 in use.

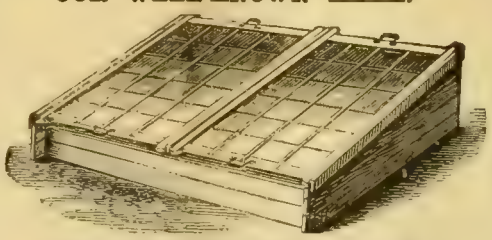


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Owing to improved facilities for the manufacture of these Boilers, and a consequent cheapening in the cost of production, we are enabled to reduce the prices as follows:—
No. 1, £2 12s.; No. 2, £3 15s.; No. 3, £5; also larger sizes.
Complete Apparatus from £4 8s. Lists and Estimates on application.
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OUR WELL-KNOWN MAKE.



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These Frames are made of the Best Materials, and can be put together and taken apart in a few minutes by any one.

Sizes and Prices, Glazed and Painted.		£	s.	d.
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4 „ 16 ft. by 6 ft...	CARRIAGE	5	5	0
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Larger sizes at proportionate prices.

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Genuine Scotch TWEEDS.

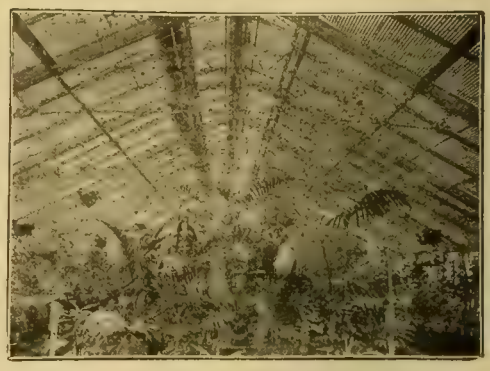
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DARLINGTON.

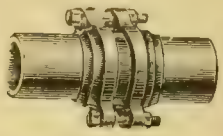
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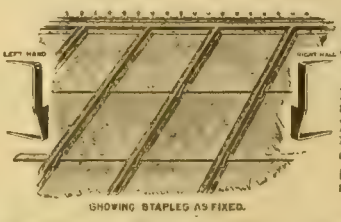
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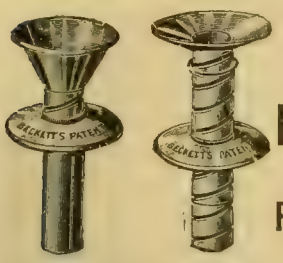
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USE Thorpe's Patent Glazing Staples.



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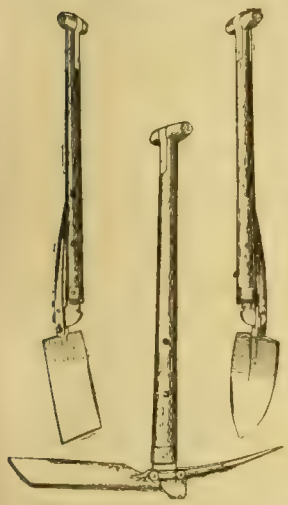
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To be had of all Seedsmen and Nurserymen.
LIST FREE on application to
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COMBINED PICK AND SHOVEL
SYNDICATE (Limited).



Patented in seventeen different countries.

These tools are now being made in all shapes, sizes, and weights, suitable for Gardening, Sporting, and all purposes where the Pick, Shovel, or Hoe is required.

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Consumers should Buy Direct from the Owner of these Celebrated and Extensive Pits, which contain a practically inexhaustible supply of Splendid Sand, and thus *save half the ordinary cost.*
Apply direct to the Proprietor for Samples and Price free on Rail or Canal. *All Orders executed with the utmost promptness and under personal supervision.* Special Railway Rates in force to all parts. All kinds of PEAT supplied at lowest possible prices. Sample Bag sent on application to
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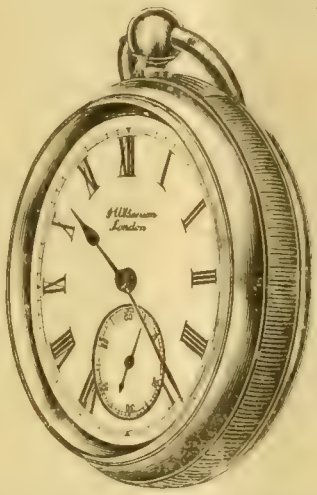
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"LUDGATE" WATCH
BEATS ALL OTHERS FOR
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6 PENCE WILL BUY A BOTTLE WHICH WILL MAKE
60 GLASSES IN 6 MINUTES
OF DELICIOUS,
Non-Alcoholic Wine
FOR CHILDREN'S PARTIES.
Sample Bottle, Post Free for 9 stamps.
In all Fruit Flavours.
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NEWBALL & MASON, NOTTINGHAM.
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EPPS'S A1 PEAT
(SELECTED specially for ORCHIDS),
Also for Stove & Greenhouse Plants, Hardwood Ferns and Rhododendron do. (Trade supplied).
LOAM, SAND, LEAF MOULD, C. N. FIBRE, CHARCOAL, SPHAGNUM MOSS, &c. PEAT sent to all parts of the world at Special Through Rates. Large or small quantities.
EPPS & CO., F.R.H.S., Peat Depôt, Ringwood.

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(Trade supplied on best terms).
A large stock of the finest quality ORCHID PEAT. Also for Stove and Greenhouse Plants, Ferns, Rhododendrons, &c. By the sack, cubic yard, ton, or truck-load. Can be seen in bulk at London Wharf. Immediate despatch either from London or Grounds. By Rail or Steamer. Prompt and Special Quotations for delivery to any Station or Port.
G. H. RICHARDS, Old Shot Tower Wharf, Lambeth, London, S.E.; Peat Grounds and Depôts, Ringwood, Hamworthy, and Wareham. Address all letters to London Wharf.

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BROWN FIBROUS PEAT, 3s. 3d. per bag; 10s. per cubic yard.
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The most complete and exhaustive Treatise on Grapes and their Culture ever published.
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ACCIDENTS OF ALL KINDS
INSURED AGAINST BY THE
RAILWAY PASSENGERS' ASSURANCE CO.,
64, CORNHILL, LONDON.
A. VIAN, *Secretary.*

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Mr. T. E. SLATER, late Head Gardener at the Observatory, Crowborough, as Gardener and Bailiff to W. C. ALEXANDER, Esq., Heathfield Park, Heathfield, Sussex.

Mr. R. J. HAMILL, until recently General Foreman at The Nurseries, Fiveoaks, Jersey, as Head Gardener to F. S. ROBERTS, Esq., Beauvior, St. Saviour's, Jersey.

Mr. WILLIAM CHANDLER, late General Foreman at Sudbourn Hall, Wickham Market, as Head Gardener to DANIEL FORD GODDARD, Esq., M.P., Oak Hill, Ipswich.

Mr JOHN CAMPBELL, until recently Head Gardener at Dromartin House, Dundrum, co. Dublin, as Head Gardener to W. DARLEY, Esq., Violet Hill, Bray, Wicklow.

Mr. WILLIAM T. STREET, for the past three years Head Gardener at Ormesby Hall, Gt. Yarmouth, as Head Gardener to MAXWELL C. INGLIS, Esq., Glenfarne Hall, Enniskillen, co. Leitrim.

Mr. JOHN HARRIS, as Head Gardener to F. J. HARRISON, Esq, Maer, Newcastle, Staffordshire.

Mr. CHARLES HERBERT, of Frensham Place Gardens, Farnham, as Gardener to General HALT NOBLE, Ridgeley Oak, Reigate.

Mr. THOS. THOMAS, for the last seven years Foreman at Redleaf, Penshurst, has been appointed Gardener to F. E. COLMAN, Esq., Nork Park, Epsom Downs.

Mr. ALBERT CHANDLER, recently Foreman at Woburn Abbey Gardens, as Gardener to A. JAMES, Esq., at Coton House, Rugby.

Mr. THOMAS NELSON, for the last seven and a half years Head Gardener at Bowood Park, Calne, Wilts, as Gardener to the Marquis of LANSDOWNE, Tullyallan Castle, Kincardine-on-Forth, Perthshire.

Mr. E. CROOK, formerly Foreman in the Gardens, Wynnstay, Ruabon, as Gardener to Col. FRANK AINSWORTH, Lostock Dene, Bolton, Lancashire.

Mr. ARTHUR BILLINGTON, for the last five and a half years Foreman at Bowood Park, as Head Gardener to General Sir RICHARD WILBRAHAM, Rode Hall, Scholar Green, Cheshire.

Mr. G. GREEN as Gardener to the Misses PERRY, The Larches, Hillingdon.

Mr. G. GILL, until recently Foreman in the gardens at Coton House, Rugby, as Head Gardener to J. S. BERGHEIM, Esq., Belsize Court, Hampstead, N.W.

Mr. W. GREEN, Gardener to Mrs. HYDERMAN, Grove Hall, Twyford, Berks, as Gardener to the same lady at Stanlake Park, Twyford, Berks.

Mr. GEO. WICKS, for the past five and a half years Foreman at The Glade, Englefield Green, as Gardener to GEORGE CAMPBELL GIFFARD, Esq., Bulkeley House, Englefield Green, Staines, Surrey.

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DICKSONS & CO., 1 Waterloo Place, Edinburgh.—(1) Roses, Carnations, Pinks, Violas, &c.; (2) Fruit Trees.

J. M. THORBURN & Co., 15, John Street, New York, U.S.A. Wholesale List of American Seeds.

ELLWANGER & BARRY, Mount Hope Nursery, Rochester, N.Y.—Fruit and Ornamental Trees, Herbaceous Plants, Roses, &c.

WM. PAUL & SONS, Waltham Cross, Herts—Roses.

GEO. COOLING & SONS, Bath—Roses, Fruit Trees, Ornamental Trees and Shrubs.

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EXAMINATIONS IN GARDENING.

"Coaching" by Correspondence arranged for intending Candidates unaccustomed to write papers. Fees moderate, to suit Practical Gardeners.

COLVILE BROWNE, F.R.H.S., Hextable, Kent.

City of Liverpool.

The Right Honourable Frederick Arthur, EARL of DERBY G.C.B., Lord Mayor.

CURATOR—BOTANIC GARDENS.

THE COUNCIL of the CITY of LIVERPOOL require the services of a CURATOR for the BOTANIC GARDENS, who will also be required to act as Deputy Superintendent of all the Parks and Gardens in the City, and may be required to give Lectures on Botanical subjects.

Salary, £150 per annum, with House, Coal, and Gas, subject to a deduction of £3 per cent. per annum to the Corporation Superannuation Fund, and to a condition that the Candidate appointed will effect an Insurance on his Life (if not already insured) to an amount equal to 2 per cent. of his Salary.

Applications, stating age, and previous engagements, accompanied by copies of not more than three Testimonials, endorsed "Curator, Botanic Gardens," must be sent to the Town Clerk not later than Ten o'Clock on the 31st day of October, 1896.

By Order—HARCOURT E. CLARE, Town Clerk.

Municipal Offices, Liverpool, October, 1896.

Manchester Royal Botanical Gardens.

THE COUNCIL are desirous of appointing a successor to the late Mr. Findlay as CURATOR and SECRETARY. Applicants must have a thorough knowledge of Horticulture, be experienced in conducting Horticultural Exhibitions, Musical Entertainments, &c., also a good Correspondent, and capable of keeping accounts. Age 30 to 45. Salary, to commence, £200 per annum, with good House, Coal, and Gas. Applications to be made, with testimonials enclosed, not later than October 26, addressed—

Hon. SECRETARIES, Botanical Gardens, Manchester.

CAN any Gentleman recommend as GARDENER (HEAD WORKING), a thoroughly experienced Married Man, between 35 and 40, without encumbrance? Wife must be experienced Laundress.—Those with first-rate characters can apply to F. O., St. Bernards, Caterham, Surrey.

WANTED, at ONCE, a GARDENER (UNDER), young Man, aged 20, used to Kitchen and Lawn-work, to Assist under Glass. Christian, non-smoker preferred.—A. H., 36, Victoria Road, South Norwood.

WANTED, OUTSIDE FOREMAN (Scotch preferred), must be well up in Groundwork, the planting of Trees and Shrubs, and good knowledge of Hardy Plants. Wages 20s. per week with bothy.—Apply, enclosing copies of testimonials, stating age, and position held in previous situations, to ALEX. WRIGHT, The Gardens, Falkland Park, South Norwood Hill, S.E.

WANTED, NURSERY FOREMAN.—One who has had experience in organising Labour, and Growing General Pot-stuff (Palms, Ferns, &c.) for Market and Wholesale Trade. Character must bear strictest investigation as to ability, honestry, sobriety, and punctuality. Only those having had good experience in similar capacity need make application, by letter only, stating previous experience and wages required. Age between 35 and 40. Married. House found.—G. BETHELL, The Nurseries, Hillingdon Heath, near Uxbridge, Middlesex.

WANTED, FERN GROWER, must be experienced and well-up in work of Fern Growing; quick at Potting, &c.; first-class references required. Apply, with full particulars, to—W. T., Vineyard Nursery, Shooter's Hill.

WANTED, GROWER.—Market leading hand, must be a reliable man, quick at Potting, Tying, Watering, &c. Apply, stating experience.—R. E. W., 41, Wellington Street, Strand, W.C.

WANTED, a practical MAN, well-up in Seed-Growing, Farm, Vegetable, Flower, and Herbaceous Plants, accustomed to Staging, with some knowledge of Glass.—Apply, stating references, wages, and experience, to FRED. SMITH AND CO., Seed Growers, &c., Woodbridge, Suffolk.

WANTED, a JOURNEYMAN, for the Houses, General Plants; to take turn at Fires and Sundays. No bothy.—Apply to JOHN GEE, Victoria Nurseries, Banbury Road, Oxford.

TO FLORISTS and GARDENERS.—WANTED, a young MAN, to Assist in the Preparation and Mounting of Artificial Plants. Every encouragement given to the right man.—Apply by letter, stating wages required, age, and references.—Write to P. Q. 46, Messrs. Deacon's, Leadenhall Street, E.C.

To Fruit Growers and Market Gardeners.

WANTED IMMEDIATELY, a young MAN as IMPROVER. Must have a good knowledge of Tomato, Cucumber, Grape, and Chrysanthemum Growing; also of Outside Gardening. Age not to exceed 18. No one need apply whose character will not bear the strictest investigation.—Apply, with references, wages expected, and full particulars, to SECRETARY, Friars Place Estate, Acton, Middlesex.

WANTED, a strong, willing YOUNG MAN, used to digging and planting, for Nursery near Walthamstow. Wages to commence with 15s. per week.—Apply to SMITH, Chingford Hall Nursery, Chingford Rd., Chingford.

WANTED, an intelligent YOUNG MAN, with a good knowledge of Plants, to Assist in Waiting on Customers, and Office Work.—Write, stating experience, age, and wages expected, to W. FROMOW AND SONS, Sutton Court Nurseries, Chiswick, W.

WANTED, Oct. 24, FIRST JOURNEYMAN for the Houses, not under 23 years of age. Must thoroughly understand Chrysanthemums, Vines, Melons, &c., and quick at work (bothy). Address, with all particulars and testimonials—WM. LEWIS, East Sutton Park, Staplehurst, Kent.

WANTED, MAN of good address, well acquainted with Horticultural Trade, to Represent an important House.—Address A. L., 41, Wellington Street, Strand, W.C.

WANTED, SHOPMAN, experienced in Seed Trade and Office-work. State age, experience, and salary required, with board and lodgings provided.—BIRD AND VALLANCE, Nurserymen, Downham, Norfolk.

WANTED, a young MAN as CLERK and BOOK-KEEPER.—Energetic and accurate, with a knowledge of the trade. Apply, stating age, experience, and salary expected, with references, to—W. J. WATSON, Seedsman, Town Hall Buildings, Newcastle-on-Tyne.

WANTED, LADY in FLORIST'S.—Must have excellent skill and taste in Mounting, and pleasant manners with customers. Good wages.—Apply, ARABIN, Belmont Nurseries, Portswood, Southampton.

WANTED, LADY FLORIST.—Must be thoroughly proficient in all branches—Posies, Wreaths, Crosses, Sprays, &c. State salary required, age, references.—Send Photo to D., *Gardeners' Chronicle* Office, 41, Wellington Street, Covent Garden, W.C.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

Advertisers are cautioned against having Letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—

F. SANDER AND CO., St. Albans.

THOMAS BUTCHER can recommend several HEAD and UNDER GARDENERS of first-rate character and proved ability. Gentlemen seeking such may have particulars free.—Apply to THOMAS BUTCHER, Seed Merchant and Nurseryman, Croydon.

Head and Under Gardeners, Farm Bailiffs, &c.

JOHN LAING AND SONS, Forest Hill Nurseries, London, S.E., are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. Full particulars on application. No fees charged. — Telegraphic address, "CALADIUM, LONDON." National Telephone, 9680.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries, Worcester.

Gardeners, Farm-Bailiffs, Foresters, &c.

DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. All particulars on application.

Telegraphic and Postal Address—"DICKSONS, CHESTER."

B. S. WILLIAMS AND SON beg to intimate that they have at present in their Nursery and upon their Register some excellent Men, competent either to fill the situation of HEAD GARDENER, BAILIFF, FOREMAN, or JOURNEYMAN. Ladies and Gentlemen requiring any of the above will please send full particulars, when the best selections for the different capacities will be made.—Victoria and Paradise Nurseries, Upper Holloway, N.

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GARDENER (HEAD).—CHAS. HORN, age 31, seeks situation as above; over three and a half years General Foreman at Temple House Gardens, previously four years at Spye Park, Wilts. Excellent testimonials.—G. GROVES, Head Gardener, Temple House Gardens, Great Marlow, Bucks.

GARDENER (HEAD).—Mr. SMITH, Head Gardener to the Earl of Rosebery, Mentmore, Bucks, can strongly recommend his Foreman, J. Weston, as a thoroughly practical and trustworthy man; sixteen years' experience in all branches, including three and a half years at Mentmore, also at Hatfield House, Childwickbury, and Latimer.

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GARDENER (Head).—Beresford V. Melville, Esq., M.P., Ford Manor, Lingfield, Surrey, would be pleased to recommend J. Pitts, at present Foreman here, to any Lady or Gentleman in want of a Gardener; thoroughly efficient and trustworthy.

GARDENER (Head).—Sir John Ramsden can recommend an experienced Man as above; thoroughly trustworthy; ten years in last situation. Age 38, married, one child.—H. TEMPLE, Sprigging's Nursery, St. Albans.

SHOULD any Lady or Gentleman require a first-class HEAD GARDENER, Geo. Drabble, Ketton Hall Gardens, Stamford, would have pleasure in supplying particulars of a thoroughly reliable, energetic man.

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GARDENER (Head); age 36, married, no family.—J. Ness, late Gardener at Overstone Park, Northampton, is open to engage with any Lady or Gentleman requiring the services of a first-class man. Twenty-years' experience in Flowers, Fruit, and Vegetables.] Four years in last situation.—Cresswell, Morpeth.

SHOULD any Lady or Gentleman require a first class HEAD GARDENER, James Cocker, Chesters Gardens, Humshaugh, North Tyne, will have pleasure in supplying particulars of a thorough practical, energetic man.

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GARDENER (Head Working).—Age 36, one child; thoroughly experienced, Vines, Peaches, Melons, Cucumbers, Tomatos, Stove and Greenhouse Plants, Orchids, Flower and Kitchen Garden, &c. Excellent testimonials.—M. FIELD, 32, Southwood Lane, Highgate, N.

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GARDENER (Head Working, or good Single-handed).—No family; experienced in Kitchen and Flower-garden, Greenhouse, &c.; good references.—D., Clifton Down Farm, Trusslor's Hill, Albourne, Hassocks, Surrey.

GARDENER (Head Working).—Age 32; married; large experience in Fruits, Chrysanthemums, &c.; thoroughly efficient in all departments. Four and a half years in present situation as Foreman. Excellent testimonials and references.—GARDENER, Regent's Lodge, 8, Berrylande Road, Surbiton, Surrey.

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GARDENER (Single-handed).—Age 26, single; experienced in Fruit, Vines, Cucumbers, Tomatos, &c. Seven years in present situation. Personal reference.—H., care of Chamberlain, Orpington, Kent.

GARDENER (good Single-handed), or otherwise.—Age 25; twelve years' experience in first-class gardens. Total abstainer. Excellent characters.—S., 19, Lordship Road, Stoke Newington, N.

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GARDENER (Second, or otherwise), where three or four are kept.—Well up in Tomatos, Melons, Vines, Cucumbers, Herbaceous Plants, &c. Over three years' excellent references.—E. LAWRENCE, 32, Hawley Road, Kentish Town, N.W.

GARDENER (Under), seeks situation, Inside and Out.—Age 24; good Scythesman.—J. BERRITY, The Gardens, Formosa, Cookham.

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GARDENER (Under).—Age 25; eight years' experience. Inside and Out. Good references.—W. F., Woodham Mortimer, Maldon, Essex.

GARDENER (Under).—Young man, abstainer and of good character, seeks situation.—W. F., 2, Sherwood Villas, Roxeth, Harrow, Middlesex.

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JOURNEYMAN.—Age 23. Mr. F. Stubbs, Norman Court Gardens, Salisbury, wishes to recommend R. Rowson. Sound practical knowledge of all branches. First-class testimonials previous and present.

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Printed for the Proprietors by Messrs. BRADBURY, AGNEW, & Co. (Limited), Lombard Street, Precinct of Whitefriars, City of London, in the County of Middlesex, and published by HARRY GILLARD COVE, at the Office, 41, Wellington Street, Parish of St. Paul's, Covent Garden, in the said County.—SATURDAY, October 1 1896. Agent for Manchester—JOHN HEYWOOD.

The Gardeners' Chronicle

ESTABLISHED 1841. No. 2913.

No. 513.—Vol. XX. { Third Series. } SATURDAY, OCTOBER 24, 1896. { Regt. as a Newspaper. } PRICE 3d. POST-FREE, 3½d.

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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

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New Catalogue. Free.
LILIES, CALOCHORTI, BRODIÆA.—These beautiful bulbous plants specially described, also many other varieties. Over fifty awards during the last two years for novelties and collections of hardy flowers.
R. WALLACE AND CO., Kilfield Gardens, Colchester.

CARNATIONS.—JAMES DOUGLAS begs to announce that his CATALOGUE for Autumn, 1896, and Spring, 1897, is now ready. It contains descriptions of the New Border and New Malmaison Carnations, with Cultural Directions. SEEDLING CARNATIONS, best strains, 3s. 6d per dozen; 25s. per 100. Best CARNATION SEED, 1s. 6d. and 2s. 6d. per packet. Catalogue post-free.
Edenside, Great Bookham, Surrey.

TO THE TRADE.—Well-grown DWARF and STANDARD ROSES from first-class Continental Grower. Novelties and leading varieties supplied. Special quotations for large quantities.
Cross of Honour, World's Exhibition, Amsterdam, 1895.
D. KEUCHENIUS, Hoogeveen, Holland.
English Catalogues and prices free on application to agent—
J. B. REYNOLDS, Beaminster, Dorset.

BATH'S CARNATIONS.—My NEW CATALOGUE for 1896, with Cultural Notes, is now ready, Post Free on application. My collection of Carnations and Picotees is one of the largest and best in the kingdom, and contains all the choicest new varieties. Orders should be booked at once to avoid disappointment.
R. H. BATH, Wisbech.

LORD PENZANCE NEW HYBRID SWEET BRIARS.—The complete set of 16 distinct varieties, as sent out in 1894-5, for 25s. Strong plants that will flower freely next year. These lovely Hybrids are a great addition to Garden Roses. Our new Rose Catalogue, describing all the best old-fashioned and Garden Roses, gratis and post-free.
GEO. COOLING AND SONS, The Nurseries, Bath.

TULIPS.—TULIPS.—TULIPS.
LATE and RARE SINGLE GARDEN SORTS.
Some very rare and scarce.
Write,—HARTLAND, Seedsman, Cork, Ireland.

NOW is the TIME to PLANT PÆONIES and DELPHINIUMS.
Catalogue of KELWAY AND SON, Langport, Somerset.

WANTED, LILY BULBS, also various Narcissus, for cash. A few Thousand Thorn Quicks for Sale.—GEO. BLIGH, Nurseries, Holme, near Downham.

WANTED.—Big Standard MYRTLES and Lemon-scented VERBENAS.—Sizes and other particulars to WOOD'S PLANT CLUB, Kirkstall, Leeds.

ORCHIDS.—B. S. WILLIAMS & SON have an immense stock of clean, healthy plants at low prices. An inspection invited. Illustrated Catalogue post-free.
Victoria and Paradise Nurseries, Upper Holloway, London, N.

BARR'S SPRING-FLOWERING BULBS.
Barr's Greenhouse Collection of 300 fine Bulbs, 21s.
Barr's Flower-garden Collection of 700 suitable Bulbs, 21s.
Barr's "Amateur" Collection of Daffodils, 3 each of 25 sorts, 21s.
Barr's "Woodland," 400 bulbs in 20 sorts, 21s.
Barr's Bulbs are all of first quality only, and are sent carriage paid, on receipt of remittance. Catalogues free.
BARR & SONS, 12 & 13, King Street, Covent Garden, London.

LANDSCAPE GARDENING.—W. INNES STUCKEY, Landscape Gardener, 46, Dyne Road, Brondesbury, N.W. Thirteen years with Mr. H. E. Milner.

FRUITING PEACH and NECTARINE TREES.—Dwarf, Half-Standard, and Standard-trained Trees, all best varieties, large quantity to select from.
Size and price on application to WILLIAM WHITELEY, The Nurseries, Hillingdon Heath, Uxbridge.

KENT, THE GARDEN OF ENGLAND.—GEORGE BUNYARD & CO., Merchant Nurserymen, Pomologists, &c., beg to say the following Catalogues will be sent post free:—ILLUSTRATED FRUIT AND ROSE LIST, six stamps; General Catalogue OF ROSES, free; GENERAL NURSERY CATALOGUE, free; HERBACEOUS PLANT LIST, free; STRAWBERRY LIST (CULTURAL), free; BORDER CARNATION LIST, free; MARKET GROWERS' FRUIT LIST free.—The Royal Nurseries, Maidstone.

TRY HARDY TREES from Chalk Hills, 400 feet high.
FRUIT TREES.—Largest stock in the county, transplanted, true to name, and free from American Blight.
FOREST & ORNAMENTAL TREES, CONIFERS, ROSES, &c.
New and Rare Hardy Trees and Shrubs, &c.
See Planters Guide and Tree Catalogue (56 pages), post-free.
Rail Carriage paid (up to 65 miles), on Fruit and Rose Trees value £2 and upwards.
EDWIN HILLIER AND SON, Nurserymen, Landscapists, and Contractors, Winchester.

STRAWBERRIES, Strong runners.—Royal Sovereign, 2s. 6d. per 100; Sir Joseph Paxton, 1s. 6d. per 100; Vicomtesse H. de Thury, 1s. 6d. per 100.
RASPBERRY CANES.
Carter's Prolific, 3s. per 100; Semper Fidelis, 3s. per 100; Hornet, 3s. per 100. Special quotations for large quantities.
Carriage paid on orders of £1 value.
JOHN CHIVERS, Histon, Cambridge.

SPECIMEN APPLES for Fruit Rooms and choice selected high-class Dessert Apples, as exhibited at Royal Horticultural Society Show of Hardy Fruits at Crystal Palace. *Vide the Times* and *Standard* of 2nd inst., and *Gardeners' Chronicle* of 3rd inst. Apply for list to—
T. W. STARTUP, West Farleigh, Maidstone.

ASPARAGUS for Forcing.—Five years old, splendid roots, 12s. 6d. per 100; extra fine, 6 years old, 15s. per 100. On rail, cash with order. My Asparagus always makes top price at Covent Garden.
J. J. CLARK, Market Gardener, Goldstone, Brighton.

20,000 CLEMATIS, IVIES, and other Climbers, in pots. All the best kinds of above and many other rare Climbers are described in our New Catalogue, post free.—CLIBRAN'S Nursery, Altrincham; also at Manchester, Bangor, and Llandudno Junction.

MACKENZIE AND MONCUR, Limited, Hothouse Builders and Heating Engineers, Edinburgh, London, and Glasgow. BY SPECIAL APPOINTMENT TO H.R.H. THE PRINCE OF WALES. Plans and Estimates for all kinds of Horticultural Buildings, Pavilions, Summer Houses, and Heating Apparatus, free. Splendid Illustrated CATALOGUE.
London Office: 8, CAMDEN ROAD, N.W.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings. Patentees of the Duplex Upright Tubular Boilers.—King's Road, Chelsea, S.W. Telegraph Address "Hortulanus, London," Telephone, No. 8728.

SALES BY AUCTION.

MONDAY, WEDNESDAY, THURSDAY, AND SATURDAY NEXT.

DUTCH BULBS-DUTCH BULBS

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., as above, at half-past 12 o'Clock precisely each day—

GRAND IMPORTATIONS OF DUTCH BULBS

FROM LEADING GROWERS,

in the finest possible order, and specially lotted to suit both large and small buyers. A large quantity of

FRENCH FORCING BULBS, LILIUMS, &c.

On view mornings of Sale, and Catalogues had.

WEDNESDAY NEXT.

GREAT SALE OF ROSES.

Specimen Latania Borbonica, Kentias, Dracænas, best sorts of AZALEA INDICA, and various Plants from the Continent.

1500 Choice named Standard, Short Standard Half STANDARD, DWARF, and POT ROSES, from celebrated

ENGLISH, GERMAN, and DUTCH GROWERS,

including many well-known and popular sorts, in splendid order.

An Importation of Small Evergreens and Shrubs, LILIUMS, from Holland.

A Collection of **ENGLISH-GROWN PALMS.**

A fine Collection of SPECIAL HYACINTHS, for Glass or Pot Culture, including many of the best sorts, from a trustworthy grower.

DAFFODILS, GLADIOLI, VALLOTAS, SNOWDROPS, IRIS, IXIAS, LILIUM CANDIDUM, rare NARCISSUS.

30,000 FORCING BULBS, from France.

ANEMONE FULGENS, PANCRATIUMS, SPIRÆA JAPONICA, SPIRÆA ASTILBOIDES, DIELYTRA SPECTABILE ROSEA, and—

20,000 Best Berlin LILY OF THE VALLEY CROWNS.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, October 28, at half past 12 o'Clock precisely each day.

On view morning of Sale, and Catalogues had.

THURSDAY, OCTOBER 29.

SPECIAL TRADE SALE OF ORCHIDS.

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY, October 29 at half-past 12 o'Clock precisely, by order of Mr. J. W. Moore, a grand importation of ORCHIDS, comprising—

300 Lots of VANDA CŒRULEA
200 „ CYPRIPEDIUM SPICERIANUM
AND OTHER
IMPORTED & ESTABLISHED ORCHIDS

N.B.—Gentlemen wishing to include Plants in this Sale are requested to send List not later than THURSDAY NEXT.

DUTCH BULBS-DUTCH BULBS

SALES NEARLY EVERY DAY TILL THE END OF DECEMBER.

MR. J. C. STEVENS begs to announce that he has arranged with several of the first Nurserymen in Holland to Continuously Supply his Sales, during the present season, with only really First-class Bulbs, of the best quality.

DUTCH BULBS.

SALES EVERY DAY (Saturdays excepted).

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., EVERY DAY (excepting Saturdays), at 12 o'Clock, large consignments of NAMED HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other BULBS from Holland, received direct for Unreserved Sale, Lotted to suit the Trade and Private Buyers; together with white ROMAN HYACINTHS, paper-white NARCISSUS, SNOWDROPS, special TULIPS, &c.

On view morning of Sale, and Catalogues had.

Maidenhead.

IMPORTANT SALE of choice well-grown Ornamental Specimen SHRUBS and TREES, FRUIT-TREES, &c., by order of Mr. R. Owen.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at The Floral Nurseries, Castle Hill, Maidenhead, On MONDAY NEXT, Oct. 26, at 12 o'Clock, well-grown Ornamental SHRUBS and TREES. 100 Specimen CONIFERS. 5000 SHRUBS and Trees, 4000 FRUIT-TREES, HERBACEOUS PLANTS, GAILLARDIAS, GREENHOUSE PLANTS, &c.

On View. Catalogues on the Premises and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Tottenham, N.

Adjoining the Tottenham Hale Station, G.E.R.

GREAT ANNUAL SALE, by order of Mr. Thomas S. Ware. Three days.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, the Hale Farm Nurseries, Tottenham, N., on TUESDAY NEXT, Oct. 27, and TWO FOLLOWING DAYS, at 11 o'Clock precisely each day, in consequence of the large number of lots.

2,500 ROSES in pots, extra strong.
100,000 CARNATIONS and PICOTEES in pots, the best varieties in cultivation.
TREE CARNATIONS.
50,000 Double and Single Tuberous-rooted BEGONIAS, probably the finest collection in the world.
50 000 CLEMATIS and AMPELOPSIS, and other Climbers.
100,000 SEAKALE and ASPARAGUS. Extra strong Forcing Stuff, a specialty at this nursery.
10,000 HOME-GROWN LILIES.
200,000 Berlin Crowns LILY of the VALLEY.
FORCING PLANTS and BULBS in endless variety.
200,000 HERBACEOUS PLANTS and MISCELLANEOUS BULBS, consisting of a large quantity of NARCISSUS, best Forcing as well as Border varieties.
CHRISTMAS ROSES and other Stock, fully described in Catalogue.

May be viewed any day prior to the Sale. Catalogues may be had on the Premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Hollamby's Nurseries, Groombridge, Tunbridge Wells.

GREAT ANNUAL SALE of young, healthy, and well-grown NURSERY STOCK.

450,000 CONIFERÆ, LAURELS, HARDY CLIMBERS, ROSES, RHODODENDRONS, AZALEAS, LARCH, SCOTCH and SPRUCE FIRS, QUICK, ASH, SPANISH CHESTNUTS, BIRCH, Weymouth and other PINES, HOLLIES, YEWS, ORNAMENTAL and FOREST TREES, and other Stock, in great variety. Also 30 PIGS. By order of the Executors of the late Mr. Edwin Hollamby.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, as above, on THURSDAY and FRIDAY NEXT, Oct. 29 and 30, at 12 o'Clock each day.

May be viewed any day prior to the Sale. Catalogues may be had on the Premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Farnham, Surrey.

About 1 mile from Farnham Railway Station, on the L. & S.-W. Railway.

GREAT SALE of NURSERY STOCK,

By order of Mr. S. Bide.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, The Alma Nurseries, Farnham, on TUESDAY, November 3, and TWO FOLLOWING DAYS at 12 o'Clock each day—

10,000 FRUIT TREES,

comprising Dwarf-trained Peaches, Nectarines, and Apricots; Standard, Pyramid, and Horizontal Apples, Pears, and Plums.

1500 RHODODENDRONS,

2½ to 4 feet, beautifully set with bloom buds.

10,000 STANDARD AND DWARF ROSES, by name, comprising the choicest sorts in cultivation.

200,000 FOREST TREES, splendid stuff, all transplanted.
100 000 strong QUICK.

Thousands of ORNAMENTAL TREES and FLOWERING SHRUBS.

EVERGREEN, CONIFERÆ, and DECIDUOUS SHRUBS in great variety.

May be viewed any day prior to the Sale. Catalogues may be had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, E.C., and Leytonstone, E.

Hanworth, Middlesex.

About 1½ mile from the Feltham Station, L. & S. W. Rly.

VALUABLE FREEHOLD NURSERY FOR SALE, with Possession, by order of Messrs. W. Cooper, Ltd., who are relinquishing this branch of their business. IMPORTANT to FLORISTS, MARKET GROWERS, LAND SPECULATORS, and OTHERS.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at the Mart, Tokenhouse Yard, E.C., on FRIDAY, November 6, at 2 o'Clock, in one or two lots, the valuable FREEHOLD ESTATE, known as COOPER'S NURSERIES, Hanworth, Middlesex, comprising an area of about 64 Acres of Fertile Land, possessing a frontage of 1600 feet to the Main Road, with 52 large Greenhouses, all efficiently heated with about 75,000 feet of Hot-water Piping. Commodious Trade Buildings and Cottage. The Land is particularly adapted for the Growth of Fruit Trees and General Nursery Stock, and possesses also prospective Building Value.

Particulars and Conditions of Sale may be had at the Mart; of Messrs. W. COOPER AND CO., Ltd., 755, Old Kent Road, London, S.E.; of Messrs. DOWSON, AINSLIE AND MARTINEAU, Solicitors, 19, Surrey Street, W.C.; and of the Auctioneers, Estate Agents and Valuers, 67 and 68, Cheapside, E.C.

Cooksbridge, Sussex.

Two Minutes walk from Cooksbridge Station, and two-and-a-half miles from Lewes.

MESSRS. PROTHEROE AND MORRIS will SELL BY AUCTION, on the premises, the Cooksbridge Nursery, Cooksbridge, near Lewes, Sussex, on FRIDAY, Nov. 6, at Half-past Twelve o'Clock, by order of the Executor of the late Mrs. F. WOOLLARD, a quantity of—

VALUABLE and WELL-GROWN NURSERY STOCK.

Consisting of Specimen BORDER SHRUBS and ORNAMENTAL TREES, comprising Pinus, Thujas, Cupressus, Poplars, Horse Chestnuts, &c., 1500 Common and Portugal LAURELS, AUCUBAS and ENGLISH YEWS, good useful stuff; 3000 FRUIT TREES, Standards, Pyramids, and Dwarf-trained; about 3000 ROSES, well-grown Standards. Dwarfs and Climbers, all true to name; CLIMBING IVIES, VIRGINIAN CREEPERS and AMPELOPSIS, and a large quantity of HERBACEOUS PLANTS.

May now be viewed; Catalogues had on the premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

West Farleigh, Kent.

About 1½ miles from Wateringbury and East Farleigh Railway Stations on the S. E. R.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION on the Premises, Parsonage Farm, West Farleigh, Kent, on TUESDAY, November 10, at 12 o'Clock punctually, by order of Mr. T. W. Startup, who is desirous of thinning his plantation, about

1000 CHOICE APPLE TREES,

of the finest bush growth on the English Paradise Stocks, all carefully prepared for transplanting, and in good bearing condition.

Also STANDARD and DWARF PLUMS and DAMSONS. GOOSEBERRY and CURRANT BUSHES, well grown, and including the best market kinds.

May be viewed any day prior to Sale. Catalogues had on the Premises; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

NOTE.—Most of the above Stock was purchased of Messrs. George Bunyard & Company in 1892 and 1893, and has already borne good crops of the finest quality of fruit, specimens of which have taken First and Second prizes at the Royal Horticultural Society and the principal Kent Shows.

Herne Hill, S.E.

PRELIMINARY NOTICE.

UNRESERVED CLEARANCE SALE of the whole of the GREENHOUSE PLANTS, ESTABLISHED ORCHIDS, GARDEN UTENSILS and FLOWER POTS, FARMYARD SUNDRIES, and a capital SUMMER HOUSE.

By order of W. Sopper, Esq., who is leaving the neighbourhood.

MESSRS. PROTHEROE AND MORRIS will SELL the above on the Premises, Eversley, Herne Hill, S.E., on WEDNESDAY, November 4, at half-past 12 o'Clock.

May be viewed. Catalogues on the Premises; and of the Auctioneers, 67 and 68, Cheapside, E.C.

Thursday Next, October 29.

IMPORTANT CONSIGNMENT of 400 CASES of LILIES, received direct from Japan.

61 920 LILIUM LONGIFLORUM
9,740 „ AURATUM
4,080 „ SPECIOSUM ALBUM
20 650 „ „ RUBRUM
1,200 LYCARIS RADIATA

Also, L. HENRYII, L. SPECIOSUM MELPOMENE, L. s. ALBUM KÆTZERII, HEMEROCALLIS AURANTIACA MAJOR, special consignment of rare AMERICAN BULBS. 300 AZALEA MOLLIS, 200 A. INDICA, 50 RHODODENDRONS, and 50 CAMELLIAS, from the Continent. Standard, Half-standard, Dwarf and Climbing ROSES; SWEET BRIARS, HARDY BULBS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on THURSDAY, October 29, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next, October 30.

THE "CEDAR GRANGE" COLLECTION of well-grown, healthy ESTABLISHED ORCHIDS, comprising VANDAS, CATTLEYAS, LÆLIAS, ODONTOGLOSSUMS, DENDROBIUMS, &c.; 300 Lots of ESTABLISHED ORCHIDS from various sources, ORCHIDS in Flower, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, OCTOBER 30th, at Half-past 12 o'clock.

On view morning of Sale, and Catalogues had.

Friday Next—October 30.

MESSRS. PROTHEROE AND MORRIS will include in their ORCHID SALE on FRIDAY NEXT, October 30,

200 LARGE GOLDEN-YELLOW CALLAS,
(RICHARDIA PENTLANDII)

The finest type. Splendid tubers; just ready to grow and Flower.

On view morning of Sale, and Catalogues had.

Friday, November 6.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY, November 6, at half-past 12 o'Clock, a large importation of CATTLEYA MOSSIÆ, just received in splendid condition, ex ss. "Don," many of them in very fine masses, some gigantic, probably the largest ever imported, one having 200 bulbs, another 190 bulbs, and one 115 bulbs, besides a large number with 20, 30, and 40 to 50 bulbs each, and upwards. They are from a new district, which accounts for the remarkable size of the specimens. Among them may be expected white and various other rare varieties.

On view morning of Sale, and Catalogues had.

Important Sale: the "CASTLETON HOUSE" COLLECTION of ORCHIDS,

Including the most Valuable and Rare Varieties, the Property of A. H. Milton, Esq., of Clifton.

MESSRS. ALEXANDER, DANIEL, SELFE, AND CO. will SELL by AUCTION, at the Bank Auction Mart, Corn Street, Bristol, on THURSDAY, October 29, 1896, at 12 o'Clock, the First Portion of this Splendid Collection of ORCHIDS, comprising:—Grand Specimen Plants—Cattleya aurea, C. aurea chrysotoxa, C. aurea marmorata. Fine Specimens and Grand Varieties—Cattleya Mossiæ Wagnerii, C. eldorado Wallisii, C. Skinneri albas, C. Trianæi albas, C. Schroderæ albas. Grand Plants—Cattleya O'Brieniana. Extra Grand Varieties—Cattleya Harrisoniæ (enormous and grand-shaped flowers). Cattleya Mendelii bella, C. Trianæi Dodsonii, C. Trianæi grandiflorum. Grand Plants—Cattleya gigas, C. Gaskelliana, C. crispa, C. labiata, C. Mendelii, C. Mossiæ, C. Trianæi. Lælia purpurata (enormous size flowers). Lælia purpurata alba, L. grandis tenebrosa, L. anceps albas. Splendid Collection of Cypripediums, including C. Chas. Richman, C. Chas. Canham, C. picturatum, C. Calypso Cooksonianum, C. Arthurianum, C. Lathamianum magnificum, C. Morganiæ, C. grande, C. insigne Maulei, &c. Very Fine Plants—Phalænopsis amabilis, P. Schilleriana. Cœlogyne Pandurata, C. Lemoniana, and C. cristata albas. Vanda Sanderiana, V. cœrulea (grand dark large flowers). Lycaste Hetti, L. Skinneri albas (beautiful forms). The grand lot of Dendrobes include splendid plants of D. nobile nobilius, D. Sanderianum, D. Leechianum, D. Cooksoni, D. Ainsworthi, D. Domini, D. Wallichianum, D. splendidissimum, D. Hildebrandi, &c. Dendrobium Wardianum albas (pure white). Phalænopsis Schroderianum. Grand lot of Odontoglossums, including O. Ruckerianum, O. Andersonianum; grand spotted Hybrids, O. Uro Skinneri, O Halli (fine forms). Grand specimen plant, O. Halli magnificum; O. Halli O. xanthoglossum. Specimen plant, O. triumphans Rossi majus (grand flowers); O. crispum (grand plants), &c., &c.

Catalogues may be obtained of the Auctioneers, Bank Chambers, Corn Street, Bristol (and 34, Old Jewry, London, E.C.).

On view two days prior to Sale.

WANTED TO RENT, 500 to 1000 feet of GLASS, with COTTAGE and LAND. Little or no Stock.—H. S., 41, Wellington Street, Strand, W.C.

TO BE LET, about ¾ of an acre of WATER-CRESS BEDS, together with a piece of GARDEN GROUND. Also THREE CAVES for Mushroom growing. Together or separate. Adjoining station, G. E. Railway.

Apply to J. R. RUSSELL, The Bury, Westwell, Buntingford, Herts.

To Nurserymen and Fruit Growers.

TO LET.—FIVE GREENHOUSES, 7500 ft. superficial, well-heated, with Potting-shed, and half an acre of Garden. Stock about £150. Immediate possession.

GERALD KNIGHT, Westgate House, Sleaford.

CORDON PEARS, APPLES, &c. — Well-spurred Fruiting Trees, 5 to 7 feet.

WILL TAYLER, Hampton, Middlesex.

MALMAISON CARNATIONS, in 4-inch pots, 50s. per 100; Germania, Reynolds Hole, and others, strong layers, 18s. per 100.

J. LITTON, Grosvenor Cottage, Bath.

PEAT.—Excellent Brown and Black Fibrous, for Rhododendrons, American Plants, &c.

Sample bag, 2s. 6d.

F. STREET, Heatherside Nurseries, Camberley.

Extraordinarily Cheap.—Must be Sold at once

200 BUSHELS, PHEASANT-EYE NARCISSUS (dry bulbs), 3s. 9d. per bushel; 10 bushels for 32s. 6d. Fine bulbs, not rubbish.

R. GAYE, Carlton, Lowestoft.

Herbaceous and Alpine Plants.

CUTHBERTSON'S Illustrated and Descriptive CATALOGUE of over 1000 species and varieties post-free.

MICHAEL CUTHBERTSON, The Great Scotch Herbaceous Grower, Rothesay.

Strawberries at Reduced Prices.

GEORGE BUNYARD AND CO. beg to say they are now offering the best sorts, in fine plants, at reduced rates. CATALOGUES free.

Royal Nurseries, Maidstone.

LÆLIA PRÆSTANS, L. ANCEPS, CATTLEYA CRISPA, C. HARRISONIÆ VIOLACEA, to hand in fine order,

2s. 6d., 3s. 6d., and 5s. each.

W. L. LEWIS AND CO., Southgate, London, N.

Important to Mushroom Growers.

CUTHBERT'S SPÉCIALITÉ MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5s.

R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

Contradiction.

SANDER AND CO. do not offer £1000 for a plant of CYPRIPEDIUM FAIRIEANUM; but for a good Importation only. They are, however, willing to give 1000 Guineas for a good plant in flower of CYPRIPEDIUM INSIGNE, with the flower or flowers pure white, and of the normal size.

GIANT BERLIN LILY OF THE VALLEY.

W. ICETON'S well-known GIANT BERLIN LILY OF THE VALLEY.—100 000 Planting Crowns at 12s. 6d. per 1,000, 1 and 2 years; also a few thousand retarded Crowns. Price on application to—

W. ICETON'S, Putney, S.W.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.C. Prompt cash.

KEYNES' ROSES.—Strong and well-rooted. Thoroughly good and reliable. Catalogues gratis.

KEYNES, WILLIAMS AND CO., Rose Growers, Salisbury.

SEAKALE for Forcing and Planting.—Very strong.—For prices apply, stating quantities required, to ASHTON KEYNES, Nursery, Tottenham, Middlesex.

PTERIS TREMULA.—A few thousands of fine bushy stuff for Sale, fit for 48's. Price, 10s. per 100. Packing free.—H. J. AND A. HUGHES, Meltchley Park Nurseries, Birmingham.

SPECIAL OFFER.—Polyanthus, mixed, 5s. per 100; Gold-laced, 6s. per 100; Pansies, best mixed strains, 5s. per 100; Sweet Williams, 5s. per 100; Canterbury Bells, mixed, 5s. per 100; Foxgloves, 5s. per 100. All the above are good strong plants, all transplanted. Free on rail. Cash with order.—P. BOULTON, Beechenlea Nursery, Swanley.

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(Affiliated with the National Society).

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Schedules on application to—

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BRADFORD CHRYSANTHEMUM SOCIETY.—NINTH ANNUAL EXHIBITION, in St. George's Hall, November 13 and 14. £100 and four Silver Cups to be competed for. Entries close November 9.—Schedules, &c., from J. COLLIER, Hon. Sec., 5, Shipley Fields Road, Frizinghall, Bradford.

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THE

Gardeners' Chronicle.

SATURDAY, OCTOBER 24, 1896.

BAD-NAUHEIM.

BAD-NAUHEIM, a small town of 3,000 inhabitants, is so called to distinguish it from Nauheim near Gross-Gerau; it is about one hour by rail north of Frankfort, and a rising watering-place long celebrated for its warm saline springs. It lies at the foot of the last spur of the Taunus mountains called Johannisberg. There is a pleasant walk of about a mile to the summit, on which is a tower, the last remains of an old monastery surrounded by a wood. At a quarter of an hour's distance is the Frauen forest; joining it on the south is the Nauheimer Hoch forest. A drive connects and passes through them. Another walk may be made to the neighbouring village of Schwalheim, where the chalybeate spring rises, affording an exceedingly agreeable effervescing draught. Friedberg, with its picturesquely situated Schloss, where the Grand Duke of Hesse-Darmstadt often resides, is within three-quarters of an hour's walk of Nauheim.

Some quarter of a century ago, Nauheim was, perhaps, more frequented by gamblers than patients; but when the "tables" were suppressed in 1872, it changed its nature, and is now a most important curative place. One advantage of former days remains in the magnificent park of 150 acres, having a profusion of trees of all sorts, and of all ages from sixty years' growth downwards, as fresh ones are continually being planted. They are grouped in fine avenues, or in clusters, or singly. The park is intersected by broad walks, covered with grey, coarse river-sand; so that new and charming views open out at every turn. At one end is a large lake, supplied by the Usa-bach, about one mile round, with wooded islands, and numerous swans and ducks. This affords plenty of boating, fishing, and bathing. The whole of the park is perfectly free to all the world. At the highest part of the park stands the former gambling-house, now called the Kurhaus. The fine large rooms are converted into reading, dining, billiard, and other purposes; while outside is a broad terrace, partly under cover of a glazed roof, for tea, &c., and promenading, while a band plays every afternoon and evening. To support these luxuries every visitor is subjected to a small tax.

As the Kurhaus stands on the elevated terrace, the grassy slopes below are almost the only parts where flowers are cultivated. These deserve much praise. Of course, no one here, or elsewhere, in Germany, ever dreams of walking on the grass, because turf, as on an English-mown lawn, does not exist. They sow

the Grass-seed every year, and the short, erect foliage delights the German eye.

Against the wall of the terrace, and by the sides of the central steps, is a tall bank of a cordate-leaved Polygonum, terminating above with its Spiræa-like feathery inflorescence. Then come massed groups of Cannas, blazing with scarlet and gold, and edged with ordinary garden flowers, as Petunias, Zinnias, Gaillardias, &c. Numerous round and other shaped beds adorn the slopes. Of these there are some interesting features. One is, that of some excellent carpet-bedding; but it is combined with taller herbaceous plants. Thus in one, arising out of low and variously coloured herbage in patterns, are little standard Heliotropes or Lantanas, from 2 to 3 feet in height. In another one the circles are filled with Begonias or an A gave, or groups of Asters, Pelargoniums or Lobelias, &c. This combination of carpeting with herbaceous flowering plants has a very pleasing effect. Of isolated plants, there are clumps of Arundo Donax, Bocconia japonica, about 8 feet high; Musas, Nicotianas, &c. Another peculiar feature is a pair of beds with Coxcombs "reverting," i.e., throwing up tall and semi-fasciate and partially-feathery masses; while other beds contain excessively dwarf Coxcombs massed together. Fuchsia fulgens, Castor-oil plants, and others make small and effective clumps.

Vases are arranged at intervals along the terrace. Each contains an Agave, but its sombreness is relieved by the addition of flowering plants, as Tropæolum peregrinum, Japanese Honeysuckle, Petunias, &c., being grown in the same vase. All the tall pillars supporting the electric lights are similarly ornamented. Indian-corn, variegated Hop and grasses, Tropæolums, Cucurbits, &c., are massed round the base, while the climbers scramble as high as they can up the pillars.

The great feature of Bad-Nauheim is, of course, the saline springs. One called the "Sprudel" shoots up a massive column of water 25 feet or more from the centre of a circular enclosure. This contains a large amount of common salt in solution, besides carbonic acid and other ingredients. Its great value for medicinal baths resides in the action of the strongly effervescing gas on the skin. Smaller springs supply saline medicinal waters. These are drunk between 7 and 8 A.M., while a band plays, the patients walking about among the trees and flower-beds enjoying (?) their draughts.

An ingenious method is adopted to concentrate the salts. As coal is an expensive article in Germany, they have erected gigantic walls of faggots some hundreds of feet long and about 50 feet in height. The brine is conveyed to them by pipes, and then made to turn a wheel so as to pump the water to the top. It then percolates through the faggots, evaporating as it trickles down; the water containing the condensed salt is now collected below. A platform is erected all along the side of this wall of faggots, with covered seats, where patients sit and take "whiffs of the briny," trying to imagine they are seaside breezes!

A remark may be made about the wild flowers of the neighbourhood, as well as along the saline springs elsewhere of this part of Germany, in that the presence of salt has developed quite a quantity of "saline plants." Thus the maritime Plantain, common on our own sea-shores, is most abundant, as well as Spergula maritima, a "maritime" form of Atriplex, &c. They grow by the side of the paths leading to the "saline evaporators," as they may be called. The question arises, how did they get there? For Bad-Nauheim is about 200 miles from the nearest sea-coast. Have they travelled from the shores of Holland, or have they been "evolved" on the spot?

A last word on the floriculture of the locality. This is devoted to Roses, especially for cut blooms. Several villages around are noted for Rose-culture, e.g., Steinfurth, which contains the largest Rose garden in Germany, with some millions of Roses. They are grown as dwarfs, about a foot high only; this renders them easy of management, and very floriferous. *George Henslow.*

FLORISTS' FLOWERS.

EARLY-FLOWERING CHRYSANTHEMUMS.

These flowers have withstood the wind and rain lately far better than anything else in the herbaceous borders, with the exception of the Michaelmas Daisies; but as the Chrysanthemums give a much greater range of colour, they have proved by far the more useful flowers for cutting purposes and garden decoration. The following varieties are the best that I have for flowering up to September 30:—Alice Butcher, bronze; Alexandre Dufour, claret; Arthur Crepy, pale yellow; Lady Fitzwigram, pure white—does not fade like Madame Desgranges; La Vierge, good white; Madame Louis Lionnet, fawn, Japanese; Madame Charvin, crushed strawberry, Japanese; M. Gustave Grunerwald, bright pink, tipped yellow, Japanese; Madame Desgranges, white; Mrs. Hawkins, yellow; Précocité, Japanese, blush with purple and yellow centre—very distinct and pretty; Piercy's Seedling, yellow, shaded with brown; Roberta, deep yellow; Sadington, grey; Vicomtesse d'Avene, reddish-purple, Japanese. The majority will survive an ordinary winter outside if protected with some short litter or coal-ashes; but to make sure of keeping the stock, it is best to have a plant of each kind in a cold frame, and to strike cuttings early in the spring. This plan also ensures a change of position for the plant each year, which is very necessary in order to get good flowers, as the old stools, if allowed to remain, grow taller and weaker the second season, and their flowers are not so good. I have sometimes lifted the plants from the borders just when the flowers commenced opening, and potted them for conservatory use, &c., and have found that they retain their foliage and flowers well if placed in a sheltered position and syringed for a few days; they also make better specimens in this way, than when kept all the time in pots, and there is less labour in watering, &c.; but the colours of the flowers are much brighter if grown and flowered outside entirely. *W. H. Divers, Belvoir Castle Gardens.*

THE ROSARY.

ROSES IN POTS.

Now that our supply of cut Roses from plants in the open has disappeared, it behoves us to look for our winter and early spring supply of blooms to plants in pots. Unless one has a house devoted entirely to Roses, it is not an easy matter to grow them satisfactorily. Although the practice of successful growers has been given in these pages many times already, the present opportune season, and the importance of making a correct start, are reasons for reverting to the subject. He is indeed a clever grower who can succeed in getting a satisfactory crop of blooms from plants that have been improperly treated. Therefore, let us see what condition a pot Rose should be in previous to forcing it. Whether the variety be a vigorous grower of the Maréchal Niel and William Allen Richardson type, or one of more compact growth, such as Catherine Mermet, Niphetos, and Francisca Kruger, it is essential that the plant be well matured. A well-ripened pot plant is seldom so utterly denuded of leaves as the same variety when lifted from the open ground; nor is it necessary it should be.

I would strongly recommend that all Roses intended for future pot culture be purchased in pots in preference to plants from the open nursery rows. In most cases a more bushy plant is obtained, and such plants are invariably more amenable to culture in pots, than are those lifted from the ground. The most suitable varieties are quite as cheaply obtained in this form, and a start can generally be made the same season, which is hardly possible with lifted plants. If they are purchased in 4-inch pots, the plants may be repotted into others, 6 or 7 inches in diameter. The type of Rose I would recommend for this treatment, includes G. Nabonnand, Maman Cochet, Niphetos, The Bride, Madame Lambard, and other free growers which flower from almost every growth. Commence with a ripe though small plant, and little pruning is needed; only cut out the weakest centre growths, and shorten the remainder half-way.

I would also select small pot plants when purchasing those varieties usually grown as climbers; Maréchal Niel, William Allen Richardson, Climbing Perle des Jardins, and similar varieties, unless one can secure these in pots of extra large size, and carrying rods ranging from 5 to 10 feet in length. Small plants of climbers should be grown on for a season before full crops of flower are permitted. We must work upon the same lines as when growing climbers upon our houses: none but sound rods of the previous season being likely to give a profitable crop of blooms, and under correct culture it is possible to get a heavy crop in a short time; also to cut back the plants and thus allow more room for others until such time as the most forward can be stood outside. There are sure to be several plants not doing sufficiently well to pay for house-room after the end of May. This cutting away of wood that has flowered is practically the only pruning necessary for climbing varieties when grown in pots.

Thus far I have only spoken of plants in the first season they are forced. Established plants need more detailed pruning. For example, a Marie Van Houtte, or Niphetos, in a 12-inch pot will be carrying a large bush of wood, much of which will be composed of laterals, which besides being weak, will be crowded towards the centre. The first thing is to remove the whole of such growth, and then prune back the remainder more or less hard, according to its position. It may happen that three or four good pieces of wood are close together. If it is not possible to tie the surplus shoots into a less crowded part of the plant, it will be wiser to sacrifice some of them. At the same time as many blooms as possible are wanted during winter, and therefore do not prune quite so closely as would be done in the open, where quality is the point most considered.

I am taking it for granted that the plants have had the benefit of open air treatment from about the early part of July, and if they were forced last season, such plants will now possess firm and partially dormant wood. The next items to consider are drainage, and re potting or mulching according to requirements. A free outlet for surplus water is most important, but it is often only necessary to pick out a little dirt that may have stopped the holes during the late summer exposure. If the plant was re-potted last season, the removal of the top-soil as far as possible without serious root injury, to be followed by a good mulching, will be sufficient. Before adding the new compost I sprinkle a little dried blood-manure upon the old ball, and then fill in firmly. Care should be taken that the old ball is sufficiently moist not to need much water, or the best-feeding properties of the compost and manure will not only be washed away before the roots can utilise them, but the compost itself will become more or less sodden. Many growers have an objection to re-potting Roses intended for early forcing, but I have found it a great advantage if care be taken not to greatly disturb the roots. A plant that has been growing all the summer will have exhausted the food in any ordinary compost, and the Roses need more or less fresh soil. Even if they are turned out, the loose soil broken off as far as possible, and then replaced in the same pots, I find we get more vigorous growths. Much soil can be removed without disturbing the roots very much, and new roots certainly push out more freely and quickly when a little fresh compost is added.

After pruning and potting, a cool temperature for two or three weeks is an advantage. This allows of the formation of new roots, and the wood and eyes become plump and ready for a start as soon as a

slight rise is made in the temperature. Under more hasty treatment, the wood may become excited before root action, and a week or two later receive a check, which, however slight, is harmful. Early in November is an excellent time to start pot Roses to bloom from January onwards, and the temperature should never exceed 55° to 60° until the flower-buds in the new growth are visible, when a rise of 5° to 10° will be safe, if thought necessary. A steady temperature, absence of draught from ventilation, and due care in watering are essential; but a very little natural rise or fall, according to outside influences, is not harmful. Care in these matters will generally prevent mildew, and blind or flowerless growths. Insects must be combated from the first, but the methods for destroying these are well known, and need not be mentioned here. Weak manure-water sprinkled about upon a bright day, or at any time when the atmosphere may be dry, will help to keep the foliage healthy and clean.

The selection of varieties is of considerable importance, and I would not have these too numerous. Maréchal Niel, Climbing Niphetos, William Allen Richardson, Crimson Rambler, and Climbing Perle des Jardins, are grand when grown upon the long-rod system, and can be flowered with certainty each season. More compact growers are found in the following eighteen, which will afford a good variety of colour and form, Augustine Guinoisseau, Mrs. W. J. Grant, Caroline Testout, Marjorie, Francisca Kruger, Edith Gifford, Madame de Watteville, Maman Cochet, Madame Lambard, Niphetos, Catherine Mermet, The Bride, Madame Eugène Resal, Souvenir de S. A. Prince, Medea, Général Jacqueminot, La France, and Captain Christy. *A. P.*

Orchid Notes and Gleanings.

CATTLEYA × BRYMERIANA = C. SUPERBA × C. ELDORADO.

This novelty is about as large as C. superba, but the influence of C. Eldorado has moulded it into a closer, more beautiful form. The parents have dwarfed pseudo-bulbs, and, as is well known, neither of them shows a disposition to grow freely for any length of time. There are three flowers on a pretty-looking healthy plant. The sepals are lanceolate; the petals are rhomboid, and close well together, and are of a deep rose-tint, a shade intermediate between the rich colour of C. superba, and the paler colour of an ordinary C. Eldorado. The lip is finely and permanently inflated, the purplish-rose of the base of the blade being beautiful, and the paler colour up the tube being clad with distinct yellowish lines. It is a very striking hybrid flower, showing its parentage in its face; and the plant is in excellent condition, as nearly every one of the Cattleyas are in Mr. Statter's famed collection, under the wise management of Mr. Robert Johnson, and are improving with age. For a full description of the earlier life of Stand Hall Cattleyas, see *Gardeners' Chronicle*, October 19, 1895, p. 454, col. c; and p. 455, cols. a, b, c. *J. A.*

Miltonia Clowesii Variety.

A flower of a very singular and pretty variety of Miltonia Clowesii has been sent by H. Cary Batten, Esq., Abbot's Leigh, Bristol, who says of it:—"I bought it at a sale about two years ago, and I suppose it was an imported plant, although it was potted before I bought it. At any rate, it had a very neglected appearance until I took to it; but I see no reason why it should not now go on well, there being several good healthy bulbs in the pot. It has always borne the name 'Miltonia spectabilis,' but now that it has flowered it is proved not to be that species."

The flower had the sepals and petals of a bright Indian-yellow colour, and with but few of the brown blotches which cover the greater part of their surface in ordinary forms. There is a light purple tinge at the base of the segments around the column, and the base of the lip is rose-purple, and its blade white.

Cattleya × Lord Rothschild = C. Gaskelliana × C. aurea.

This is a fine hybrid Cattleya, with flowers as large as those of either of its parents, and an exceedingly



Fig. 86.—Cattleya × Lord Rothschild = C. Gaskelliana × C. aurea. (Greatly Reduced.)

pleasing blending of the colours. It was in flower at M. Wells, Esq.'s collection at Sale two years ago, and last year at Stand Hall, where it now is; and this year it is much superior to what it then was. The plant, which was a small piece, which I saw taken off the original certificated plant at Broomfield, Sale, is now in a teak-basket, and its roots have pushed through the interstices of the basket, and elongated themselves to abnormal dimensions, measuring about 4 feet from the point of junction with the pseudo-bulbs (see fig. 86). The segments of the flower are of the form and size of a large Gaskelliana, and of similar pale rose colour, only having a dash of the aurea marking, which, as orchidists are aware, is more common to the lip, however, than to either the sepals or petals of that species; the upper portion of the labellum is very much inflated, and forms a deep tube, which is adorned at its orifice with an orange blotch, shading off to nankeen, as in C. aurea. It maintains, however, the circular form of its seed-parent, but has the fine shade of purplish-crimson of its pollen-parent. A charming novelty, confirming the justice of the award of the First-class Certificate of the Orchid Committee.

Chemistry of the Strawberry-plant.

In order to ascertain the requirements of the Strawberry crop, and its effects upon the soil, complete analysis of four varieties of Strawberries have been made by Professor F. T. Shutt, M.A., F.I.C., F.C.S., of the Canadian Department of Agriculture. The names of these varieties are Sharpless, Crescent, Wilson, and Manchester, the whole plant, including roots, being examined. The plants were collected while in flower during the month of June, and before the fruit had appeared. They were carefully freed from adhering soil, weighed, and analysed.

The subjoined table gives, in addition to other information, the percentages of water, organic matter, and ash or mineral matter, which together make up the composition of the plant.

Analysis of Strawberry Plants (Whole Plants in Flower, collected June 4).

Name of Variety.	Weight of Plant.	Composition of Plant.		
		Water.	Organic Matter.	Ash.
	Oz.	Per cent.	Per cent.	Per cent.
Sharpless ..	3	72·79	25·15	2·06
Crescent	3½	70·25	27·13	2·62
Wilson . .	2¼	72·80	24·89	2·31
Manchester ...	3½	73·43	24·77	1·80
Average of 4 varieties	3¼	72·32	25·49	2·19

Water.—This, as well known, is a most important constituent to the well-being of all plants, its presence in certain proportions being absolutely essential to plant-life and the performance of the functions of food digestion and assimilation. It is the vehicle by which the assimilated food is conveyed to the various tissues and organs of the plant.

The importance of a plentiful supply of soil-water for the growth of the Strawberry plants and their abundant fructification, cannot be over-estimated, seeing that the plants are made up of 72 per cent. of water, and the fruit of 90 per cent. of water. It may be here remarked that the tilth, cultivation, mulching, and the presence of humus (as furnished by an organic manure), have largely to do with the conservation of soil-moisture in the open garden, or in a plantation of Strawberries.

Organic Matter.—Very little is known as to the precise manner in which the decomposition of carbonic acid is effected within the plant. It is known, indeed, that the decomposition is in some way intimately connected with the green chlorophyl grains to which the colour of the leaves is due; and it is known that light is necessary in order that the decomposition may be brought about; but as all the constituents of organic matter, save nitrogen, are procured from the atmosphere, it is unnecessary here to consider it. Special remarks on the nitrogen contained in the Strawberry-plant will be made when considering the elements removed from the soil.

Ash.—This represents the mineral ingredients taken from the soil by the plant. Its two most essential constituents are potash and phosphoric acid.

The data given in the foregoing table calls for no special comment in detail. There is a great similarity in the composition of the four varieties of Strawberry-plants, the variation from the average being small.

The following interesting table gives the percentages of the important constituents in the ash of the whole Strawberry-plant in flower, collected June 4 :—

Percentages of Important Mineral Constituents in whole Strawberry Plants.

Constituents.	Name of Variety.				Mean.
	Sharpless.	Crescent.	Wilson.	Manchester.	
	Per cent	Per cent	Per cent	Per cent	Per cent
Phosphoric Acid	7·63	5·08	5·80	5·88	6·09
Potash	29·91	24·28	24·31	26·93	26·36
Soda	1·03	0·78	1·26	1·09	1·04
Iron oxide and alumina ...	2·47	2·10	2·47	2·04	2·24
Lime	23·67	29·10	27·82	24·75	26·33
Magnesia .	6·10	5·19	6·11	7·13	6·13
Silica	4·02	7·43	1·60	5·89	4·49

It is here noticeable that no great differences exist between the plants analysed, in regard to the constituents—phosphoric acid, soda, iron oxide, magnesia and silica, beyond what might be accounted for by slight variations in the composition of the soil in which they grew. There is, however, a difference of about 5 per cent. in the constituent potash, between the highest and lowest ; and a difference of about 6 per cent. in the constituent lime, between the highest and lowest amounts. *J. J. Willis, Harpenden.*

(*To be continued.*)

Book Notice.

The Genus Masdevallia. Issued by the Marquess of Lothian. Plates and descriptions by Miss F. H. Woolward. Parts VIII. and IX., with introduction, map, appendix, &c. (Porter, London, 1896. Price £1 10*s.* each.)

We heartily congratulate Miss Woolward on the completion of her work on this quaint and interesting genus of Orchids. We have already referred, in our notices of previous parts, to the beauty, completeness, and botanical accuracy of the coloured drawings, and to the excellence of the descriptions ; we can safely say, in addition, that the work as a whole forms a valuable contribution to Orchid-literature, and will be as highly prized by the botanist as by the horticulturist. Orchids, perhaps, more than any other other group, need illustration. One of Miss Woolward's drawings, with the very complete analysis of the flower which invariably accompanies the sketch of the whole plant, tells us more than the most elaborate description. Unfortunately, the necessary patron of such an *édition de luxe*, is not often to the fore, and the combination of the artistic and scientific capacity required to carry the work through is quite as rare. At the close of the introduction, Miss Woolward modestly suggests that from want of training as an artist and a botanist, she felt hardly qualified for her undertaking. We must leave those who know to criticise the drawings from the artist's point of view ; we are assured that they will comfort the soul of any botanist who has occasion to work at the genus. And the descriptions in their lucidity and completeness will put to shame many a trained systematist.

The two last parts contain drawings and descriptions of the following species, M. auro-purpurea, M. Barlaeana, M. calura, M. campyloglossa, M. cupularis, M. erythrochæte, M. Laucheana, M. Ortgiesiana, M. platyglossa, M. Vespertilio, M. attenuata, M. fulvescens, M. marginella, M. Nycterina, M. pusilla, M. Schroederiana, and M. triglochin. The total number of species figured is eighty-four, and there are besides almost as many which, from their not being in cultivation, Miss Woolward has been unable to include. Most of the drawings are from plants in the Marquess of Lothian's collection at Newbattle ; for others the material was supplied by Mr. F. W. Moore, of the Glasnevin Gardens, Dublin, and by others interested in the genus. A few represent species still unknown in Europe, and have been made from sketches sent from South America, by Señor Rodriguez, of Rio Janeiro, or Consul Lehmann, the German representative in the United States of Colombia.

With the last part is given an outline of an arrangement of the species in sections. There are fifteen of these, most of which were indicated by Professor Reichenbach, though he frequently omitted, when describing a new species, to refer it to any section. Miss Woolward is therefore largely responsible for the arrangement as it stands, and also for a new section, Reichenbachianæ, including M. Reichenbachiana and allies ; and a second, Racemosæ, including M. racemosa and another species not in cultivation, M. Eduardi, which resembles it in habit. Each section is briefly diagnosed, and the names of the species figured follow in alphabetical order ; a list of species not under cultivation is also given. It is suggested that the plates and descriptions should be bound up in the order thus indicated, the sections following alphabetically.

The introduction gives an account of the history and geographical distribution of the genus. Its history is brief, but there is a touch of romance about it. It was founded by the Spanish botanists, Ruiz and Pavon, who discovered a species in the Andes of Peru, towards the close of the last century. The name was a compliment to their fellow-countryman, Josepho Masdevall, court physician and patron of botany. The species, M. uniflora, in spite of the concise indication of its locality, has never since been found, and, so far as we know, is represented only by four dried specimens, two of which are at Madrid, one at Geneva, and the fourth in the British Museum Herbarium. The greater number of the species have been discovered during the last twenty years. Their geographical distribution is very clearly portrayed in the map of Central and South America. This shows at a glance that Masdevallias are largely mountain plants, inhabiting the great American chain, from a latitude of about 20° N., in Mexico, through the central Cordillera of Costa Rica, and the Isthmus of Panama, and southwards along the Andes of Colombia (their chief centre) and Peru, to 16° or 17° S. Their range extends in a north-easterly direction in the mountains of Venezuela, and as far as French Guiana. Nine or ten species have also been discovered on the other side of the continent, in the Organ Mountains of Brazil. An interesting exception to this general distribution is found in M. yauaperyensis, discovered by Señor Rodriguez, far away from the sea-coast, in the low-lying marshy forest near the sources of the river Yauapery, in the interior of Brazil.

Though the majority of the species are mountain-living, the genus has a remarkably wide vertical range. Apart from M. yauaperyensis growing at an altitude of only 195 feet, Consul Lehmann has found them upon the trunks and roots of trees close to the shores of the Pacific Ocean ; on the other hand, the brilliant M. coccinea and its allies abound at 12,000 feet in the mountains of Colombia and Peru, while M. racemosa has its home at 14,500 feet in the Andes of Popayan. In the more elevated regions the plants are terrestrial, growing in the crevices of volcanic rocks, and in the shade of the low shrubs which cover the wind-swept hill-sides. At a lower elevation, in the damp and misty forest region, where, too, they most abound, they are chiefly epiphytic on trunks and branches of trees.

Much has to be learnt about their methods of fertilisation. The considerable variation in the plan of structure of the flower indicates an equally wide variety of method and of insect assistance. But work like this can only be done in the natural habitat of each species ; and it is to be regretted that the observations made by Consul Lehmann were not available for publication. *A. B. Rendle.*

Methods of Propagation,

(*Continued from p. 393.*)

By Seed.—The methods of propagation I have touched upon recently, have hitherto been what may be called artificial in contra-distinction to natural ones. Robert Brown, Darwin, of grateful memory, and other patient observers in still later days, have shown us that the structure of the flower, its colour, its aroma, and other peculiarities, are all arranged with one great important aim in view, the re-production of the plant by means of the seed ; and although we may make use of other means of increasing the number of any given plant, yet the most simple, and at the same time the most perfect, method is to sow the seed. This is so self-evident, that I am quite prepared for a retort, "Every one knows this much." Let me reply in the words of my lamented friend, Peter Henderson of New York, "I believe that one half the complaints that one hears about failure of seed, are due not to the quality or age of the seed, but to improper treatment in sowing. Either the seed is sown too deeply, too shallow, too thickly, or on the other hand the seed-bed is composed of improper materials, or the artificial heat and moisture have been in excess or inadequate." As regards the time to sow, there is no golden rule, although the opening months of spring are doubtless the fittest season. Whatever the explanation, as practical gardeners we know that there is less difficulty in raising seedlings in the spring than at any other time.

The depth must depend greatly on the nature of the soil, but a safe rule is to sow about as deep as the diameter of the seed to be sown, if the sowing is made under glass, and deeper if it is outside ; while some seeds germinate better when merely scattered on the surface and left uncovered, others may be buried to a considerable depth with advantage, while methods must vary for the same seed sown in the open, or under glass, in pots, pans, or boxes. Whether in or out-door sowing is undertaken, the general rule is to make the seed-bed or the soil in the pot or pan firm, but not hard, or "panny," as it is called ; then gently stir the surface, sow the seeds, and cover them to the required depth, or simply make it firm again by gentle pressure, or by treading if it be a bed.

Calceolaria seed, one of the smallest the gardener has to deal with, is best treated thus :—Let your pan or pot have at least one-third of its depth made up of crocks, and on these place some fibry loam or peat, and fill nearly or quite up to the rim with fine friable soil, consisting of loam, leaf-mould, and a small portion of sharp sand ; press this firmly to within half an inch below the rim of pot or pan, and afford water with a fine-rose watering-pot ; stand the pots, &c., aside till the water has drained away and left a workable surface, then sow the seeds evenly and thinly, but do not cover with soil. Now put a piece of clean glass big enough to cover each pot or pan, and place in a cold pit or frame, shading them from the direct rays of the sun, and in a very few days the seedlings will appear. Directly they develop their first pair of true leaves, they may be pricked off into other pans, similarly prepared, shaded for awhile, and kept moderately moist, as too much water will cause them inevitably to fog off. Some recommend a sprinkling of powdered charcoal over the surface of the soil as a preventative, but I fear it will be found quite useless to ward off this most insidious pest if other things are not all right.

Remember the Calceolaria abhors heat, and except when flowering, direct sunlight likewise. One of the most successful growers in the North used to grow his plants from seed to flowering entirely in cold pits, merely protecting with mats and litter in severe frosty weather, and the result was always clean,

dwarf and sturdy plants, that asked for no sticks to support them, and which threw up fine heads of large, well-shaped flowers. The time to sow is the months of July and August, and the best place is a cold frame or pit with north-east aspect. Sowings may be made up to September.

The Cineraria should be treated almost in the same manner, but the seed should be slightly covered with light friable soil, or a pinch of sand, and as soon as large enough, the seedlings should be pricked off into shallow boxes or pans. May and June are good months in which to sow Cineraria seed, but the young plants must be kept as cool as possible. If grown cool, the danger from aphides and thrips will be more easily avoided. The caterpillar of the common white butterfly (Pieris brassicæ) is very fond of young Cineraria leaves, and must be circumvented by careful watching and picking.

RÖNTGEN ILLUSTRATIONS OF FLOWERS.

About the middle of last February, I invited some of my students in the University Extension College, Reading, to assist me in making experiments on Röntgen photography, and a class was formed for this purpose, consisting of Messrs. Herbert, Hooper, Soper, Twiney, West, Yetts, and my colleague Mr. Dodgson. I suggested in the first place that we should photograph similar-sized fragments of all manner of substances, to find out which are transparent to the X-rays, and if possible to ascertain the causes of transparency and opacity. One evening Mr. West brought a number of pieces of red, orange, yellow, green, blue, and violet glass—these were grouped upon a plate and photographed, when to our surprise, the violet glass came out much more opaque than any of the others, not excepting the black. I pointed out that the next step must be to analyze the glass in order to ascertain whether its opacity was due to any chemical contained in it, and also to try it side by side with other violet substances, to see if the effect was connected with the colour. The analysis was entrusted to Mr. Twiney, who found cobalt and alumina in addition to the ordinary constituents of glass.

Meanwhile, Mr. West had the idea that a flower such as the Hyacinth, while of the same colour as the glass, would be entirely different from it in composition; and accordingly in our next experiment he placed a deep violet-coloured Hyacinth by the side of the coloured glasses. On developing the photograph, the flower was distinctly seen, and I found on examining it with a lens, that not only the outline of the petals, but the veins and the internal structure of the ovary could be traced. Since that time, Mr. West, to whom the original idea is due, has followed up this branch of the subject in conjunction with myself, and we have taken a large number of photographs of plants, flowers, and fruits. It is not every focus-tube that will photograph a flower, those that show the bones of the human body best are quite useless for this purpose; the Röntgen-rays emitted by them go right through every part of a flower, just as they go through solid flesh. It is only the feebler rays from tubes barely capable of showing the bones of a child's hand, that can reveal the internal tissues of a plant.

It may be asked, what parts of a leaf or flower are shown in these Röntgen photographs? The answer is, tissues containing air are more transparent, and those containing much water are more opaque to this kind of X-rays. Hence, any portion of a leaf, such as a vein thicker than the rest, will come out more strongly in the photograph. By carefully regulating the exposure, Mr. West and I succeeded in photographing the veins on the petals of a purple Clematis. But colour apparently has very little to do with it, for we succeeded equally well with pure white flowers. Hollow stems, and the mature pith of most plants come out very distinctly by virtue of the air in them.

Seed-vessels especially make very pretty objects, the seeds appearing as if enclosed in an almost perfectly transparent envelope, as for example in the Hyacinth, fig. 87, and the Columbine. Most flower-buds photograph well, but the details are as a rule too minute for reproduction. Thus, in a Daisy-bud, the partially-developed petals, and the crowd of florets on the disc, and also the softer central tissues of the receptacle, can be made out with a lens. If



Fig. 87.—[illegible] THE INTERIOR.

only one could photograph these tissues on a magnified scale, I believe the outline of every cell would be seen, as is the case with some of the larger vessels in certain kinds of wood. But magnification is at present impossible in photographing with Rontgen rays.



Fig. 88.—Fuchsia bud; showing the parts of the flower.

The Fuchsia is perhaps the best subject for reproduction, because its internal details are fairly large and simple. It is shown in fig. 88.

The Snowflake, known locally as the Loddon Lily, is another good example. The internal structure of the ovary can be seen, and the ovules distinguished. Some tissues, apart from the water they contain, seem to be more opaque than others. I have photographed the green berries of the common Laurel, and find that the kernel of the seed and its hard shell can be distinguished even when the entire berry is immersed in water. A young Apple, about the size of a Cherry, showed the core sharply outlined, but very faint. Beech nuts were clearly seen within the green fruit. Horse-Chestnuts, about a week after the fall of the flower, showed very little detail, the young nuts being barely distinguishable from the husk. As the development proceeds, the difference becomes more marked, evidently because the nut grows more solid in texture, and acquires a hard skin, while the husk becomes spongy.

It is noteworthy that a stick of charcoal, photographed by the X-rays, shows the pith, if there is any, and the grain of the wood.

The work done by the other members of the class related mainly to branches of the subject which do not come within the scope of an article in the *Gardeners' Chronicle*. I may, however, mention that all our subsequent experiments confirm the views which I first expressed in a public demonstration of Röntgen-photography on March 18, that just as we have light of different colours, so also there are Röntgen-rays of different kinds; and just as blue light will pass through the lens of a camera, but is stopped by ruby glass, while red light is transmitted by both, so also the Röntgen-rays by which plants can be photographed, will not easily pass through water or aluminium, although both water and aluminium are very transparent to the kind of Röntgen-rays used for photographing the bones of the human body. But we cannot decide as yet which sort of Röntgen-ray should be compared to the red, and which to to the blue of ordinary light. This autumn I propose continuing the experiments. *George J. Burch, M.A., 21, Norham Road, Oxford.* [Other illustrations were kindly forwarded, but they cannot be successfully reproduced. Ed.]

ROUGHAM HALL, SUFFOLK.

The beautiful seat of E. J. Johnstone, Esq., has long formed a striking and picturesque object on the highway between Bury St. Edmund's and Stowmarket, about four miles from Bury. For several generations Rougham was famous for the family of Bennets, its peat, and its Rhododendrons. The house near to common and heath, was built by one of the Philip Bennets, who succeeded each other here through several generations. The Drurys, a well-known Suffolk family, held this estate before the Bennets, and probably some of the fine timber that still enriches the estate belongs to that early period. Be that as it may, with the advent of the present proprietor great improvements have been effected, alike inside and out, and the mansion and gardens are being furnished and adorned with every modern appliance and convenience regardless of expense; the more recent and largest improvements in the gardens and grounds have been carried out under the direction of Mr. George Paul, the well-known rose grower and accomplished landscape gardener of the Old Nurseries, Cheshunt, Hertfordshire.

With the exception of its thriving plantations, the chief arboricultural glory of Rougham, has lain in the extreme beauty and enormous numbers of its Rhododendrons. Here through several generations, the Ponticum section of Rhododendrons have grown like weeds, sub-cropping the fine plantations that spreads far and wide from the Hall in the direction of the Rougham station on the Great Eastern line, and lighting up the heath with a glow of colour that delights the eyes of so many travellers in the Rhododendron season.

But special sites for American plants are, as some gardeners rather too strongly express it, seldom good for much else, and hence it was found that the grounds around Rougham Hall (a light sandy peat), was by no means favourable to the growth of Roses and other trees and shrubs, though the district round is emphatically a Rose centre. Hence the bold resolution to give the new rosary near the Hall a favourable start on new soil, and thousands of cart-

loads were removed from the heath to lay a sure and solid foundation of permanent success among the Roses, and other shrubs, trees, and plants around the Hall. For such permanent and lasting improvements, it is just as needful to make proper provision as to lay the foundations of a mansion solidly and well.

In dealing with such demesnes as Rougham, it is of importance to bear in mind that landscapes can be cut out as well as planted. The whole of the large wood proceeding from the Hall across the heath to the station is a happy hunting-ground for objects of beauty and interest for the garden. In not a few cases it was found impossible to see the fine timber for trees, and even the glorious masses of the Rhododendrons, spreading far and wide in unbroken phalanx, often shut each other out of sight. One of the first wants of old gardens and pleasure-grounds is space for observation. Vast numbers of fine specimen Oaks, Spruces, Thorns, &c., have thus been evolved out of crowded masses, and set in the new light of attractive landscapes. One of the freshest charms of such landscapes is the spontaneity of their evolution; yesterday it was a mass of verdure or other colour, to-morrow the masses may be moulded into groups, with bewitching glades between. Thus, through evolution, we may get very many more and better effects in our landscapes. Ideas of distance, grandeur, freedom, as well as variety may be cut out as well as planted in. Only a few touches of taste or flashes of genius, and behold revealed on the instant are the beauties of shrub and tree, of wood and walk, of green vistas or far-away church steeple or tower that may have been hidden for many years. We have seen not a few landscapes transformed by bringing in a winding river, the sight of the sea, the glory of the rising and setting sun, clear peeps into the open face of the sky, a mountain summit, or a far-reaching spread of field or forest, or may be of only Buttercups and Daisies.

Rougham has been fortunate in finding a garden-artist in Mr. George Paul, quite as anxious to cut out or show up all the old beauties as to plant the new, and equally well qualified for either. Mr. Johnstone, the proprietor, and his gardener, Mr. Henley, have also thrown themselves with fervour in both directions, and Rougham seems in a fair way of becoming one of the most charming and fairest places in the county of Suffolk, or indeed in the country.

The new rosary is planted with the choicest varieties; and there is also much freshness and variety given to it by the use of considerable variety in form, size, and training, and by surrounding the whole with a Rose hedge. The place was already crowded with thousands and tens of thousands of Rhododendron Ponticum as well as some 400 of the choicest hybrids, and quantities of Kalmias and Azaleas have been planted and edged with hardy Heaths. Quantities of the best shrubs have also been planted, such as Japanese Maples, Magnolias, Pyrus japonica, Syringas, double and single Lilacs, Almonds, Thorns, Weigelas, Laburnums, Cerasus, Deutzias, and many other deciduous shrubs.

For coloured foliage, free use is made of purple Beech, Liquidambar, golden Yews, golden and other Hollies, Elders, Privets, &c., and fine masses of the best varieties of Rhododendron, with borders in front of them for hardy herbaceous and flowering plants; and gardens have been made in other parts for other purposes—as, for instance, the Dell garden for early bulbs; the Alpine garden, hardy Fernery, the Rootery, the idea of which is said to have originated with the proprietor and his gardener, all of which are furnished with the best possible material by Mr. Paul, and are rapidly growing into verdure and beauty.

The flower garden and shrubberies cover somewhere about 15 acres, and the green glades and walks are at once spacious and charming; one that starts from near the fernery is 12 feet wide and 100 yards long, and leads off to the left on to a gravel walk 6 feet wide.

Again, proceeding from the hardy fernery, on the right is a green walk 20 feet wide, running round on to the pleasure-ground, and to the Rose-garden. Other walks and lades proceed in various directions, the object being to provide alluring walks to all the chief points of interest, and also affording a choice of gravel over turf in wet weather. The chief pleasure-grounds lie on rolling ground, the natural levels being mainly preserved. There are some fine views of trees, &c. from the handsome conservatory attached to the mansion, and from this point the mixture of lawn and beauty of flower and shrub have a very remarkable and pleasing effect, while the gravel-walks or green glades allure us to closer fellowship with nature in the woods with their carpet of Rhododendrons. The conservatory was well furnished with Ferns, Palms, Aspidistra, Eucalyptus, Begonias, Pelargoniums, and other flowering-plants.

Great improvements have been made, and many so-called imperishable glasshouses built in the kitchen-garden within the last few years. There is a well walled-in garden of about 3 acres, with the inevitable "slips" beyond. The walls are well furnished with admirably-trained choice fruit-trees, especially of Pears, Peaches, Plums, Cherries, &c. The vegetables were of the finest varieties, and the highest quality. The kitchen-garden is on the opposite side of the public road to the mansion, flower-garden, and pleasure-grounds, and is situated on a much better kind of soil. Splendid Asparagus and other vegetables grow in it. As an index to the character of the climate and soil, it may be said that a fine border of intermediate Stocks that had stood in the open air all the winter without any protection was in bloom at the end of May last, and that I saw here some of the finest heads of Asparagus that I have seen in Britain, and other vegetables as good.

There were several fine vineries of Muscat, Black Hamburgh, Gros Colmar, Lady Downes, and Alicante—the earliest Muscats being grown in pots—and the early Hamburgh in a house. The Alexandra Peach was also ripe in May. Noblesse Peach, and Pine-apple Nectarines were swelling off fine crops. On shelves at the apex of the houses were seen fine samples of Royal Sovereign Strawberries; and Pines, Melons, and Tomatos were noted.

The plant-houses consist of a plant-stove well furnished with fine specimens of exotic Ferns, Palms of choice species, Dracænas, Pandanus Veitchii, Dendrobium nobile, D. Wardianum, &c. The large greenhouse 40 feet long by 20 feet wide, was mainly filled with Carnations, Pelargoniums, and double fimbriated white-blossomed Petunias for cutting. Other smaller houses were furnished with later plants in succession. There were also a fine house of Odontoglossums, and two other Orchid-houses containing a very promising collection. Among the Orchids were some fine Lælias, Cattleyas, Oncidiums, Calanthes, and Cypripediums. The Croton-house contained some finely-coloured specimens of these, and other choice stove-plants. In a word, the utilitarian, as well as the ornamental side of these fine gardens, reflect the highest credit on all concerned in planning and carrying out so successfully the many improvements that have been made. *D. T. Fish.*

VEGETABLES.

GLOBE ARTICHOKES.

In England Globe Artichokes are comparatively little esteemed, perhaps because the edible portion is found to be tough, or not sufficiently fleshy. This leathery state of the bracts is due to faulty cultivation. Artichoke stools are planted in a part of the garden, and there they remain for ten, twelve, and twenty years! Naturally the stools become large, strong, support cold weather much better than young stuff, give a great quantity of flowers, which appear early in the season; but what is the produce like in quality and flavour? For market purposes it is all right. When once the planting is done, the ground reserved to Artichoke culture requires very little labour, and furnishes abundant crops. In private places the gardener does not want large quantities of flowers, a few only, but fine in size, full in flavour, and that is all.

A trial of the following treatment will certainly realise the private gardener's wishes, the results of the trial being always successful. Artichokes like recently-manured and newly-dug soil. In spring the ground should be trenched to a depth of 24 inches (60 centimètres). Between the trenches should be put a good layer of new horse-litter. A stock of Globe Artichokes, of the variety "Gros vert de Laon" (which unfortunately does not reproduce similar plants from seeds), is then planted at the end of April or beginning of May, according to the weather; a distance of 32 inches (80 centimètres) should be observed between each plant. It is necessary to shade for a few days the newly-planted stuff with a painted bell-glass, a flower-pot, or an inclined tile; a cup is made around each plant in order to facilitate the watering, and assure a good start. These young plants as soon as rooted will grow vigorously, and will give in August and September, sometimes later, voluminous and fleshy flower-heads, such as it is impossible to obtain on an old stool. In the middle of the summer, if the weather is dry, it is as well to let the plants rest for a short time, in order to contribute to the formation of the flower. Directly it appears, all the means necessary to favour a strong vegetation and vigorous growth must be employed, such as frequent waterings with manured composition, and stirring the surface of the earth around the plants. The Globe Artichoke, to furnish strong growths, requires to be transplanted every year. In autumn, after the first sharp frost, generally about the end of October or November, all the Artichoke's leaves are cut to a length of 12 to 16 inches (30 to 40 centimètres). Afterwards the whole plants are surrounded with a mound of coal-ashes, covered with a bed of dry leaves, the Artichokes being sensitive, and subject to disease if the temperature varies much. The next spring, when the sheltering mound is taken off, nice young growths may be found well rooted in the ashes, ready to grow on at once if planted in a suitable place They are easily separated from the old stools, and planting is performed as before mentioned.

After clearing off the young plants, the ground is levelled, the ashes well spread over the surface, and deeply dug. It is then ready for other crops. Following this simple method, superb heads of Globe Artichokes, good and beautiful, joining the useful to the agreeable, may be obtained. That produce is consequently worthy to figure at table or in the market, where the old stool's production, often of small size and middling value, show a piteous appearance by comparison.

The coal-ashes used in sufficient quantity performs three important functions—1st, they constitute a manure; 2nd, they permit the air to penetrate easily and in sufficient quantity to the bottom of the plants; 3rd, they offer the advantage of not retaining the moisture. *Louis Gentil, Kew.*

[We gave a figure of the Laon Artichoke, which is remarkable for the depth and succulence of its receptacle in our number for Nov. 30, 1895, p. 649, and strongly commend it to our gardeners and to our cooks. Ed.]

RAMBLES IN NORTH WALES.

(*Concluded from p. 424.*)

One's first impressions of Bangor are not likely to be altogether favourable, because there are too many "foolish walls," as the author of the guide-book designates a particular one that shuts out the view at the top of the recreation-ground. Every gate leading into a pasture or a wood is locked; yet the street-doors of the houses in Upper Bangor are not only left unlocked, but often wide open, with nobody immediately at hand. On our inquiring into this apparent anomaly, we were told that the gates were not locked so much to keep visitors out as to keep the cattle in; and as there is a commendable absence of notices threatening to prosecute trespassers, we accepted the explanation. So far as our experience went, there was no objection to your getting over the wall or the gate, and wandering where you pleased. But perhaps it would be better if there were less freedom, for itinerant Fern-dealers, and visitors com-

bined, are stripping the country of the Ferns. We remarked on the rarity of Ferns in accessible places in the neighbourhood of Bangor, and we were assured that those marauding collectors sent off several hamper-fulls at a time, of such Ferns as Asplenium marinum; and we were offered huge tufts of the Parsley Fern for a penny each at Aber Waterfall. Boys have discovered that they can make money by this means; but common as this Fern is on the mountains of North Wales, it is not inexhaustible. No doubt it is difficult to make such regulations as would prevent the depredations of wholesale collectors and dealers, yet not shut out the comparatively harmless visitor; though, unfortunately, there are destructive visitors. But we must leave the wild flowers, as we wish to say a few words about gardening and cultivated plants. There is some very good gardening around Bangor and Carnarvon, for example



Fig. 89. A melon developed at the collar of a plant, in the garden of Louis Tillett, Esq.

but there is not nearly enough of it. Judging from our little experience and observation, we should say that these towns are by no means adequately supplied with fresh vegetables and fruit; and there seems room for enterprise in this direction.

One of the things a visitor from the valley of the Thames is likely to envy the dwellers on the Menai Straits is the slightly milder winter they enjoy there. Everywhere there is evidence of this in the fine Fuchsias and Hydrangeas which give so much colour in late summer and autumn to the shrubberies and lawns and cottage gardens. It is true we saw no Fuchsias even approaching in size the famous one at Ramsey, in the Isle of Man (see *Gardeners' Chronicle*, September, 1886, p. 397, fig. 79); but they are nearly as prominent in Bangor as in the island, forming large permanent bushes full of flower at a season when most shrubs are past their beauty. Unlike most shrubs, too, they continue flowering for a long period.

Escallonias, Myrtles, and Cordylines, though much less commonly planted, appear equally at home. Then there are arboreous Laurels and Sweet Bays on both sides of the Straits in great abundance, and surpassing in dimensions those one usually sees in the neighbourhood of London. We did not visit any of the large and celebrated gardens, of which there are several both in Anglesea and Carnarvonshire, but Mr. Griffith's garden, on a succession of slopes or terraces, offered much of interest, especially to the botanist. The owner has long cultivated a considerable collection of hardy plants, including a selection of the local rarities. Among these is Rosa Wilsoni, only known in a wild state in one spot in the Straits. A variety of the Golden Rod, or perhaps a distinct species (Solidago cambrica, Huds.), from the mountains, had retained its dwarf habit and earlier flowering season after twenty years' cultivation. Associated with the common form, it flowers from April to June, whilst the season for the common form is from July to September. As Solidagos go, S. cambrica is certainly more easily distinguished than many of the numerous North American forms generally accorded specific rank. Hieracium is another genus largely developed in North Wales, and Mr. Griffith had a collection under cultivation, but they had run together, forming a continuous carpet, and were to be shortly uprooted. Among them were H. villosum, H. murorum var. pulcherrimum, H. cambricum, H. sparsifolium, H. maculatum, H. aurantiacum, and the very distinct H. amplexicaule. More attractive and ornamental were Rumex sanguineus, and a pure white-flowered variety of Galeopsis dubia. The rare Anglesea Helianthemum Breweri, and wild Asparagus from the same county, were also there, as well as an interesting variety of Saxifraga sponhemica, mentioned in Mr. Griffith's Flora as undescribed. Rosa rugosa and Anemone japonica were very fine, the latter being difficult to eradicate, we were told, when once it gets a hold.

But we must cease, for we fear we have little to say that is of general interest. Yet one word more about the "foolish" walls. Though by no means so attractive as living hedges, they often are very attractive, from the crop of Lichens, Mosses, Ferns, and other plants they support. In unfrequented places one came upon square yards covered with Asplenium Trichomanes. There was also a cultivated wall at Portmadoc that particularly attracted our attention, the broad top being nearly covered for many yards with Antirrhinums in great variety and in full flower. Associated with them was Centranthus ruber, also in flower, and a quantity of Wallflowers in seed. *W. B. H.*

AN UNUSUAL POSITION OF A MELON.

Our illustration (fig. 89) exhibits a curious freak observed on a Melon plant this year in the garden of Mr. Louis Tillett, Norwich. A flower formed on the stem close to the ground, and a fine fruit resulted, as will be remarked. It is a most unusual position for a fruit to be produced; and although no shoot is visible in the photograph, it is most in accordance with the habit of the plant to suppose that a very short shoot with a bloom upon it was emitted by the stem.

INDIA.

PAINT USED AGAINST WHITE ANTS.

During a brief visit to the Native State of Gondal the writer (Mr. Gollan), recently gave this subject considerable attention. There seemed to be no doubt that His Highness the Thakore Sahib, by his enlightened action in this matter, had effected a radical improvement. The trees throughout his State were all painted as described, and not a single tree could be found showing the mud encasements so characteristic of the presence of white ants. And very possibly, as a consequence of the care bestowed on these trees they were healthy and vigorous, while those in neighbouring States were sickly and badly attacked with white ants. The useful ingredients were said to be as follows —

1 part Dekamali gum (the resin of Gardenia gummifera).
2 parts Asafœtida.
2 parts Bazar Aloes.
2 parts castor oil cake.

These are well pounded, mixed and kept in water for about a fortnight. When thoroughly united, and what may be call decomposed into a thickened compound, water is added in order to bring it to the consistency of paint, and the colouring matter then added. The mixture is now ready for use, and if thoroughly applied for about 2 feet will check not only the attacks of white ants, but of red ants and other insect pests. Its effect will last for two years or more. The cost of the preparation comes to about 4 to 5 rupees per 100 trees. *Report of the Saharanpur Botanic Garden.*

Botanic Garden Peradenyia, Ceylon.

To fill the vacancy caused by the ill health (we regret we have now to add, the death) of Dr. Trimen, Mr. J. C. Willis has been appointed. Mr. Willis is a complete stranger, even by name, to many botanists and horticulturists, but he will have ample opportunity of making himself known.

Violas and Pelargoniums.—We trust that growers of these plants will at once respond to the invitation of the Royal Horticultural Society by sending for trial at Chiswick varieties which they deem best for massing in beds or border. Six plants of each variety should be sent. Readers are referred to p. 75 of the last part of the *Journal* of the Society (August, 1896) for further directions, and for details concerning other trials to be made. The council have also decided to make a trial next year of zonal Pelargoniums: outdoors, in summer, 1897; indoors, for autumn and winter-blooming, 1897–98. Four plants of each should be sent, two for planting outdoors, two for growing through the summer in pots for autumn and winter blooming.

GLASS SUBSTITUTES IN GERMANY.

There are several substitutes for glass in use in Germany, the chief among them being tectorium, fensterpappe, and hornglas. Tectorium is a sheet of tough, insoluble gum—said to be bichromated gelatin—about one-sixteenth of an inch in thickness, overlying on both sides a web or network of galvanised iron or steel wire, the meshes of which are generally about one-eighth of an square inch. The United States Consul-General at Frankfort says that both surfaces of the tectorium in ordinary use are apparently covered with a varnish of boiled linseed oil, and it feels and smells similar to the oiled-silk that is used in surgery, and for sweat-bands in summer hats. It is lighter than glass of equal thickness, is tough, pliant, and practically indestructible by exposure to rain, wind, hail, or any shock or blow which does not pierce or break the wire web by a violent thrust. It may be bent in any desired form, and fastened in position by crimping, nailing, or with putty like ordinary glass, and when punctured, it may be easily repaired. Its translucence is about the same as that of opal glass; its colour a greenish amber yellow, which fades gradually to white from exposure to the sun, so that while arresting the direct rays of sunshine, it transmits a soft, modulated light, which is said to be well adapted to hothouses and conservatories. It is a poor conductor of heat and cold, and thus preserves a more equable temperature than glass in rooms containing growing plants. The only objections that can be urged against tectorium are that it is more or less inflammable, and that in very warm weather the outside surface is sometimes softened until dust will adhere to it, but this may be removed by wiping or washing, a service that is usually performed by the rain in exposed situations. Tectorium is an English invention, and Consul-general Mason says that as far as can be ascertained, it is not patented in Germany. It is claimed for it that it has effected an important economy through its immunity from breakage, which, in case of large roofs of glass, are so frequent and so expensive to repair.

ITALY.

PELARGONIUM PELTATUM, *Aiton.*

This plant is well adapted for growth in hanging-baskets, and also for borders, and for covering the sides of embankments in gardens. I have lately admired such an embankment, about 60 feet long, and about 12 feet high, in the gardens of Prince Sepino and of Marquis Spiriti, in Naples. When the Pelargonium is in flower, the wall appears as if it was covered with a pink carpet, here and there sprinkled with some green. The skilful head-gardener, Mr. Giuseppe De Sonca, told me that the plant grows without the least trouble. During the month of March, the small branches are taken off and left in the sun for three or four days, in order to get them quite dried. This is indispensable, owing to the facility with which the plant grows. These branches are then planted at a distance of 4 to 8 inches, leaving them without watering for about a fortnight. After this time, and especially if the season is dry, the ground must be watered, in order to keep it constantly damp. After about one month, the embankment will be perfectly covered, and in the middle of May, the plant begins flowering. The flowering season lasts till the end of July, and it will attain its highest development, and produce its best effect, from June 15 to July 15.

In the month of January the plant must be cut down in order to avoid a too large development of leaves, and to strengthen it. When frost occurs, the plants may be sheltered with mats, or even with some straw.

In Naples, when the Pelargonium is grown in pots in order to force it, the plants are removed in November to the hot-house, which must, however, be well ventilated and moist; and then they must be repotted in a mixture of Chestnut-earth, common-earth, and old cow or sheep manure. The plant will then flower about the end of December, or in January.

Propagation of Camellias.

In the same villa of Prince Sepino and of the Marquis Spiriti, I remarked the way in which Camellias are multiplied by layers. The small plants appeared during the month of July to do very well. The head-gardener proceeds thus: After having chosen the young branch, he splits it for a length of about ½ inch, in the form of the beak of a flute. The split goes through the half of the branch, and between the two surfaces of the wound a piece of cork is placed in order to keep it open. He then pricks with a penknife the upper part of the split to facilitate in this way the growth of roots. After having placed the layer in a rather deep pot (fig. 90), he fills the latter with very fine mould from the Chestnut-woods. This way of setting layers widely differs from the usual one. In this way, the end of the upper branch is placed in direct contact with the parent, and perfect success is attained. The Gardenia can be treated in the same way with facility.

Dr. Giovanni Mottarali, Portici, August, 1896.

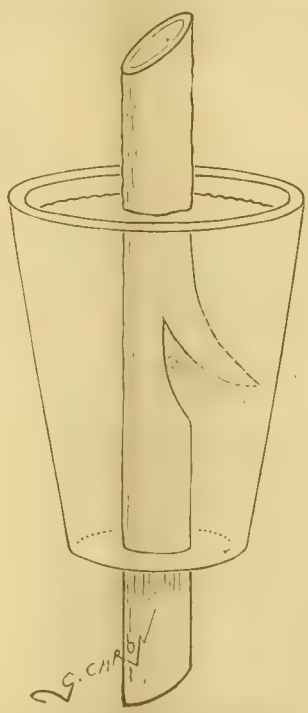


Fig. 90.—Propagation of Camellias.

The Week's Work.

THE FLOWER GARDEN.

By Hedley Warren, Gardener, Aston Clinton, Tring.

Roses.—If much planting has to be done in the rosary, the beds or borders should now be prepared. In some places it is necessary to lift the plants every two or three years, for in some soils, unless this be done, they die away. If Roses have to be lifted, and they are to be planted again in the same beds, the roots should be laid in whilst the beds are being prepared for their reception. The condition of the soil in the beds will be the best guide to the planter as to the additions required, but in the majority of cases the addition of lime-rubble or old mortar, thoroughly decayed manure, and ½-inch bones will suffice, deeply trenching the beds and well incorporating the whole together. If this operation be done early in the season, the plants will flower as freely as old-established plants during the forthcoming season. Plants received from the nursery may be treated similarly. Early planting is especially desirable this season, as the present weather is moist and cool.

General Work. — Continue to plant trees and shrubs whenever the opportunity offers. The sweeping and raking-up of leaves will consume much labour for several weeks, but it should not be neglected. The mowing of the lawns and of the rougher grass in the less-frequented parts of the grounds may now be discontinued, but continue the rolling of turf when the weather permits. Parts of the lawn needing to be re-turfed or levelled should be attended to upon the first favourable opportunity, for all work of this description needs to be done during open weather. The turf near the edges of flower-beds may require attention through having become trodden down or bare. If it be re-levelled or re-turfed, the outline of the beds will be more discernible. The planting of trees and shrubs should be accomplished as opportunities occur, bearing in mind that good drainage is essential, whether natural or artificial. Little need be done in the shrubberies with the exception of clearing away all weeds, and if Nettles or other quickly-spreading weeds are abundant, fork over the ground, and remove as many roots as possible. Previous to re-gravelling or re-surfacing any walks, they should be cleaned of all weeds to prevent any appearing through the fresh gravel. All walks and drives should be rolled frequently.

THE ORCHID HOUSES.

By W. H. White, Burford, Dorking.

Cattleya-house.—Cattleya Bowringiana is one of the most useful and easily-cultivated of all Cattleyas. The plants are now developing their flower-spikes, some of the flowers being already open. The newly-made pseudo-bulbs are producing clusters of young roots from their base; they should be examined to ascertain if they require more root-room. Were the work of re-potting to be delayed until the flowers fade, the roots would then be so numerous and long that they would be damaged during the process. When about to repot well-rooted specimens, carefully break the old pot and take it away piece by piece without disturbing the roots or drainage materials. Prick out as much of the compost as possible, and transfer the plant into a pot a size or two sizes larger. Place around the old roots some clean drainage material, and over this a thin layer of rough sphagnum-moss, and afterwards a compost of the best fibry peat, a small quantity of moss, and plenty of small crocks. Water sparingly, and induce root-activity at the expense of growth as far as is practicable. These remarks also apply to those plants which have done blooming, but have not been repotted. Keep the plants well exposed to the light. Plants of Lælia Perrini should be afforded fresh rooting material immediately they have finished blooming.

Such rare and beautiful hybrids as Cattleya exoniensis, Lælio-Cattleya Canhamiana, L.-C. Arnoldiana, L.-C. eximia, L.-C. Blessensis, L.-C. Phœbe, L. euspatha, and many others that are in full growth, should in the case of large specimens be elevated well up to the roof-glass, and the smaller plants may be suspended from the roof. Until growth is fully made, keep them in the warmest part of the Cattleya-house. C. eldorado and its varieties should be kept during the winter months in the coolest part of the East Indian-house. They are rooting freely now, but care must be taken not to over-water the plants.

Mexican-house.—Such plants as Lælia anceps, L. albida, L. autumnalis, L. Marriotiana, and others, now producing their flower-spikes, now require very little water at the roots. The night temperature of this house should be kept between 55° and 60°. By day with sun-heat it matters little how high the temperature may rise if plenty of ventilation be given. Lælia Gouldiana being in full growth, should be placed close to the roof-glass of the warm-house. Give copious supplies of water until the flower-spikes appear. L. rubescens (acuminata), now producing spikes from its partially-matured growths, should be equally encouraged.

Schomburgkias.—Plants of Schomburgkia tibicinis, S. Sanderiana, and S. Kimballiana, that are showing spikes, should be kept in the lightest position available in the East India-house, but they must not be watered too freely.

Intermediate-house.—Platyclinis Cobbiana, like P. filiformis and P. uncata, appears to enjoy the cool, moist temperature of this division the whole year round, but P. glumacea prefers the warm atmosphere of the stove during its season of growth. Until such growth commences, keep it in the intermediate-house. Do not over-water plants of Oncidium cheirophorum now that their flowers are advancing, and prevent water from lodging in the axils of the leaves. Masdevallias should be watered very sparingly during dull rainy weather, and the compost should never be made wet to saturation. The atmosphere surrounding them should be rather dry than the reverse, but when fire-heat becomes necessary to keep the temperature to 50°, sufficient moisture must be given to counteract it.

Cool-house. — Odontoglossum coronarium and its variety miniatum, being strong scandent growers, require considerable house-room, and it is a good plan at this period to suspend the plants well up to the light. If the sphagnum-moss on the surface of the compost be in an unsatisfactory condition, it should be removed, and fresh green heads of moss carefully pricked in. Keep the sphagnum-moss growing freely by means of copious waterings.

PLANTS UNDER GLASS.

By Jno. McIntyre, Gardener, Woodside, Darlington.

Euphorbia (Poinsettia) pulcherrima.—Those examples of Euphorbia pulcherrima which have well-developed bracts may be dotted about in the stove or warm conservatory among the other inmates of these structures, and thus be made to impart a cheerful, fresh-looking appearance to the otherwise unattractive plant abodes at this season. In order to induce free and healthy growth the plants should not be stuck in ill-lighted positions, but be afforded places where light falls abundantly. The plants may be supplied at this date with manure-water, the soil in most cases being somewhat exhausted.

Chrysanthemums.—These plants being now brought under glass, should, like the preceding, be afforded all the light possible to bring out the true colours, preserve the foliage, and in the full development of the bloom. Never crowd Chrysanthemums together, the result being irreparable injury—a good rule, but often sinned against in places where the glass-house accommodation is limited. Even then, if staging of a permanent kind be at hand, or some temporary staging can be erected with boards and pots, something may be done to avert some of the evils brought about by crowding the plants. When the weather is fine, a good deal of ventilation together with a little fire heat should be afforded to all the houses holding Chrysanthemums. The Japanese varieties finish better if placed in a house by themselves than when mixed with the incurved and other varieties; they are benefited by being afforded more fire heat than those, and some amount of shade during bright sunshine. Moreover, the florets being long and soft, are more susceptible to be injured by damp if the house be kept at too low a temperature. The feeding of the Japanese may be continued till the flowers are partially expanded, when, I think, it is safer to afford water only. Every plant should be carefully examined almost daily to ascertain the state of the soil as regards moisture, and never allowing it to become very dry.

Anthurium Andreanum.—Where plants have become "leggy" the tops should be taken off, placed in spagnum-moss and peat singly in 4-inch pots, and put into the propagating-case till rooted; and the stools should be kept dry, and be given a warm corner in the stove until they break afresh; but this needs only to be done if a larger number of plants is required.

Eucharis grandiflora.—Our plants flower twice a year, and if the plants flowered in May, June, or July, and they have made fresh growth, move them into a cooler house, say 50° to 55°, for three or four weeks, just to afford a slight check to growth. At the conclusion of that time, remove the plants to a house having a temperature of 65° to 70°, where they will flower in December.

Gesneras for winter flowering should be stood in a dryish, warm position. Gesneras are sometimes grown in small pots for furnishing purposes, consequently the latter will be filled with roots, making it necessary for the gardener to pay close attention to the matter of affording water. Guard against damp benches and floors, the bloom of Gesneras being easily injured by excess of moisture in the air.

Salvia splendens and patens.—These plants, if grown throughout the summer for flowering in the winter, being now in bloom, are valuable adjuncts to Chrysanthemums in brightening the greenhouse and conservatory, or standing in the mansion. Copious doses of liquid-manure and a few degrees extra warmth may be afforded them till the first bloom.

FRUITS UNDER GLASS.

By W. Pope, Gardener, Highclere Castle, Newbury.

Earliest forced Pot-Vines.—If ripe new Grapes are required in the month of April, pot-Vines are the most suitable for producing them, and no time should now be lost in getting the Vines into position, in readiness for making a commencement. To ensure the best results, a well-heated span or lean-to pit should be provided, along the front of which the pots must be placed on pedestals of brick, stone, or even on large flower-pots, and fermenting tree leaves and stable-dung packed round them up to the rims. These materials before being used should have been occasionally turned over to sweeten and get rid of the extreme heat, as care must be taken that the fermenting mass does not exceed 70° or 75°. But little fire-heat will be needed at the first, unless in very cold weather, and a warmth of 55° at night will be sufficient, till the buds have fairly started to grow, when it may be increased to 60°. Let the canes be suspended in a horizontal position, or with the ends dipping somewhat, retaining them thus till the buds break uniformly the whole length of the canes, and dew them over with the syringe two or three times a day, unless moisture hangs upon them. Should the Vines not have been shortened to the required length, and styptic applied in proper time, it must not now be done, but disbudding done instead after growth has begun. For early forcing no varieties are better than Black Hamburgh and Foster's White Seedling.

Early Vines in Borders.—This vinery having been put into proper order for a start as was directed in my previous Calendar, it may be closed about the middle of November, and a bed or ridge of fermenting material similar to that described above being formed upon a staging of boards along the centre of the inside border, which should be turned on alternate days, and fresh material added as the heat goes down. This mass will afford sufficient warmth to start the Vines. Treat the canes like those in pots, lowering the upper end of each till it is level with the front lights. Whenever the weather is fine, syringe the canes twice daily with tepid water, doing this sufficiently early in the afternoon to allow of the wood becoming somewhat dry before nightfall. The proper degree of temperature is 50° to 55°, with an increase of 5° during the day, till the Vines have broken. Always make use of the sun's heat to as large an extent as possible by closing at 1 or 2 P.M., and avoid high night temperatures. An outside Vine-border should be covered with a thick bed of dry tree-leaves, or Fern, with thatch or shutters over all to throw off rain and snow, and retain the heat in the soil.

Succession-houses.—Push on with the pruning of the Vines as soon as the foliage is off, or as soon as it is seen by the change in colour that it is properly matured. Early pruning is provocative of rest, and for Vines to be successfully started in December, it should not be longer delayed. Clean and dress the rods according to former directions, also remove sour soil or inert soil, going down to the roots, and apply a dressing of fresh compost; and if the soil of the inside border is dry, it should be well watered.

THE KITCHEN GARDEN.

By Charles Herrin, Gardener, Dropmore, Maidenhead.

Seakale.—Where very early produce is required, a small number of the earliest-planted crowns must now be lifted, and if the soil is very moist, they should be left on the ground for a few days in an exposed place, with all the roots attached, to cause the leaves remaining on them to part readily from the crowns; even slight frosts for a few nights will be found advantageous, as then the crowns when placed in heat start into growth more readily. Growth at this season is sluggish, still very hard forcing must not be resorted to, or the result will be bad. Unless in urgent request, the very early forcing of Seakale cannot be recommended.

Rhubarb.—A few clumps of some early variety of Rhubarb, such as Johnson's St. Martin's, or Hawkes' Champagne, may be lifted and similarly exposed to the Seakale roots. If new plantations of Rhubarb are necessary, the work may be undertaken at this season, the crowns from autumn-planted Rhubarb starting into growth the following spring as strong, if not stronger, than when planting is performed in February. The ground for Rhubarb should be well manured and deeply trenched, the plant luxuriating in a rich, porous soil. The simple crowns, with roots attached, should be set out in threes triangularly, about 9 inches apart, and the clumps of roots afforded a space of 4 feet from row to row, and 3 feet apart in the rows. A mulch of half-rotten manure should be afforded when the planting is finished.

Globe Artichokes.—These plants have made much growth during the past month, which, being tender, and liable to injury from frost, it will be advisable to pot up a batch of suckers as reserve stock (see p. 492, present issue). In the event of severe frosts setting in, these suckers should be placed in a cold frame, or some other situation where they can be protected.

Turnips, when of a useable size, should be pulled, the tops removed, and the bulbs clamped, otherwise they may become in the event of mild weather, woolly and almost uneatable. Small bulbs from later sowings should be allowed to remain in the soil. Yellow-fleshed Turnips are very hardy, and these and the white-fleshed varieties will continue to grow for some time longer. The latest-grown Turnips will produce useful "Greens" in the spring, if the bulbs be not required, or they are not large enough for use. To encourage growth, keep the ground between the rows stirred with the Dutch-hoe.

French Beans.—Late sowings of these plants, which were made in cold pits, will need to be carefully afforded water and air, very little water however being required; but with the best attention French Beans cannot be expected to last much longer in cold pits and frames. Air should only be admitted in favourable weather, the lights being closed early in the afternoon. At night it will be advisable to cover the glass with mats. Beans growing in heated pits will require abundant moisture at the root, and overhead syringing in bright weather, or red-spider will obtain a footing on the leaves; and it is sure to be troublesome if the plants stand near the hotwater-pipes, in spite of every effort made to prevent it.

THE HARDY FRUIT GARDEN.

By G. Woodgate, Gardener, Rolleston Hall, Burton-on-Trent.

A List of Varieties of Fruits.—The planting season having arrived, I submit a list of varieties of the various kinds of fruit, which may serve as a guide to some of our readers who intend to plant this year. The varieties I have selected are those that will afford fruit for a considerable length of time, and which thrive in most parts of the country.

Kitchen Apples.—Alfriston, Blenheim Orange Pippin, Beauty of Kent, Bismarck, Byford Wonder, Cellini, Cox's Pomona, Chelmsford Wonder, Duchess of Oldenburgh, Dumelow's Seedling, Ecklinville Pippin, Hambling's Seedling, Frogmore Prolific, Grenadier, Keswick Codlin, Lord Derby, Lane's Prince Albert, Mère de Ménage, Newton Wonder, Northern Greening, Pott's Seedling, Peasgood's Nonsuch, Sandringham, Striped Beaufin, The Queen, Tyler's Kernel, Warner's King, and Winter Hawthornden.

Dessert Apples.—Allen's Everlasting, Braddick's Nonpareil, Cox's Orange Pippin, Devonshire Quarrenden, Early Margaret, Fearn's Pippin, Golden Reinette, Irish Peach, Kerry Pippin, King of the Pippins, Mr. Gladstone, Margil, Mannington Pearmain, Ribston Pippin, Rosemary Russet, Scarlet Pearmain, Sturmer Pippin, Worcester Pearmain, Cockle Pippin, and Williams' Favourite.

Dessert Pears.—Beurré Giffard, B. d'Amanlis, B. Hardy, Bergamotte d'Esperen, Comte de Lamy, Doyenné d'Eté, D. du Comice, Easter Beurré, Fondante d'Automne, Louise Bonne of Jersey, Marie Louise, Marie Benoist, Knight's Monarch, Olivier des Serres, Princess, and Williams' Bon Chrétien.

Culinary Pears.—Catillac, Bellissime d'Hiver, Uvedale's St. Germain, and the Vicar of Winkfield.

Peaches.—Alexander, Barrington, Dr. Hogg, Dymond, Early Louise, Grosse Mignonne, Hale's Early, Noblesse, Princess of Wales, Royal George, Violette Hâtive, and Walburton Admirable.

Nectarines.—Advance, Elruge, Humboldt, Hardwicke Seedling, Lord Napier, Pine-apple, Rivers' Early Orange, and Victoria. It may be said that North of the Humber Peaches and Nectarines should be planted only on south walls, and even on this aspect there are places where ripe fruits are not obtainable, and the wood seldom ripens without the use of artificial heat.

Apricots should consist of Frogmore Early, Breda, Hemskirk, Large Early, Oullin's Early, Peach, and Powell's Late.

Culinary Plums are—Archduke, Early Prolific, Rivers' White and Red Magnum Bonum, Monarch, Pond's Seedling, Prince Englebert, The Sultan, The Czar, Denyer's Victoria, and Washington.

Dessert Varieties.—Bryanston Gage, Coe's Golden Drop, Denniston's Superb, Green Gage, Jefferson's, Kirke's, Oullin's Golden Gage, Reine Claude de Bavay (only on warm walls anywhere), Reine Claude Violette, and Transparent Gage.

Blackberries.—Two good kinds are laciniatus, and Wilson Junior.

Cherries.—Belle d'Orleans, Bigarreau, B. Napoleon, Black Eagle, Black Tartarian, Early Purple Gean, Early Red Bigarreau, Elton, Frogmore, Early Bigarreau, Governor Wood, Mammoth, May Duke, Morello, Belle Magnifique, a light red Morello doing excellently as a standard; Reine Hortense, and Werder's Early Black.

Red Currants.—Cherry Red, Knight's Large, La Constante, La Fertile, Mammoth, Raby Castle, and Red Dutch.

White Currants.—Dutch Cut-leaved, and White Versailles.

Black Currants.—Naples, Carter's Champion, Lee's Prolific, and Baldwin's Black.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the PUBLISHER.

Letters for Publication, *as well as specimens and plants for naming, should be addressed to the* **EDITOR, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY,	Oct. 27	Royal Horticultural Society's Committees at Westminster. West Hertfordshire Chrysanthemum Show, at Watford two days.
WEDNESDAY,	Oct. 28	Steyning Chrysanthemum Show (two days). Torquay Chrysanthemum Show (two days).

SALES.

MONDAY,	Oct. 26	Dutch Bulbs, at Protheroe & Morris's Rooms Important Sale of Shrubs and Fruit Trees, at the Floral Nurseries, Castle Hill, Maidenhead. Dutch Bulbs, Plants, Liliums, &c., at Stevens' Rooms.
TUESDAY,	Oct. 27	Dutch Bulbs, at Protheroe & Morris' Rooms. Great Annual Sale of Roses, Carnations, Begonias, Climbers, Lilies, and Herbaceous Plants, at the Hale Farm Nurseries, Tottenham, by order of Mr. T. S. Ware, by Protheroe & Morris (three days). The First Portion of the Valuable and Extensive Collection of British Lepidoptera, formed by G. A. Briggs, Esq., at Stevens' Rooms (two days).
WEDNESDAY,	Oct. 28	Dutch Bulbs, at Protheroe & Morris' Rooms. English, German, and Dutch Roses, Palms, &c., from Ghent, Dutch Bulbs, Plants, Lilies, &c., at Stevens' Rooms.
THURSDAY,	Oct. 29	Dutch Bulbs, at Protheroe & Morris' Rooms. Great Annual Sale of well grown Nursery Stock, at Hollamby's Nurseries, Groombridge, Tunbridge Wells, by Protheroe & Morris (two days). Roses, Palms, Shrubs, and Dutch Bulbs, at Stevens' Rooms.
FRIDAY,	Oct. 30	Dutch Bulbs, at Protheroe & Morris' Rooms. Imported and Established Orchids, at Protheroe & Morris' Rooms. Miscellaneous Property, at Stevens' Rooms.
SATURDAY,	Oct. 31	Dutch and French Bulbs, at Stevens' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—46·6°.

A Garden Catalogue.

EDMUND BOISSIER, who died in 1885, was well known among naturalists as one of the most assiduous and critical botanists of his time. He was a great traveller in Spain, Italy, and in Asia Minor, accumulated large collections, published numerous notes concerning them, and at length co-ordinated those relating to Eastern districts into his excellent and most useful *Flora Orientalis*. All this is well known to those concerned; what is not so well known even among horticulturists is, that the great botanist took means wherever possible to control and extend his observations on the dried plants of his herbarium by comparison with the living specimens. To this end he collected, at Valleyres, at the foot of the Swiss Jura, a collection of herbaceous and alpine plants, which has excited the astonishment and stimulated the admiration of those privileged to see them. Visitors to the garden at Valleyres, says M. CRÉPIN, in the preface to this volume, were always struck with astonishment (*emerveillés*) at the sight of the rockeries, the walls, the beds, which overflowed with a host of plants derived not only from the European Alps, but also from those of Asia and America. Between three and four thousand species and varieties were thus got together. Notices of this garden will be found in our volumes for June 28, and September 6, 1890. At Chambésy, near Geneva, BOISSIER also established an arboretum, the trees of which have now, we believe, been transferred to the estate of M. BARBEY, the son-in-law of BOISSIER, and one who has himself achieved a reputation as an eminent botanist. The work before us contains a methodical catalogue of the species and varieties growing in the two collections at the time of BOISSIER's death. From this list it will be seen that it is not only alpine plants that are cultivated, but other plants as well, such as Cactaceæ, Orchidaceæ, and bulbous plants generally. Thus there are over seventy species of Mammillaria, as many of Cereus, of Mesembryanthemum, and of Masdevallia, fifty-seven Dendrobiums, fifty Odontoglossums, sixty Oncidiums, sixty species of Allium, and so forth. Altogether some 5,000 species are here classed under their natural orders, with the names of their authors, the place and date of publication, synonyms, illustrations and geographical distribution. In almost all cases, as we are told, the original descriptions have been referred to, so that the errors arising from trusting to compilations and transcriptions have been, as far as possible, avoided, whilst, at the same time, current errors in nomenclature have been rectified in accordance with the rules of priority. No doubt the *Index Kewensis* has furnished much assistance to the compilers, though much of their work was in type prior to the publication of that monumental work. The work is well printed, and the proofs have been carefully read. An alphabetical index of the genera allows of ready reference to any group required.

The authors have succeeded in preparing one of the best garden catalogues yet issued, and one that will be most serviceable to directors of botanic gardens, and to those cultivators and collectors who take an interest in the history of the plants they cultivate.

It might not be difficult in such a mass of detail to point out an error of commission here or one of omission there, but it would be an ungracious task in the face of the intelligent care and diligent labour that have evidently been expended on this publication.

* *Hortus Boissierianus.*—Enumération des plantes cultivées en 1885 à Valleyres (Vaud) et à la Pierrière Chambésy près Genève, par Eugène Autran, conservateur de l'herbier Boissier à Chambésy, et Theophile Durand, conservateur au jardin Botanique de l'Etat à Bruxelles. Préface de M. F. Crépin, Directeur du Jardin Botanique de Bruxelles. (Geneva: George & Co., 8vo, 1896, pp. 571.)

Dr. Henry Trimen.

THE friends and acquaintances of Dr. HENRY TRIMEN will receive the news of his death with deep sorrow. His modesty, his gentleness, his sympathy, his right-mindedness, his sweetness of disposition, and readiness to help, were as remarkable as his extensive botanical attainments. TRIMEN was educated for the medical profession, and took the degree of Bachelor of Medicine at the University of London. Attaching himself particularly to the study of botany, he became an assistant in the Botanical Department of the British Museum; and on the death of our old correspondent, Dr. THWAITES, in 1882, became Director of the Royal Botanic Garden at Peradenyia, Ceylon. That position he filled till compelled recently by ill-health to relinquish his duties.

Dr. TRIMEN first attracted attention by the excellent *Flora of Middlesex*, prepared by himself in conjunction with Mr. W. THISELTON-DYER, the present Director of the Royal Gardens, Kew. That book has formed the model on which all subsequent county floras have been prepared, and the more closely they have approximated to it, the more valuable has been the result.

During the period of his service in the British Museum, TRIMEN was associated with the late Professor BENTLEY in the preparation of the standard work on Medical Botany, and also edited the *Journal of Botany*, in which periodical appeared several critical notices from his pen. On his appointment to the directorship of the beautiful garden at Peradenyia, TRIMEN took up the work left unfinished by THWAITES, and devoted himself to the preparation of a complete flora of the island. Three parts of the *Handbook to the Flora of Ceylon* have appeared, bringing the work down to the Balanophoraceæ, so that the work is well advanced, and we trust material may be in hand for its completion. It is accompanied by an atlas of coloured plates of the more interesting species. Not long since TRIMEN visited this country to seek medical assistance, when his friends were shocked at his condition, and entertained forebodings which the event has only too surely verified. Dr. TRIMEN died at Peradenyia on the 16 inst., in his 53rd year.

Auguste Trécul.

Few plant-anatomists have attained a higher position than did AUGUSTE TRÉCUL, whose death at an advanced age is announced. Of late years he published little, and led a very retired life, so that he is little known to the modern generation. He is not even mentioned in SACHS' *History of Botany*, though most of his best work was done before that book was published, and is important enough to find place in any book purporting to be a history of botanical science. TRÉCUL devoted special attention to the development and relations of the vascular system in plants, as well as to the mode of growth of stems and roots, the effects of decortication, the production of gnaurs, and other subjects of interest to cultivators. He studied the minute anatomy of the Nymphæaceæ, investigated the nature of the perforations in the leaves of some Aroids, e.g., Monstera, and classified the Artocarpaceæ. In the early part of his career TRÉCUL travelled on behalf of the French Government in Texas, the Rocky Mountains and Mexico, but some of his collections were lost by shipwreck off the Azores. TRÉCUL was a member of the Academy of Sciences, and died at the age of seventy-eight.

A LARGE SPECIMEN OF EUPHORBIA ABYSSINICA. — The subject of our illustration (fig. 91) is a gigantic specimen of Euphorbia abyssinica, which stood in front of the marble terrace in the gardens of the Marchese HANBURY, at La Mortola, until the present year, when it suc-



FIG. 91.—A FINE SPECIMEN OF EUPHORBIA ABYSSINICA, GROWN IN THE GARDENS OF THE MARCHESE HANBURY, AT LA MORTOLA.
(SEE P. 496.)

cumbed apparently, to cold. The height of the plant as given to us was 19 feet 8 inches, and the circumference of the stem 2½ feet. Its age was twenty-nine years, and it was believed to be the largest specimen of its kind in Europe.

Tercentenary of the Potato.—At a meeting of the Irish Gardeners' Association, held at the Sackville Hall, Dublin, on August 26, it was unanimously decided to hold a Conference on the Potato in 1896. With the introduction of the Potato into Ireland, 300 years ago, is associated the name of Sir Walter Raleigh; and the Irish Gardeners' Association, in celebrating the tercentenary of the event, have done so as a befitting memorial to Raleigh, and at the same time with a view of placing on record the exceptional and remarkable progress that has been made in its subsequent cultivation; and further, in order to attract the notice and command the special attention of all those interested in the cultivation and preservation of this one of the most important of our national foods. The unusually abundant crop of this year affords a favourable opportunity for examining the numerous kinds cultivated throughout the country, and to compare their merits. Not only will hundreds of varieties be available for comparison, but it is proposed to make the Congress instructive and educational. The Conference will not take the form of an ordinary exhibition, as there will be no competition and no prizes. All growers of Potatos are invited to send collections or specimens, and the more numerous these are the greater will be the interest the exhibition will create. It is desirable, therefore, that every collection should be accompanied with as much information as can be furnished with regard to the soil, exposure, and physical conditions of the districts in which they were grown. The committee desires that an effort be made to procure specimens of all the varieties that are grown in the various districts, and that all should be distinctly labelled with the name or names under which they are known in their respective localities. All packages should be addressed to the Secretary, Potato Conference, Rotunda Rooms, Dublin, and must be delivered, carriage free, on or before December 8. Exhibitors staging their own Potatos may do so on the morning of December 9, to be ready for the inspection of the committee by 12 o'clock. Notice of intention to exhibit must be given to Mr. Thomas Shaw, Secretary, not later than December 1, stating the number of varieties to be exhibited, and the amount of space that will be required. The committee trusts, however, that applications for space be sent in as soon as possible to prevent disappointment. The committee of the Irish Gardeners' Association, who have undertaken this Congress, regrets that their funds do not permit seed merchants' or other trade exhibits to be shown free of charge, and they are, therefore, compelled to fix a nominal tariff of 3*d.* per square foot to such exhibitors, but all specimens or collections sent from amateurs or private growers will be admitted entirely free. Several eminent English and Scotch firms, as well as the Irish seed trade, &c., have already signified their intention to exhibit collections of Potatos, as well as appliances and remedies used for the prevention of Potato diseases. The following papers and lectures have already been promised, and the official programme of the hours when these will be given will be duly announced:—Professor Johnson, D.S.C., F.G.S., Royal College of Science, and Keeper of the Herbarium, Royal Dublin Society: "The Potato Plant, in Health and Disease." Illustrated by microscopic and lime-light views.—Professor E. J. McWeeney, M.A., M.D., M.Ch., &c.: "On Sclerotium Disease of the Potato Plant—its Cause and Prevention," with demonstration of affected plants, specimens of the sclerotium-fungus, lantern slides, and microscopic preparations.—Arthur W. Sutton, Esq., F.R.H.S., of Messrs. Sutton & Sons, Reading: "The Potato." Illustrated by lantern views, as used on the occasion of his lecture before the Royal Horticultural Society of England, in November, 1895.—Professor Malden, Cardington, Bedfordshire, late Agricultural Superintendent, Royal Dublin Society: "English and Irish Potato Cultivation and Trade."—Messrs. Dobbie & Co., Rothsay, N.B.: "Twenty-five Years' Experience on Potato Culture in Scotland and South of England."—A. Findlay, Esq., Markinch, N.B.: "Remarks on Raising New Varieties of Potatos."—Mr. M. Maguire, Mullin's Cross, Dunleer: "Opinions upon the Disease and Cultivation of Potatos in Ireland."—Mr. W. Cotter, Cabra, Dublin: "The Past, Present and Future of the Potato," &c.—Gentlemen who are interested in the cultivation of the Potato, and who are willing to act on the honorary committee, will please notify same to the secretary as early as possible. An official list will be duly announced in the public press. Alfred O. Watkins, President; Robert M'Craw, Vice-President; John J. Egan, Treasurer; Joseph A. Rochford, James M'Donough, Thomas Shaw, Secretary, Executive Sub-committee. All communications to be addressed to Mr. Thomas Shaw, Secretary, Rotunda Rooms, Dublin, where the Exhibition will be held on December 9 and 10.

The Worshipful Company of Gardeners.—The Members of the Court of the Worshipful Company of Gardeners, with a few personal friends, were entertained by the Master, Mr. N. N. Sherwood, at a banquet at the Trocadero, now managed by Mr. Lyons, a member of the Court, on Wednesday evening last. At a Court meeting held previously to the banquet it was decided to offer the freedom of the Company to the Hon. Alicia Amherst, in recognition of her work entitled *The History of Gardening in England*.

National Chrysanthemum Society.—We are requested to state, in reference to the great Jubilee Exhibition which is to open at the Royal Aquarium on Tuesday, Nov. 3, with a second competition on Thursday, Nov. 5, that all entries for either show must be sent in to the Secretary, Mr. R. Dean, Ranelagh Road, Ealing, by Friday, October 30. Everything must be staged ready for the judges by 10.30 A.M. on the mornings of November 3 and 5. All plants shown on November 3, with the exception of the trained specimens in classes 2 and 3, all fruit and vegetables, also all miscellaneous exhibits, must remain until the evening of Friday, November 6. Cut flowers and table decorations can be removed at 10.30 P.M. on the evening of Wednesday, November 4. Strangers exhibiting for the first time are informed that cards for naming cut flowers, and pins for securely fastening them to the stands, can be had at the flower-show office in the Aquarium on the morning of each show. The tables and other parts of the building will be roped off while the judges are making their awards, and only those privileged to be present while the judging is proceeding can be admitted within the enclosures. Exhibitors are requested to make themselves thoroughly acquainted with the "Regulations for Exhibitors," on pp. 55 and 56 of the schedule of prizes.

The Jubilee Banquet will take place in the Whitehall Rooms of the Hôtel Métropole, at 6.30 P.M. on the evening of November 3, Sir Edwin Saunders, the President, in the chair. Tickets one guinea each, which can be had of the secretary. On Thursday, November 5, the exhibition will be largely renewed, as competition will take place in thirty-four additional classes; and immediately after the awards are made, both of November 3 and November 5, a catalogue of the exhibits will be issued, with the names of the prize-winners, which will be on sale in the building. At 7 P.M. on the evening of the 5th a Conference will take place in the library, Mr. T. W. Sanders in the chair, when papers will be read by Mr. G. Gordon "On the Types of the Chrysanthemum and their Characteristics, with Suggestions as to the Adoption of a Fuller Classification;" by Mr. Norman Davis, "On the Points of Quality or Properties of the various Types as Exhibition-flowers, and the Value to be Apportioned to Each;" and by C. E. Shea, Esq., "On Setting-up Blooms for Exhibition, and the Principles upon which an Effective Arrangement of a Stand is Based." The Secretary of the National Chrysanthemum Society offers admission-tickets at a considerable reduction in price to parties of not less than twelve persons, members of affiliated Societies; and some of the main lines of railway are affording special facilities for reaching London.

—— The Special Prizes offered by the Trustees of the Veitch Memorial Fund, on November 3, viz., Nos. 19 and 20 on p. 66 of the Schedule of Przies, and which are stated, in error, to be "open"—can be competed for only by amateurs and *bonâ fide* gardeners. "Amateurs" being defined as including any person not engaged in trade as a dealer in plants or seeds. The Turner Memorial Cup and Prizes, which, by an oversight, are stated to be open to competition by nurserymen only, should have been, and are open to all comers.

—— Oct. 21: A meeting of the Floral Committee took place on the above date, Mr. J. Bevan occupying the chair, when a goodly number of exhibits were staged. First-class Certificates were awarded to incurved Rena Dula, bright silvery rose, with silvery reverse, a charming variety of great promise for exhibition purposes; plants with blooms were staged, showing the variety to be of dwarf habit, from Mr. T. S. Ware, Tottenham; to Japanese M. Hoste, white, suffused with delicate blush, very broad petalled, and fine quality; and to Pride of Exmouth, delicate lilac-pink, of fine substance and stout petals, from Mr. W. J. Godfrey, Exmouth; and to Pride of Mudford, a magnificent American variety, the large, full, deep flowers of a brilliant amaranth hue on the surface, with silvery reverse, a splendid exhibition variety from Mr. W. Wells, Earlswood Nurseries, Redhill. Etoile Polâire, from M. E. Calvat, broad-petalled flower of deep pink, flushed with purple, is very promising. So are Miss Muriel Goschen, from Mr. H. J. Jones, a charming shade of yellow, and good full substance; Marjory Kinder, from the same exhibitor, yellow, of a pleasing soft colour; and Antoinette, a large broad-petalled pure white variety from Mr. H. J. Jones, which was commended. A very promising sport from Madame Edouard Rey, pale chestnut with buff reverse from Messrs. Pearson & Sons, Chilwell Nurseries, the committee wished to see again. It was named Nelson, but the committee added the prefex of Lord to distinguish it from the Japanese Anemone bearing the name of Nelson.

—— We are requested to announce that the Chrysanthemum Society of America desire to offer a special prize of a Gold Medal to the National Chrysanthemum Society to be competed for at the forthcoming Jubilee Meeting. In the event of its acceptance on Monday next by the general committee of the National Chrysanthemum Society, this American Gold Medal, which is of the value of £5, is to be awarded to the best twelve commercial blooms, one variety from any source. To be considered from an American point of view, viz., exhibited in a vase (to be provided by the exhibitor), with not less than 18 inches of stem, of a pleasing saleable colour, size and substance also to be considered. Further particulars can be obtained of Mr. R. Dean, the Hon. Sec., National Chrysanthemum Society.

Royal Horticultural Society.—The next meeting of the Royal Horticultural Society will be held on Tuesday, Oct. 27, in the Drill Hall, James Street, Victoria Street, Westminster, 1 to 4 P.M. A paper on "Chrysanthemums," by Mr. W. H. Lees, will be read at 3 o'clock.

Gardeners' Royal Benevolent Institution.—The committee of the Sandringham Horticultural Society have forwarded, through Mr. A. Mackellar, the sum of £5 5*s.* in aid of the funds of this Institution

Change of Address.—The editor of the *Journal of Botany*, Mr. James Britten, F.L.S., announces that his address is now 126, Kennington Park Road, London, S.E.

Death of Mr. L. Boehmer.—We regret to learn, writes the *Japan Gazette*, in its issue for September 18, 1896, that Mr. L. Boehmer, an old resident of Yokohama, who established the firm of Boehmer & Co., recently died in Germany. Mr. Boehmer had been in bad health for some years, and left for Europe in the hope that the change would effect an improvement.

Shirley Gardeners' and Amateurs' Mutual Improvement Association. — "Pruning Hardy Fruit Trees for Pleasure and Profit," was the title of a paper given by Mr. J. Miles, The Gardens, Portswood House, to a large gathering of the members at the Parish Room, Shirley, Southampton, on the 19th inst., the President, Mr. W. F. G. Spranger, C.C., in the chair. Mr. Miles dealt with the subject very fully, illustrating his remarks with examples of good and bad pruning, taken from trees in the district. Summer pruning was also recommended, but from the paper it appeared to be an operation demanding much care and judgment, especially as to the time of starting the pruning, otherwise it meant failure certain and complete. Root-pruning also came in for a share of attention, being strongly recommended. There was a discussion, one member expressing an opinion that the care recommended in root-pruning was not necessary, he as a market gardener having found the rough-and-ready method of chopping off the roots with a spade to answer as well as all the care advised by Mr. Miles. A vote of thanks was most cordially tendered to Mr. Miles at the close of the discussion, also to the exhibitors, and the president. The exhibition was chiefly of fruit.

Eastbourne Horticultural Society.—Many of our readers will be interested to know that all notifications from intending exhibitors at the Eastbourne Chrysanthemum Show should be sent to the secretary, Mr. E. A. Newman, not later than Tuesday, October 27, after which date entry fees will be doubled.

Mr. John Walker's Root and Onion Show.—At the annual exhibition, held on Tuesday, October 20, at Thame, some 300 specimen roots and nearly as many bulbs were staged in competition. The Onions, known as "Walker's Exhibition," are a good-sized type of White Spanish, with a finely-rounded base, the premier set of twelve bulbs, exhibited by Mr. A. G. Nichols, Nuneham Park Gardens, being models of shape and bulk. The second prize went to Mr. C. Green, Stanton House Gardens; Mr. R. Lye, Sydmonton Court Gardens, third; Mr. W. Mobey, Rewley Road, Oxford, fourth. The competition was open to all England. The roots were good for a dry summer, Long Red and Globe Mangels turning the scale at 28 lb.; Swedes averaging 16 lb. per root.

Worm-eating Slugs.—The Editor of the *Journal of Malacology* is still desirous of obtaining living specimens of worm-eating slugs (Testacellæ), so as to add to the records he has of the distribution of these animals in the British Isles, and which he hopes to be soon in a position to publish. All communications must be addressed to Wilfred Mark Webb, "Ellerie," Crescent Road, Brentwood, Essex.

Floral Decorations: Real and Simulated.—The last number of the *Revue Horticole* did not appear with its wonted punctuality. The reason is now apparent in the numbers of illustrations it lays before its readers of the floral decorations in Paris at the time of the recent visit of the Russian Emperor.

Caution.—Mr. A. W. Cowan, New Bridge Street, Blackfriars, desires to caution gardeners and others against a man who, it is alleged, is canvassing for orders and receiving payment in advance, for which he gives receipts in lead pencil. Mr. Cowan has given no authority for such proceedings.

Nova Scotian Apples.—Reports from the fruit districts say that "the promise of a magnificent output of Apples places this important branch of agriculture beyond peradventure."

Stock-taking: September. — It is worth while noting here, as a prelude to the usual matter under this heading, that the lately-issued Inland Revenue Returns for the past quarter, whilst recording a falling off to the amount of £364,651 as compared with the same period last year, add the welcome information that the receipts for the six months show an increase of £1,262,921 as compared with months April to September in 1895. This is satisfactory, as are also the Board of Trade Returns for the month just ended.

The Imports.

show a grand total of foreign and colonial, £33,111,156, as against £30,618,854 for September, 1895, showing an increase of £2,492,302. Our usual excerpt from the "summary" table is as follows:—

Imports.	1895.	1896.	Difference.
	£	£	£
Total value ...	30,618,854	33,111,156	+2,492,302
(A.) Articles of food and drink - duty free	10,792,959	11,218,704	+425,745
(B.) Articles of food and drink dutiable	2,099,457	2,282,855	+183,398
Raw materials for textile manufactures	2,023,436	2,586,666	+563,230
Raw materials for sundry industries and manufactures	4,319,668	4,541,461	+221,793
(A.) Miscellaneous articles	1,140,909	1,155,708	+14,799
(B.) Parcel Post ..	69,129	196,999	+127,861

There is but one item of decrease shown here, but many changes are recorded in the items making up the total. The most notable increase is under the head of "manufactured articles," the total being £656,000; textile materials show a gain of £563,000. There was a large increase in cotton imports, equal to £743,000, and this chiefly from the United States. Wool dropped by £212,000. In the imports of food, Indian-corn shows an increase of 2,651,000 cwt.; and Wheat fell off by 2,281,000 cwt., or £497,000—an increase, however, being shown by North America. Flour from the United States shows an increase of 443,000 cwt.; Barley fell 560,000 cwt. Butter went up by £317,000, Denmark heading the list. In sugar, chiefly from Germany, there is an increase of £145,000. Of dutiable articles, Indian tea exhibits a gain of 6,301,000 lb., or £284,000 in value. Currants dropped £105,000 in value; a note for Christmas buyers. Timber and India-rubber fall off considerably. The nine months of the current year show a total import of £316,368,471, against £303,935,714 in the same period of 1895—or an increase of £12,432,757. In concluding our brief note on imports, we, as usual, draw attention to the figures representing the imports of fruits, roots, and vegetables, which are briefly as follows:—

Imports.		1895.	1896.	Difference.
Fruits, raw:—				
Apples ...	bush	242,861	682,738	+180,374
Cherries ...	,,			
Plums ...	,,	125,502	62,845	-62,657
Pears ...	,,	89,191	126,044	+36,853
Grapes ...	,,	170,044	231,564	+61,521
Unenumerated ...	,,	138,254	157,224	+18,970
Onions	,,	621,439	703,227	+81,788
Potatos	cwt.	66,104	36,493	-29,611
Vegetables, raw, unenumerated	value	£114,308	£108,807	-£4,501

These statistics, it will be noticed, do not decrease in importance as the years roll on. Coming now to the—

Exports

of British and Irish manufactures, we find the total for the month to be £19,797,080 against £19,461,940 for the same period last year—or a gain of £335,141. The gain is principally in metals and their various manufactures.

Isle of Wight Fruit Exhibition.—The October monthly meeting of the Isle of Wight Horticultural Improvement Association took place at the Shanklin Institute on Friday, the 16th inst., when Mr. J. Cheal, of the firm of Messrs. Cheal & Sons, Crawley, gave a lecture on "Fruit-growing," and staged for the public inspection over 100 dishes of Apples and Pears, in addition to dried fruits, and a large and beautiful collection of Dahlias. A good deal of fruit was shown by cultivators residing in the neighbourhood, and some of it was particularly good. In the absence of Dr. Groves (Chairman of the Association), Mr. J. M. Brown presided at the lecture, and after a few introductory remarks, called upon Mr. Cheal to give his address on fruit-growing, which he did in a clear and concise manner, making it very interesting and instructive by the aid of blackboard drawings, &c.

New Publications.—*Experimental Plant Physiology.* By D. T. Macdougal. (New York: Holt & Co.) Now-a-days it is not considered sufficient to tell a student anything, be it the simplest of facts. He must see it, and, as it were, discover it for himself. One of the "experiments" in this book, for instance, bids the student immerse a Cabbage-leaf in water in order that he may see how impervious the epiderm is to water. Nevertheless, the student who carefully works through the hundred or more experiments here described will undoubtedly make himself the possessor of a select and very important amount of knowledge. The account of the experiments necessary to show the influence of light or its absence is incomplete. No mention, so far as we see, is made of the influence of the electric-light. The term "photosynthesis" is applied to designate the forming of carbohydrates (sugar, starch, &c.) from carbon dioxide and water in leaves or green tissues exposed to sunlight.—*The Journal of the Essex Technical Laboratories*, No. 22, again affords testimony of the judgment and thoroughness with which technical education is carried out at Chelmsford. For Beans, superphosphate of lime has proved the best manure, whilst the application of farmyard-dung has not yielded results proportionate to its cost.—*Flora Capensis.* The second part of the sixth volume has been published by Reeve & Co. It contains a portion of the Amaryllidaceæ and of the Liliaceæ elaborated by Mr. Baker. To growers of Cape bulbs, this volume will be of special interest.—*Bulletin of the Botanical Department, Jamaica.* This number contains, amongst other articles, one on the decreased price of logwood, which is attributed to the felling of immature trees the older ones having been cut down.—*Yorkshire College, Leeds, Department of Agriculture Report*, 1895-96. The *Report* states that considerable development took place in new directions, whilst the older-established parts of the work are becoming better known and appreciated. The average attendance on the classes for horticulture has diminished. Practical demonstrations are most useful for the labourers, who are not sufficiently educated to be able to appreciate the importance of the principles. Dr. Clark is the lecturer on horticulture and allied subjects.—*Bulletin of Miscellaneous Information, Botanic Garden, Grenada, June.* From this we learn that Castilloa elastica has fruited for the first time in the garden. Birds are said to be very fond of the pulpy substance in which the seeds are imbedded, and may thus serve to disseminate the plant.—*Bulletin of Miscellaneous Information*, Royal Gardens, Kew. May and June. Botanical enterprise in British Honduras forms the initial article of this number, which has the more importance from the fall in the price of Mahogany, and the necessity of supplying some substitute.—*Proceedings of the Agricultural and Horticultural Society of India.* The total number of Fellows is 569, and the work consists largely in the introduction and distribution among the Fellows of plants suitable for culture in India. About 60,000 plants were distributed last year.—*Entomological Notes for the Young Collector.* By W. A. Morley. (Elliot Stock.) A capital book for boys. We do not understand, however, why all the specific names are spelt with an initial capital in the lists, whilst in the text a small initial letter is used. The varied practice of naturalists in this matter is becoming very troublesome.

PLANT PORTRAITS.

Bertolonia, Madame Treyerin, leaves dark green, with a central lighter blotch, under-surface rich purple. *Illustration Horticole*, t. 64.

Cattleya chocoensis, *Moniteur d'Horticulture*, October.

Cattleya Percivaliana, *Moniteur d'Horticulture*, October.

Cattleya Skinneri, *Revue de l'Horticulture Belge*, September.

Cirsium discolor, *Mechans' Monthly*, t. 9

Dahlia (Cactus section), Princess Victoria Louis, *Garten Flora*, t. 1430.

Escallonia macrantha, Hook et Arnott, *Revue de l'Horticulture Belge*, October 1.

Gentiana Andrewsii, *Wiener Gartenzeitung*, heft. ix., t 3.

Griffinia Blumenavia, *Garden*, September 12.

Iris Douglasiana, *Garden*, October 3, 1896.

Iris tectorum, *Garden*, October 3, 1896.

Iris missouriensis, *Garden*, September 5.

Onosma albo-roseum, *Garden*, September 26.

Prunus mume. *Garden*, August 29.

Rhododendron Halopeanum ×, flowers large, flattish, pale pink, slightly spotted. *Revue Horticole*, September 16.

Saxifraga muscoides, *Garden*, September 26.

Stephenandra tanakæ, Franchet & Savatier. A rosaceous shrub, with leafy stipules, cordate, pinnatifid, acuminate leaves, which assume a rich orange colour in autumn. *Gartenflora*, t. 1431.

Thunbergia laurifolia, *Bulletin R. Soc. Toscana d'Orticultura*, t. ix., 1896.

Tulipa Greigi, *Garden*, September 19.

Vernonia flexuosa, S. Brazil, flowe -heads lilac. *Revue Horticole*, September 1.

Vriesia Poelmanni, *Revue de l'Horticulture Belge*, October 1.

CHRYSANTHEMUMS.

The long-continued showery weather has not been favourable to the perfect development of the blooms. In glass structures, which are not quite waterproof, much trouble will be caused by drip. If the blooms are allowed to remain directly under such drip, the florets will certainly be injured, and the quality of the bloom be much impaired. The blooms must be relieved of any surplus moisture that may have formed upon them, and when it cannot be dislodged by a gentle shake, it may be absorbed by the use of blotting-paper.

Continue to maintain a gentle warmth in the hot-water apparatus, to provoke a circulation of air. Moisture upon the blooms is frequently the result of the blooms having become very cold, and thus induced a condensation. Water must be given the roots very sparingly, and always in the morning, after which the surplus water from the pots should be mopped up. Strong stimulants should also be avoided, as conducive to damping in the blooms; and during the present weather, any stimulant that is given should be first diluted considerably. Shade the plants from bright sun, to obtain perfect colour in the blooms, as well as to preserve them. Much injury is done to opening flowers by sudden exposure to hot sun, especially if it follows several dull days. The manner of arranging the plants in the various structures will have a distinct bearing on the requirements of shade.

In many gardens the Chrysanthemums are flowered in Vineries and Peach-houses, and if the house face south, the plants may still be arranged with a face to the north. Seldom are all the leaves removed from the Vines or Peach-trees before the Chrysanthemums flower, and sufficient shade is then afforded the plants by the remaining leaves. Should it be desirable to retard any particular bloom, this may be easily done by spreading over it a sheet of thin tissue paper, which should be removed in the evening. Permanent shading during the time the plants are in flower is best and easiest applied by making a mixture of lime and flour in equal proportions of the consistency of paint. This should be applied to the outside of the glass with an ordinary whitewash-brush [or a thinner solution may be applied with a syringe. Ed.]. Any decaying leaves should be promptly removed from the plants, as they render the atmosphere less pure. *E. Molyneux.*

FRENCH BEANS.

I have never been able to secure a profitable crop of Beans in the months of December and January. The plants grow well enough, but they do not pay for the labour, fuel, and trouble expended on them; at least, that is my experience at Sion. When French Beans are sown in the month of November, when the days are very short, the plants are deficient of roots, and without plenty of roots, growth is poor and pods few. We sometimes say, rather thoughtlessly, that the French Beans may be cultivated with ease all the year round, but very much must necessarily depend on the kind of forcing-house, the locality of the garden, the time at which the plants are raised; and it is only those cultivators who expect very moderate returns, who will sow the seed at the season named. In foggy and damp, dark weather, the flowers drop wholesale. If the seeds be sown towards the end of the month of December, or later, far better returns may be looked for, which is better than waiting till the first-sown plants make a second growth of blooms.

French Beans may be obtained in quantity in mid-winter, and at a much less cost, with a small amount of sunshine and daylight, and it is to this fact that I place most importance.

During September and October, if we have good autumn weather, French Beans sown late in July, with only cold frames as a protection, give a late supply, as the pods do not so soon get tough and stringy at this season when allowed to remain on the plant; and if the pods are gathered when of a fair size, they keep in a good condition for a long time, if the stalk end is placed in fresh water in a cool place, with a little charcoal in it to keep it sweet.

I now come to the difficult period, November, December, and January; and to provide for that season at the least amount of expense, the cultivator must do so in September. I am aware some may object, and say, why sow at this season, when seed sown much later will give a crop?

Early French Beans may be sown on a bed or in pots, it being immaterial which, providing there is a minimum top-heat of 60° by night, and 70° by day, and 5° to 8° more when a crop of pods has been secured. A small podding variety should be chosen, as Sion House, Ne Plus Ultra, or Mohawk, sowing thinly, and thinning early so as to obtain sturdy plants. Considerable warmth may be used at the start, and till the plants have formed the third leaf, when it must be reduced, and again raising the temperature in a few weeks time when the flowers appear. The plants must be afforded all the light possible, and a depth of soil of about 6 inches, manuring aids being given in the liquid form. If pots are used, those of 7 to 9 inches are large enough, and good crops may be obtained from plants grown in smaller ones; if the pots can be stood on a slight bottom-heat so much the better. The chief points are a strong early plant and a free set, and if these be obtained the plants will give pods all through December, if they are afforded water carefully, and kept steadily growing. From plants in beds more pods are obtainable, and it is the best method; but whichever is adopted, a showy early plant should be got. *G. Wythes.* [Where the electric light is available, it should certainly be tried in the case of French Beans in winter. Ed.]

HOME CORRESPONDENCE.

THE QUEEN'S CELEBRATION, 1897, AND THE ROYAL HORTICULTURAL SOCIETY'S TEMPLE SHOW.—London will be visited in June, 1897, by crowds anxious to take part in the festivities connected with the Queen's celebration; and it might be a good idea for the Council of the Royal Horticultural Society to embrace such a favourable opportunity to fit in the date of their show with that of the celebration. It may be a little late for Orchids, one of the great features of the show, but no doubt even then a good representative display of these glorious flowers could be obtained. There is little doubt that if the 1897 show could be held in celebration week, it would result in a big financial success—certainly one well worth consideration in view of the many claims upon the Society for the proper prosecution of its important work. May one put in a plea for a more practical recognition of the private gardener at this show? and suggest that good money prizes be offered for the best examples of cultural skill in the culture of plants, flowers, fruits and vegetables. Medals may serve as sufficient acknowledgment to the trade, the latter being amply compensated from the advertisement point of view; no such consideration, however, enters into the gardener's position, hence the comparative paucity of gardeners' exhibits at these shows, and the very undue preponderance and inevitable sameness of trade exhibits. Would not some novel and peculiarly suitable interest be excited at next year's show were the Council to offer prizes in an open class for the best sixty plants, hardy, or stove and greenhouse, introduced during the last sixty years? Some such restriction as to numbers would be needed, looking at the numerous and wonderful introductions during this period, and it allows for one plant during each year of the reign. As showing, too, the splendid advance made in certain genera, the authorities of the Botanic Gardens scattered throughout the Empire, might be induced to exhibit types of plants or flowers from their respective representative collections that first came into cultivation in 1837. Visitors to such a show as the one under notice, have little or no opportunity of inspecting Covent Garden, which has not inaptly been termed the best garden in the world, and, so far as garden produce is concerned, it is sufficiently near the truth for all practical purposes. Why not at the next Temple Show set apart for "market growers" some classes to illustrate what may be called decorative plant culture? In this what may be called the golden age of garden literature, how interesting and instructive would be an exhibition of some of the best books and papers that have seen the light since the Queen ascended the throne in 1837! What magnificent literary advance has been made all round since this time! Or we could go back a few centuries, for as Johnson, in his *History of Gardening*, tells us, that the author of the first book written on the cultivation of the soil in England was by Walter de Henley, in the reign of Edward III., 1327—1377. In a translation of this work by Elizabeth Lamond (1890), we learn that the earliest edition was the English translation issued by Wynkyn de Worde, immediately followed both in the MS. and the printed copy by a tract on the planting and grafting of trees, adapted and translated by Palladius. Altogether, the Queen's celebration in 1897 would seem to furnish to the representative Society of British Horticulture a magnificent opportunity for illustrating the progress of the Gentle Art, during a reign that will be memorable from whatever point of view it is regarded. *J. B.*

—— On June 20 next, should Her Majesty be so long spared, she will complete the full term of sixty years reigning over Great Britain. During that sixty years horticulture has made wonderful strides, indeed it has almost more than kept pace with other professions, vocations, and industries of the kingdom. It is presumably not too late to ask whether it is in any way proposed to celebrate that event, and to show the world that horticulturists fully realise the wondrous progress of that sixty years of the Victorian era. Were the event to fall in the month of May, then the usual Royal Horticultural Society's Temple Show might have formed a fitting horticultural celebration, assuming that a real effort was made to that end. But the event will be a month later, and assuming there will be a great horticultural festival, it would seem advisable to defer the Temple Show for a few weeks, or else to withhold it for the year, in order to make way for one of a national and representative character on or about June 20. To have a show worthy of the occasion, it is needful that it should, if that be in any way possible, portray the various stages of horticulture from 1837 to 1897, because then there would be tangible evidence furnished of the remarkable development of gardening during the queen's reign. Possibly it will be pleaded the suggestion comes too late, and that nothing can be done. I do not assume that such excuse will be made in other directions, where other trades and vocations are concerned. Horticulturists should be only too pleased to have a special opportunity to exhibit to the world at large how fully they appreciate the benefits which the longest reign in British history has brought to them. It is so difficult to realise the immense development of horticulture during the past sixty years, to remember what it was in the thirties, and compare that period with the nineties. Gardening has been growing in every direction all the time, and to many perhaps so insensibly that when they come to reflect on all that has been accomplished, they are amazed. The stories as to the decadence of modern gardeners will not bear hearing, when it is remembered what gardening is now, and what it was two generations ago. If then some few men stood out as bright and shining lights, it was because the rank and file were not what they now are. He must indeed be a great man who can in gardening claim to stand head and shoulders above his fellows to-day. As years have rolled on, and there has been so wonderful a development of culture as of material, the removal of the duties on glass having worked a revolution in house erection and utility; just as the removal of

the paper and advertisement duties has made our fine horticultural press possible. But people to-day can as easily forget—perhaps, indeed, never knew—the difficulties which sumptuary laws created for gardeners, as they can the general condition of the country at large, when the Queen began to reign, and which, like to horticulture, too, has undergone a great beneficial change and revolution. It will be interesting to learn how far the suggestion of some exceptional horticultural celebration of the Queen's reign of sixty years be received. It may to some seem simply a loyal suggestion, but to the many it will be regarded as a horticultural one. It is in that sense specially that I submit it. *A. D.*

RED SPIDER AND XL ALL FUMIGATOR.—Discussing the advantages of this excellent preparation with a Tyneside gardener a few days ago, the fact was clearly demonstrated to me that Messrs. Richards make no mention of red-spider (except by way of etcetera), in particularizing the advantages of their preparation. My friend, whilst admitting its great utility, maintains that it will not kill red-spider in anything like the manner it rids plants of other pests. A Peach-house was given in support of the theory, that having been twice subject to the necessary doses according to the published directions given for the cubic space; other means had to be resorted to, to get rid of the spider. Perhaps some of our large fruit growers will give us their unbiased opinions on this matter. *I. I.*

RENOVATING VINES.—If the Grape-vines have been on the wane for several years, they should have their roots examined to ascertain the cause, waiting, however, till the crop is consumed or cut, and placed in the Grape-room. If the examination shows the soil is in a sour or much compacted state, the work of lifting the roots, and re-planting them in fresh soil, should at once be undertaken. The soil should have been prepared so that the roots may be lifted and re-planted with rapidity; and as large quantities of manures mixed with the soil tend to sour it, it should in great part be left out of the compost, nutriment being afforded by means of top-dressings. When Vines are lifted early in the autumn, and care is exercised in doing the work, the produce is far better the first year afterwards than it was the previous year, and it will continue to improve if the Vines are not cropped too heavily. A commencement should be made at that part of the border that is farthest from the Vine, taking out a deep trench, and shoveling out the soil, always keeping the trench clear for a space of 2 feet in width, thus affording plenty of space to carry out the work of undermining and searching for the roots. Continue to dig out all of these, working along the face of the trench, and in the direction of the stems of the Vines. The roots of the Vines, as they are got out of the soil, should be bundled up in wet litter, and slung up to stakes. Having cleared the soil of the roots, it should be wheeled away, and the drainage put in good order again. It is not prudent to uncover many roots at one time, as the period of exposure would be too long, and the Vines might suffer. Having seen to the drainage, proceed to lay turves over it the grass side downwards. Proceed to wheel in the prepared soil, making it firm, and spreading out the roots evenly and at various depths. It is most essential that semi-detached pieces of the roots may be removed if roots be abundant, otherwise they may be left; the broken ends of the roots cut smooth, and at intervals the strongest roots and bare thongs may be notched, to induce the emission of roots. After replanting Vines at a higher level than formerly, to allow for the settling down of the border, a light application of tepid water, and a mulch 3 inches thick of decayed manure, may be put on the border, if it be an outside one. The Vines, treated as above described, should be shaded on sunny days for a few hours, and the vinery kept moderately close. It will also be advisable to wet the Vines three or four times a day, as well as the walls, floor, &c., more or less according to the state of the weather. The Vines will probably soon recover from their root-disturbance, which will show this in a freshening of the foliage; the Vines may then be gradually aired freely. Forcing next year should not begin early, or the Vines hastened overmuch or heavily cropped. *H. Markham, Mereworth.*

HYBRID GLADIOLI FOR LATE FLOWERING.—During a visit to Linton Park, Kent, on October 2, I noticed some fine pots of these in the conservatory just opening their flowers. Few things would have looked so chaste and pretty as they did, standing on the stage among a quantity of pale-coloured Chrysanthemums and other things. Mr. McKenzie said they were potted up several weeks later than the ordinary time for planting out, and had been kept dry until potted; they looked the picture of health, and were carrying three and four spikes of bloom in 6-inch pots. The red-flowered kinds are just what is wanted at this dull season, when the bright summer flowers are almost over. *W. H. Divers.*

LATE PEAS.—Some gardeners object to crop the land with late Peas because, as they aver, mildew always destroys them. This is, I dare to say, a valid reason if the earlier varieties of Peas which are not the best for autumn cropping are sown. The Wrinkled Marrows are the best for this purpose; and British Queen, and Ne plus Ultra, both old varieties, are still the best late Peas providing a stimulus be kept up at the root. These Peas will then form a number of lateral shoots, and they will therefore bear stopping frequently, thus prolonging their bearing. There is no doubt mildew is in a great measure favoured by the torpidity of the roots brought about by dryness accompanied by much sunlight, or by long periods of moist rainy weather accompanied by low temperature. Deep digging is very essential for success with late Peas, the roots of the plants descending to a much greater depth than is generally believed. Trenches, like those dug out for Celery, should be made 2 feet deep and wide if the soil is good so far from the surface, and this trench should be afforded rotted dung, which when trodden down firmly will be 6 inches thick, over this 6 inches of soil should be returned, doing this at two operations, and affording water to soak the whole mass. Above this there should be placed a second layer of dung, covering this with soil and affording water as before, and filling up to within 6 inches of the surface. This kind of preparation does away with the usual surface-watering. The Peas should be sown in a shallow drill, and covered with a good depth of soil, a slight mulch, say 2 inches deep, being placed on each side of the row. If these directions are carried out, no water, or but little, will be required by the plants. The sticks used for the varieties of Peas named should be 7 or 8 feet long, and when the haulm reaches to within 1 foot of the top of the sticks, it should be stopped, for the encouraging of lateral shoots before the energy of the plant becomes reduced by the production of large quantities of terminal blossoms. The quantity of Peas that may be gathered from a single row thus treated is astonishing. Should the haulm grow so vigorously as to overtop the sticks, it may be again stopped at the points. With these precautions taken, mildew, if it should appear on the plants, will not influence the growth of the plants or greatly hinder. At Osberton the soil was very suitable for Pea and Potato cultivation. I was never troubled with mildew on late Peas. The soil was such that I was enabled to grow better vegetables there than anywhere else. *Edward Bennett, Queen's Road, Egham.*

SOME SUGGESTIONS ABOUT SPRING BEDDING.—It is, I think, rightly believed by many persons competent to form an opinion, that the spring-garden can be made as attractive as the summer-garden. Not only are the materials to the hand of the gardener exceedingly various and capable of lovely combinations, besides affording grateful fragrance, but mankind sees in the revival of Nature from her long winter sleep, much to admire and inspire; moreover, it is so long since out-of-door flowers were enjoyed, that everyone is glad to have flowers in the place of bare soil. I offer the following suggestions for planting the beds at this season:—A bed of Anemone appenina, the flowers of which are of a bright sky-blue tint: planting should be done as soon as the summer bedding is removed. When flowering is passed, lift the tubers and lay them in the reserve-garden till foliage has died down, when they should be stored away in sand till required again. A bed of mixed varieties of Anemone coronaria made at this season, and another planting made about one month later. Primula cashmiriana makes a nice bed, if planted in the autumn. It is a comparatively new species, but seed is obtainable of nearly all nurserymen and seedsmen; it should be sown in the spring, and grown in the open air. Primula Sieboldi, if treated similarly to P. cashmiriana, does equally well, and the two form a pleasing contrast; it has succeeded admirably at the Sheffield Botanic Gardens from seedlings raised the previous summer. Dicentra spectabilis is a beautiful early-flowering plant, that requires for its best effects to be brought out in a shady situation; planting in the autumn, or as soon as the plant begins to show signs of returning vitality in the early spring. A bed of Trollius asiaticus has a nice effect, but the double-flowered varieties are to be preferred; planting in the autumn when taken up from the beds after flowering, the plants should be carefully divided, and the pieces planted in the reserve-ground. Alyssum saxatile var. compactum strikes readily from cuttings in the spring in mild bottom-heat, or under a hand-light, in a sandy compost; they are large enough to be used in the beds the following autumn if properly cared for during the growing season. Sanguinaria canadensis, lifted and divided in the spring, and planted out in the reserve garden till the autumn, should be thinly planted at this season—it spreads freely. There are not many gardens where a few plants of Doronicum caucasicum are not to be found; and when the beds are ready in the autumn, lift and divide (not too severely), and plant the pieces at about 1 foot apart, care being taken to cut away the old flower-stalks when dividing. Arabis albida from spring-sown seed, furnishes blooming plants for the spring-garden, but I much prefer to lift old plants from the borders or the alpine garden, dividing, and planting in the reserve garden, and planting in the flower-beds at this season. Beds of Narcissus are generally admired, and beds may be planted with the bulbs at this season, putting them out at 9 inches deep, and 1 foot apart, planting three bulbs together in each hole, and making very firm. The surface of the bed may be planted with Herniaria glabra, and an edging of Aubrietia purpurea afforded the beds. Any of the early varieties of Narcissus will do, especially N. gracilis. The foliage of these bulbs dies down soon after flowering, and the bulbs do not suffer any check from early lifting. *T. Appleby, Botanical Gardens, Sheffield.*

ECZEMA CAUSED BY ROMAN HYACINTHS.—Those who have had to do with the unpacking of Hyacinths when received from Holland, even when each bulb is wrapped in paper and packed without Buckwheat husks, have frequently experienced a good deal of skin irritation when they touch any portion of the face with the hands. Many years ago, when I was in one of the large wholesale seed-houses, large numbers of Hyacinths used to be handled by me, and always with this result; and it was as true of the ordinary Hyacinths as of those of the Roman type, and in dealing with the various kinds of bulbs I found there was more of this irritation from the Hyacinth bulbs than from any other. It is possible there may be a peculiar irritation coming from the Roman Hyacinths, but it was not perceptible, so far as my experience goes, in any more than in the blues, or reds, or whites. I used to fancy that in the act of handling the bulbs almost infinitesimal particles of the soil in which the bulbs had been grown, and attaching themselves to the fingers, were conveyed to the face and neck. I have at times experienced the most acute irritation from this cause. *R. D.*

DWARF CHRYSANTHEMUMS.—I herewith send you (October 12) two Chrysanthemum blooms, one of William Tricker, and one of Mrs. E. S. Trafford, a sport from W. Tricker. The plants have been grown in 6-inch pots, and are 22 inches high. They were struck late in May, and have since been grown by Mr. Milford, gardener to Lady Wilton, Egerton Lodge, Melton Mowbray, who has a batch of similar plants. In Mr. Drover's book on the cultivation of the Chrysanthemum, speaking of Wm. Tricker, he writes:—"Colour a delicate rose; without doubt, one of the finest incurved Japanese varieties of this colour yet sent out; cuttings should be taken the first week in February, and grown on to a height of about 5 ft." Surely, if blooms equal in size to those I send you can be grown without any special cultivation in about six months in 6-inch pots, it must be a decided advantage to have plants so dwarf, and to grow them in such a short space of time. *J. Don.* [The blooms which were sent with this note were very large and good. This variety, and Mdlle. Thérèse Rey, and some others, are very easily produced in the manner described above, but they should be thinned to one bud. Ed.].

PLANTING.—It will be wise on the part of all who may purpose planting or re-planting trees and shrubs, to get the work done as speedily as possible. There may be some soils so saturated that it may be well not to be in too much haste; but such cases are few indeed, as, in spite of the recent heavy rainfall, percolation has been rapid, and a dry day or two will soon help to remove traces of the rain. The soil now is in very diverse conditions to what it was in October last year, when unusual heat and drought prevailed. Growth has of late been strong, and wood sappy, so that early lifting will do much good in checking

this exuberance, in causing the woody fibre of the shoots to harden, and conduce to a speedy leaf-fall. The sooner planting takes place, the earlier will new roots be made, and trees and shrubs become established. There may be cases in which severe pruning of coarse roots before planting may be needful, but such hard pruning may be counterbalanced in the spring by a free use of the knife above ground. Still, these may be but exceptional cases. Remembering what followed in the winter of 1894–95, when intense frost locked up the soil, and prevented all planting for several weeks, we may be wise to think that severe frosts may, during the ensuing winter, follow upon the recent heavy rains. No one can tell, but all may conjecture, drawing conclusions from previous seasons. If, therefore, hard weather sets in by-and-by, stopping all planting operations, how much wiser will have been those who, without necessarily waiting for the fall of the leaf, planted early, and so saved a winter, perhaps a season. Even if the weather once more becomes dry, nothing can so affect the soil as to make it other than eminently fitted as now for planting. *A. D.*

WHITE AND YELLOW TURNIPS.—The note signed "Albert Upstone" in the *Gardeners' Chronicle*, p. 468, has caused me to refer to p. 378, where, above the time-honoured initials "D. T. F.," I find the assumption that "it seems as if no one cares to grow white Turnips in Scotland," and an appeal to those beyond the Tweed to give through the pages of the *Gardeners' Chronicle* the reason why. This seems to call "Albert Upstone" to the front to represent Scotland, and he apparently does so to his own satisfaction by swallowing "D. T. F.'s" assumption, and giving an hypothesis in place of a real answer. Is there none amongst the thousands of bright lads in garden-bothy or seed warehouses in Scotland who will take the trouble to give "D. T. F." the answer which would be so easy to them? Though I now write from England, amongst one of the things "thought on" by me is white "neeps," so toothsome and good, which I have no hopes of ever seeing equalled here [?]. Will some experienced Scotch cultivator living in Scotland, afford "D. T. F." information about white "neeps," how much they are grown and prized, and at which season they are good? *Scot.*

DELPHINIUM ZALIL (*D. sulphureum*).—I am much obliged to Mr. Reuthe and Mr. M. Cuthbertson (p. 468), for so kindly replying to my enquiry regarding the perennial nature of this pretty Larkspur. Mr. Reuthe's experience leads me to think it may be worth while to try it again, although that of Mr. Cuthbertson is unfavourable. The excessively moist winter of 1895-96 may have had something to do with the loss of my plants. My garden is only some 25 feet above the mean sea-level, so that the climate more nearly corresponds to that of Mr. Cuthbertson's nursery than that of gardens close to Dumfries. I did not suggest, however, that it was of annual but biennial habit. I think it is possible that it may help to give us new shades of colour in this charming genus of plants. *S. Arnott, Carsethorn, by Dumfries, N. B.*

SWEET PEA CUPID.—Permit me to add one more to the adverse opinions of this Sweet Pea for outdoor culture. Here, also, it has proved quite useless for this purpose. I daresay there are some who think a Sweet Pea of such dwarf habit is not needed for our gardens. I do not share this view, as it appears to me that there are many purposes for which a free-flowering, non-climbing, and dwarf Sweet Pea could be used to advantage. Cupid, it is to be feared, will not meet the objects in view. *S. Arnott, Carsethorn, Dumfries, N.B.*

PRECOCIOUS BUSHES OF CHOISYA TERNATA, ETC.—As instances of the hot and dry season, much too dry as we know to our cost, bushes of Choisya ternata are again in flower for the second time this season. A Black Hamburgh Vine growing on the side of my house, east aspect, has ripened a few dozen bunches of fruit. *James Baxter, Boldre Grange Gardens, Lymington.*

GRAPES AT THE CRYSTAL PALACE.—My name having been mentioned by my friend, "R. M., Newbury," in his communication (see p. 468), allow me to state that not only was my employer, the late Mr. Hargreaves, as well as all his family, particularly partial to Gros Colmar Grape, but the visitors to Maiden Erlegh were full of their praises of this variety; and had I grown it to the exclusion of all other Grapes for late consumption, it would have given greater satisfaction than Lady Downes and Black Alicante, which followed it, neither of which was liked because of the thickness of the skin. Like "A. D.," I was not a little surprised to see Gros Maroc and Gros Colmar classed together; and I can endorse all that he says concerning the merits of these varieties. The cultural requirements of the two are so different, I should not be surprised to learn that Gros Colmar was quite unfit to eat when grown in a temperature that suited Gros Maroc, the former not only requiring a much higher temperature but also three months' longer time, in order to ripen thoroughly, when in my opinion it more than compensates for the extra cost of firing. Gros Colmar thus grown is useful from December onwards. I unhesitatingly say that no other black Grape is so delicious. "Vinitor" should, I think, have been fully acquainted with the culture required by Gros Colmar before he so unhesitatingly classed it among worthless varieties. It would be interesting if some of the principal fruiterers in Covent Garden would kindly afford readers of the *Gardeners' Chronicle* their opinion of the two Grapes in question. I have always understood that the fine Colmars sent from Clovenfords are of splendid quality; and, on the contrary, a friend told me a few years ago that in Covent Garden a fruiterer said that Gros Maroc was never asked for a second time. *T. Turton.*

ASTER ERICOIDES.—This little gem is in full flower just now, and a pretty sight it makes, with its multitude of miniature star-like flowers. Here, in Perthshire, we find it so useful that we flower it in pots. Our mode of procedure is as follows: the old plants are taken up and divided in the spring into single stems, with roots attached, and potted in 3-inch flower-pots. When established the tops are pinched, and the plants are grown cool, and planted outside in May, at 4 feet apart. At the end of the month of September they are lifted and potted in 10-inch pots, and stood in a cool Peach-house to flower. The plants are about 30 inches high, and 3 to 4 feet in diameter. The flowers are white, with a yellow centre. We find them very useful for cutting, being light and graceful, and capable of standing a long time in water. *A. Morton.*

BEET.—Will you allow a Scotsman resident in this country to comment on the question put by "D. T. F." on p. 378 of the *Gardeners' Chronicle* as follows, "Why they (the Scotsmen) all grow Carrot-rooted instead of Turnip-rooted Beet?" This inquiry, it seems to me, would lead Scotsmen to infer as a natural sequence that in England it was quite the exception to grow the normal form, or, as "D. T. F." calls it, the Carrot-rooted. Instead of this, however, I quote the following figures:—The English firm with which I am connected sold last season over 9000 packets of the ordinary long forms of Beet, and fewer than 650 of the Turnip-rooted. *Res ipsa loquitur. Scot.*

FORESTRY.

TREE-GROWTH.

THE partial development of the annual shoots in trees deprived of their bark, which was referred to by correspondents of the *Gardeners' Chronicle* of August 29 and September 5, is only one of several interesting facts which are to be seen in trees which, either from accident or design, are in a more or less unnatural condition. The phenomenon above referred to proves that the course taken by the crude sap in its ascent from the roots to the leaves, takes place through the sap-wood of the stem. The growth of the shoots on the barked trees is in no way more remarkable than it would have been had the bark remained on. The generally-accepted view of the growth of a tree is, that the watery sap rises through the outer rings of the stem into the leaves, there becomes greatly changed, and passes from the leaves through special vessels in the bast or inner bark in a downward direction, from which it finds its way as required to the cambium or growing layers. The removal of the bark, therefore, if not carried too far, does not interfere directly with the growth and support of the leaves, but prevents the food which they prepare being put to its proper use by the destruction of the conducting channels and the cambium layer. The continuation of growth in the annual shoots under such circumstances depends upon the capability of the stem to retain its water-conducting power, and the amount of reserve material contained in the roots (a part of the stem below the portion barked), by which they are able to carry on their absorptive functions. In the case of trees barked up to their smallest branches and twigs, the water-conducting power of the upper parts of the stem is soon lost, or reduced below the needs of the leaves, owing to outer influences, such as sun and wind carrying off most of the sap by evaporation before it reaches the growing shoots. Where large branches are ringed at their bases, however, so that at least a part of the bark of the crown remains connected with the roots, their growth proceeds for many years with little or no decrease of vigour or health, and only ceases when the decay of the barked portion cuts off the supply of sap. The growth of the roots of trees barked at the surface of the ground usually continues for one or two years after barking, though whether this is entirely due to the store of reserve materials in the fleshy part of the cortical tissue, or partly to root-grafting upon neighbouring trees, it is difficult to say. Branches of Scots Pine and Larch may be frequently seen with their bases completely isolated from the bulk of the stem-bark by the nibbling of squirrels, and these branches continue to grow and furnish materials for a growth of new wood, which each year covers a fresh portion of the barked stem; and in cases where the injury is slight, eventually again forms a connection with the main body. In all cases of this kind a great deal depends upon the nature of the wood of the tree, and the course taken by the sap under normal conditions. According to some authorities, the rise of the sap is confined to one or two years'-old rings in certain species, while in others as many as five or six are concerned in the business. In the latter the sap ascent would probably be continued for several years longer than in the former, while the resistance offered by the wood to decay would also exert its influence. In resinous Conifers, the saturation of the wood on the outside of the barked stem with resin, which occurs when the cells and cell-walls lose their water, acts as a protection against the cracking and drying of the stem by atmospheric conditions, and its infection by fungi. Another interesting feature of the vitality of woody tissue is the throwing out of adventitious shoots or "water-branches" by tree-trunks felled in winter, and left lying with the bark on. Elm, Oak, Poplar, Willow, &c., on damp ground, continue growing in this way for two or three years, and the dwarf shoots on young Larch stems and branches left on the ground also develop and keep green for a month or two. Of course, such growths are entirely dependent upon the reserve materials in the sap-wood and inner bark, and the increase in the wood-ring which accompanies them is almost nil. These growths, however, are of some economic importance, as they are the means of removing the sap and starchy compounds from the timber, which indirectly do so much to hasten its decay; and it may be that the reputation of winter-felled timber is partly due to this fact. Another rather curious freak in felled trees may also be noticed here. If Larch be felled in late summer, and the branches trimmed off, the stems do not cease growing, as might naturally be supposed, but considerable additions are usually made to the wood-ring after all connection with roots and leaves has ceased. At the edges of the cut surfaces, where branches have been removed, or at the butt end of the tree, new growth may be seen being pushed out in exactly the same way as when a living branch is removed from a standing tree in June or July. This growth, however, does not appear to be a direct continuation of that made previous to felling, for a few days' interval apparently elapses between the felling and its commencement. But the most curious part of the affair is, that whereas under normal conditions the growth of the wood-ring ceases on an average at the end of August, this abnormal growth continues throughout September into October, and in some cases is resumed in the following spring. The same growth also occurs in the root-stock, and is evidently due to some disturbance of the relations between leaf and stem, although the precise explanation must be left to the plant-physiologist. So far, we are not acquainted with any other species in which this kind of growth takes place with the same frequency, and to so marked a degree. *A. C. Forbes.*

SHIRLEY POPPY.—Dr. PRAIN reports, according to the *Kew Bulletin*, p. 126, that the Shirley Poppy, Papaver Rhœas var. latifolia, has been in continuous cultivation in Scotland for over half a century. It is the P. Hookeri of Baker, *Bot. Mag.*, t. 6729. The ultimate production of a "variety" by carefully repeated selection is thus shown to be possible, for no question can be entertained of the accuracy of Mr. WILKS' experiments.

MARKETS.

COVENT GARDEN, OCTOBER 22.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Arums, p. 12 blooms	3 0- 6 0	Violets Parme (Fr.), per bunch ...	3 0- 1 0
Asters, English, doz. bunches ...	3 0- 6 0	Orchids:—	
Bouvardias, per bn.	0 4- 0 6	Cattleya, 12 blms.	6 0-12 0
Carnations, 12 blms.	1 0- 2 6	Odontoglossum crispum, 12 bm.	2 0- 6 0
Chrysanthemums, doz. bun.	3 0- 6 0	Pelargoniums, scarlet, per 12 bun.	3 0- 6 0
— doz. blooms	1 0- 4 0	— per 12 sprays...	0 4- 0 6
Eucharis, per dozen	2 6- 4 0	Pyrethrums, 12 bn.	2 0- 4 0
Gardenias, per doz.	1 0- 3 0	Roses, Tea, per doz.	0 9- 1 6
Gladiolus, coloured, per doz. sprays ...	1 0- 2 0	— coloured, doz.	0 9- 1 6
Lilac, wh. (French), per bunch ...	3 6- 5 0	— yellow (Maréchal), per doz.	3 0- 6 0
Lilium Harrisi, per doz. blooms ...	3 0- 6 0	— red, per dozen	0 6- 1 0
— lancifolium, doz. blooms ...	1 0- 2 6	— red, doz. bun.	6 0-12 0
Maidenhair Fern, per 12 bunches ...	4 0- 8 0	— Gloire, doz. bn.	4 0- 6 0
Marguerites, per 12 bunches	1 0- 2 0	— Safrano, p. doz.	1 0- 2 0
Mignonette, per doz. bunches ...	2 0- 4 0	Stephanotis, 12 sps.	3 0- 4 0
Mimosa (French), per bunch	1 0- 1 6	Tuberoses, 12 blms.	0 2- 0 4
		Violets (French), doz. bunches...	1 6- —
		(Eng.), per doz. bun.	1 6- 2 6
		— Parme (Eng.), doz. bun.	3 0- 4 0

ORCHID-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Adiantum, per doz.	4 0-12 0	Evergreen Shrubs, in variety, doz....	6 0-24 0
Aspidistras, per doz.	12 0-30 0	Ferns, small, doz....	1 0- 2 0
— specimen, each	5 0-15 0	— various, doz.	5 0-12 0
Asters, doz. pots ...	3 0- 5 0	Ficus elastica, each	1 0- 7 6
Chrysanthemums, per plant ...	1 6- 2 6	Foliage plants, doz.	12 0-36 0
Coleus, per doz. ...	2 0- 4 0	Marguerites, p. doz.	6 0-10 0
Dracænas, each ...	1 0- 7 6	Palms, various, ea.	2 0-10 0
— various, p. doz.	12 0-24 0	— specimens, ea.	10 6-84 0
Ericas, p. doz. ...	10 0-12 0	Pelargoniums, Scarlets, p. doz. ...	2 0- 4 0
— hyemalis, per doz.	12 0-15 0	Solanums, p. doz....	12 0-15 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, cooking, in variety, per sieve... ..	2 0- 2 6	Grapes, Muscat, 2nd qual., p lb.	1 0- 1 0
— dessert, in variety, per ½-sieve... ...	2 6- 4 0	— Channel Islands, per lb. ..	0 9- 1 0
Grapes, Alicante, 1st quality, per lb.	1 0- 1 3	— Gros Maroc, per lb.	1 0- 1 3
— Alicante, 2nd quality, per lb.	0 6- 0 8	Medlars, per ½-sieve	2 6- 3 0
— Hamburgh, 1st quality, per lb.	1 0- 1 3	Melons, each ...	2 0- 2 6
— Hamburgh, 2nd quality, per lb.	0 6- 0 9	Nuts, Cob, per 100 lb. ...	25 0-27 6
— Grós Colmar, per lb.	1 0- 1 6	Pears, Pitmaston, p. half-sieve ...	3 0- 4 0
— Muscats, English, 1st quality per lb.	2 0- 2 6	Doyenné du Comice, per ½-sieve ...	6 0- 7 0
		— Duchess, per ½-sieve ...	4 0- 4 6
		Pine-apples, St. Michael, each ...	5 0- 6 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Cauliflowers, 5 doz.	2 6- 3 0	Tomatos, home-grown, smooth, per doz. lb. ..	3 6- 4 0
Cucumbers, home-grown, per dz.	2 0- 3 0	selected ...	4 6- 5 0
Mushrooms, (Indoor) per lb.	1 0- 1 6	— ord. kinds, do.	2 0- 2 6

POTATOS.

Prices have advanced since last report. Dunbar Main Crops, 95s. to 100s.; do. Bruce, 80s. to 90s.; Lincoln Main Crops, 75s. to 80s.; Blacklands firm at 70s. Very few parcels coming free from disease. Supplies short, and good demand for best samples. *J. B. Thomas.*

SEEDS.

LONDON: *October* 21.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that the demand for Red Clover seed, has this week quieted down somewhat; nevertheless prices all round exhibit extreme firmness. In White Clover seed, an advance has recently been established of fully £4 per ton. Alsike keeps steady; but Trefoil is for the moment a dead letter. For foreign, Italian, 1 franc per bale more money is asked. Winter Tares are neglected, but Rye is wanted. Wisconsin Green Boiling Peas come dearer from America; the English demand for them increases daily, whilst supplies both here and on the other side, are getting low. Haricot Beans are strong. Some new white Runners have just arrived. There is no change in Hemp-seed. The steamship "*Eton*" arrived in the Thames this morning, bringing 9,500 bags of new Turkish Canary-seed. Mustard and Rape-seed firm.

FRUIT AND VEGETABLES.

LIVERPOOL: *October* 21.—Average of prices at the following markets:—St. John's: Potatos, 8*d.* to 10*d.* per peck; Cucumbers, 6*d.* to 8*d.* each; Grapes, home, 1*s.* to 2*s.* 6*d.* per pound do., foreign, 6*d.* to 8*d.* do.; Pines, English, 4*s.* to 7*s.* each. Birkenhead:—Potatos, 6*d.* to 8*d.* per peck; Cucumbers, 4*d.* to 6*d.* each; Grapes, home, 2*s.* to 3*s.* 6*d.* per pound; do., foreign, 4*d.* to 9*d.* do.; Pines, English, 4*s.* to 8*s.* each. North Hay:—Turnips, 20*s.* to 22*s.* per ton; Potatos, English Regents and Giants, 2*s.* to 2*s.* 2*d.* per cwt.; Main Crop, 2*s.* 6*d.* to 3*s.* 6*d.* do.; Sutton's Abundance, 2*s.* to 2*s.* 3*d.* do.; Bruce, 2*s.* 2*d.* to 2*s.* 8*d.* do.; Graftons, 2*s.* to 2*s.* 2*d.* do.; Turnips, 6*d.* to 8*d.* per dozen bunches; Swedes, 1*s.* 4*d.* to 1*s.* 6*d.* per cwt.; Carrots, 12 bunches, 6*d.* to 8*d.*; do., 2*s.* 9*d.* to 3*s.* 6*d.* per cwt.; Onions, English, 5*s.* to 5*s.* 6*d.* per cwt.; do., foreign, 2*s.* 9*d.* to 3*s.* do.; Parsley, 4*d.* to 6*d.* per dozen bunches; Cauliflowers, 8*d.* to 1*s.* 8*d.* per dozen; Cabbages, 8*d.* to 10*d.* do.; Celery, 10*d.* to 2*s.* do.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (−) the Mean for the week ending October 17.	Temperature. Accumulated. Above 42° for the Week.	Below 42° for the Week.	Above 42°, difference from Mean since December 29, 1895.	Below 42°, difference from Mean since December 29, 1895.	Rainfall. More (+) or less (−) than Mean for the Week.	No. of Rainy Days since Dec. 29, 1895.	Total Fall since Jan. 1, 1896.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Dec. 29, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	5 −	18	31	+ 211	− 300	8 −	196	44·6	24	24
1	5 −	19	31	+ 156	− 222	4 −	164	21·9	22	30
2	3 −	25	0	+ 235	− 229	12 +	143	17·6	23	29
3	2 −	36	0	+ 203	− 248	6 +	144	19·5	9	35
4	3 −	28	5	+ 196	− 258	1 +	143	19·3	20	32
5	3 −	40	0	+ 290	− 247	1 +	132	19·2	15	37
6	6 −	30	18	+ 248	− 219	9 −	174	36·5	40	32
7	4 −	30	3	+ 333	− 261	5 −	158	27·9	35	32
8	5 −	32	5	+ 372	− 205	4 −	141	23·9	32	41
9	4 −	31	11	+ 253	− 223	4 −	182	32·1	48	28
10	5 −	32	10	+ 348	− 208	7 −	155	28·2	43	33
*	5 −	48	0	+ 509	− 109	7 +	151	21·1	27	46

The districts indicated by number in the first column are the following:—

0, Scotland N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

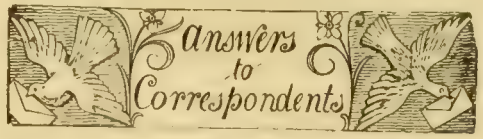
THE following summary record of the weather throughout the British Islands for the week ending October 17, is furnished from the Meteorological Office:—

"The *weather* during this week was much finer than for some time past over Ireland and Scotland, but was again very unsettled and rainy over England. Snow and sleet-showers were experienced in Scotland and the north of England on the 11th. A sharp thunderstorm occurred over the east of England during the early morning of the 14th, accompanied by heavy hail. At Bungay the storm was of exceptional severity, and the hailstones extremely large.

"The *temperature* was below the mean, the deficit ranging from 2° in 'England, E.,' to 4° or 5° in most of the western and northern districts, and to 6° in 'Scotland, W.' The highest of the maxima, which were recorded either on the 14th or 15th, ranged from 62° in 'Scotland, E.,' and 60° in 'England, S.,' to 55° in 'Ireland, S.' and 'Scotland, W.' The lowest of the minima were registered on the 11th or 12th, when the thermometer fell to 24° in 'Scotland, E.,' 25° in 'Scotland, W.' and 'England, S.W.,' 26° in 'Scotland, N.,' to 28° or 29° in Ireland, and to 30° in the 'Midland Counties; elsewhere, the minima ranged from 33° in 'England, N.E.,' to 38° in the 'Channel Islands.'

"The *rainfall* was greatly in excess of the mean in the north-east and east of England, and slightly so in the 'Midland Counties' and 'England, S.;' in all other parts of the kingdom, however, there was a deficit, that in the north and west of Scotland, and in the south of Ireland, being very marked. In some parts of 'England, N.E.' the rain was very heavy and persistent; at Alnwick Castle the total fall for the week amounted to 4·18 inches.

"The *bright sunshine* was considerably in excess of the mean in Ireland, 'England, N.W.,' and 'Scotland, W.,' and to a slight extent in 'Scotland, N.;' elsewhere, there was again a deficiency, especially over southern, central, and eastern England. The percentage of the possible duration ranged from 48 in 'Ireland, N.,' 43 in 'Ireland, S.,' and 40 in 'Scotland, W.,' to 20 in the 'Midland Counties,' 15 in 'England, S.,' and 9 in 'England, E.'"



APPLES FOR KEEPING: *C. J.* The fruit room or store should be well aired day and night for four weeks after gathering is concluded, and afterwards kept close and dark. If it is found that moisture collects on the fruit, the door and windows should be opened on a dry day for a few hours. The best kind of Apple-room should be partly under ground, and provided with double walls and doors, an earthen floor, and a thick thatched roof.

APPLES OF LARGE SIZE: *X.* All communications sent to this office, whether for publication or otherwise, should bear the name of the sender. In reply to your query regarding large-sized Apples, we find records of fruits which weighed more than the one to which you draw our attention. Thus in *Gardeners' Chronicle*, for October 7, 1893, there are particulars given of a fruit of Peasgood's Nonsuch, grown by Mr. Bannister, which weighed 1 lb. 12 oz. In 1888, Mr. Robt. Smith, exhibited a fruit of Warner's King in October at the Ledbury show which weighed 2 lb. In the *Gardeners' Chronicle*, November 5, are particulars of a fruit of Mère de Ménage weighing 26 oz. Nevertheless, the fruit of Roundway Magnum Bonum grown by Mr. Farrart, gr. to Mr. Marcus Brown Westhead, Lea Castle, Kidderminster, is a remarkable one. In the paper you send the fruit is described as weighing 26 oz., and as being one of several fine fruits produced by a tree in a 10-inch pot.

BACK WALL OF GREENHOUSE: *J. T.* A double boarded wall would do admirably for the back-wall. The distance apart of the two walls would be the thickness of the timber uprights, say 6 inches would suffice. These uprights should be inserted 3 feet deep in the soil, and at a distance of 5 feet apart; and a concrete or brick-wall of 9 inches in thickness, should be built up between the uprights to about 1 foot above the ground-level, for if this be not done, the lowest part of the woodwork would soon decay. That portion of the uprights which enters the soil may be creosoted. If a wall be not built, an oaken board should rest on or in the soil of the outer wall. Weather-boarding nailed on to the uprights horizontally, should be placed on the outside; and on the inside the boards should be placed perpendicularly edge to edge, fastening them to cross-rails morticed into the uprights. The outside may be tarred, and whilst the tar is moist it should be sprinkled with quicklime and white sand, which has a good appearance, and endures for a number of years. Lime wash or anti-corrosion paint will answer for the interior parts of the house. The weather-boarding may be cut from home-grown stuff, say, Scots Fir or white Pine; the inside wall may be of the latter. The width should be about 7 inches, and the boards should be obtained of the proper length at the saw-mills.

COLONIAL SEEDS: *A. F.* We have not published any article similar to the one in the *Times*, to which our attention is called—at any rate, not in recent years.

CORRECTION: Chrysanthemum Golden Sheaf, noticed at the last meeting of the Royal Horticultural Society, was shown by Mr. E. H. Jenkins, Hampton Hill.

GRAFTING THE TOMATO ON THE POTATO: *F. P.* The operation has often been performed, and an example of this kind of grafting was sent to this office in the past summer, which showed ripe Tomato fruits, and small tubers on the roots. It does not seem to be worth the doing, except for scientific purposes, seeing that the fruits and tubers are abnormally small.

GOOSEBERRY LONDON: *Hochville.* This very large, red-coloured, somewhat inferior-flavoured variety, was raised by Banks in the first half of the present century. Fruits were shown at Chester in 1839 of the weight of 29 scruples; and in 1812, at Thatto Heath, of 31 scruples 13 grains. It has been known to reach a weight of 35 scruples.

GRAPES AND VINE SHOOTS DISEASED: *J. E.* The plants are attacked by a fungoid disease called "Anthracnose," or "speck." Strong nitrogenous manures should be avoided, and the plants should be pinched back and kept very open for a season, so as to leave every part exposed to air and light. Cut away and burn all dead or badly-diseased parts, and wash the spotted branches once a fortnight with a 10 per cent. solution of paraffin in water and a little soft-soap. *G. M.*

HYDRANGEAS: *Enquirer.* The most satisfactory manure for these plants, according to Hoffmann, is a mixture of sulphate of ammonia with half its weight of phosphate of potash. Of this mixture, 5 grammes were dissolved in a litre of water, with which the plants were watered once a week.

NAMES OF FRUITS.

*** *The application to name flowers, and especially fruits, are so numerous at this season, as severely to tax our resources. They entail an expenditure of time, labour, and money, of which our readers have little idea. We are most desirous to oblige our correspondents as far as we can, but we must request that they will observe the rule that* **not more than six varieties** *be sent at any one time. The specimens should be good ones, just approaching ripeness, and to prevent disappointment, they should be properly numbered, and carefully packed. We do not undertake to send answers through the post. Delay in any case is unavoidable.*

J. Henderson. Without shoots and foliage it is difficult to name Grapes, yours may be Lady Hutt or Mrs. Pearson.—*X, no name.* Probably Barbarossa. —*A. G. B.* 1, Fearn's Pippin; 2, Dumelow's Seedling; 3, Cox's Orange; 4, a cider Apple, surely; 5, Ribston Pippin; 6, Northern Greening; 7, Dumelow's Seedling.—*Cromarty.* 1, Beurré Diel; 2, Beurré Bosc; 3, Hacon's Incomparable; 4, Flemish Beauty; 5, Williams' Bon Chrétien: highly creditable examples from a district so far north.—*J. B.* 1, Beurré Rance; 2, Beurré Diel; 3 and 4, Bishop's Thumb; *R. T.* 1, Duchesse d'Angoulême; 2, Josephine de Malines; 3, Beurré Superfin; 4, Baronne de Mello; 5, handsome, but worthless; 6, King of the Pippins; *William C., Battle Abbey.* 1, Peasgood's Nonsuch; 2, Tom Putt; 3, Cellini (?); 4, Lord Grosvenor; 5, not known; 6, Dutch Codlin.—*C. B.* 1, Small's Admirable; 2, not known; 3, Hoary Morning; 4, Brabant Bellefleur; 5, over ripe—probably Beurré Superfin; 6, Maréchal de la Cour.—*C. F., Tuar.* 1, Beurré Clairgeau; 2, Doyenné Blanc: 3, Nouveau Poiteau.—*J. T. W.* Similar to Lord Lennox.—*P. M. G.* Your Pear is Beurré Bosc, a well-known variety, much grown around London. It is of French origin; should succeed with you against a wall. 1, Apples, the small one is Summer Thorle; 2, not recognised, but excellent.—*J. M. B.* 1, Golden Noble?; 2, Alfriston; 3, Reinette du Canada; 4, Blenheim Orange; 5, Claygate Pearmain; 6, Old Nonpareil.—*R. Grindrod.* Pears: 1, Alexandre Lambre; 2, Emile d'Héyst; 3, Glou Morçeau; 4, Winter Crassane. Apples not recognised.—*J. W.* 1, Beurré Rance; 2, Bergamotte d'Esperen; 3, Duchesse d'Angoulême; 4, Winter Crassane; 5, Shobden Court; 6, Apple not known.—*B. R. & Co.* Apple: Striped Beefing. *A. Chapman.* 1, Emperor Alexander; 2, Hollandbury; 3, The Queen; 4, Besspool; 5, Pears, Doyenné Gris; 6, Winter Crassane.—*H. H., Caterham.* Plum: Poupart's.—*Sir C. S.* Apple greatly resembles what is known here as Yorkshire Beauty. Pear: Comte de Lamy.—*E. Hotwater.* The Apple you send seems to be distinct; probably a good kitchen sort, but not attractive.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to be so good as to consult the following number.* — *J. Howard.* Salix incana. — *Oxford.* The numbers were detached, and we cannot tell to which specimens they applied. The red Passion-flower is Passiflora racemosa; 2, Tacsonia exoniensis; Nephrolepis tuberosa (the Fern); Colocasia antiquorum, often called Alocasia violacea; Heterocentron roseum (the Stove-plant); the grass is Panicum capillare. — *W. P., Epping.* Daphne gnidium. *A. M. D.* Physostegia imbricata.—*Cigar-box, X.* Seraphyta multiflora, Fisch. et Mey. (Epidendrum diffusum, Sw.). *R. A. R.*—*J. W.* Sequoia (Taxodium) sempervirens.—*T. D.* Cratægus Pyracantha var. Lalandei, Aristolochia elegans, Mast., *Gardeners' Chronicle,* Sept. 5, p. 301, woodcut.—*J. C.* Phytolacca icosandra.—*J. C. S.* Next week.—*W. O. W.* 1, Thuya dolabrata variegata; 2, Weigela rosea var.; 3, Thuya gigantea (Lobbi of gardens); 4, Berberis Darwini; 5, Euonymus radicans variegata; 6, Cytisus racemosus.—*C. W.* Stapelia, next week.—*Z. Z.* We cannot name such scraps.—*Mells.* Cratægus Aronia; Pears, next week; Pinus pinaster cone.—*Hants.* 1, Croton volutus; 2, Croton cornutus; 3, Dracæna marginata gracilis; 4, Dracæna congesta; 5, Dracæna rubra; 6, Dracæna terminalis.—*T. W. B.* 1, Anthemis tinctoria; 2, Geranium sanguineum; 3, Nepeta violacea; 4, Lamium purpureum var. maculatum; 5, Lysimachia vulgaris.—*A. J.* Peziza aurantia.—*E. H. C.* Sisyrinchium Bermudiana; is it wild in your neighbourhood?—*D. A. B.* Panicum capillare of gardens. —*C. S. R. B.* Panicum capillare.—*T. B.* Oncidium prætextum.—*A. S., Norwich.* Maclura aurantiaca, the Osage Orange.—*J. M.* Phytolacca icosandra.—*W. J. J.* Why address the publisher on such matters? It causes delay and trouble. Thank you, however, for sending good specimens. 1, Caryopteris Mastachanthus; 2, Osmanthus Aquifolium; 4, Cryptomeria japonica var. elegans; 3, Retinospora plumosa.—*J. H.* Your specimen is insufficient.

OVAL-SHAPED FLOWER BED: *J. W.* There is no "proper"-shaped form of an oval. The bed should be made of such dimensions that it be suited to the position it will occupy on the lawn or in the flower parterre.

RHODODENDRON: *Ray.* Yours is probably Rhododendron Gibsoni. It is not easy to propagate from an old worn-out plant such as you describe, but you may succeed if you put the plant into a warm greenhouse now, and after a time take cuttings, which you should keep in the same house as the plant, and cover with a bell-glass.

SCHEDULE AT FRUIT SHOW: *J. F.* The judges were wrong to disqualify the collection of varieties of fruit, because it is their duty to interpret the schedule literally, and if the wording be "varieties," it should be permissible to exhibit two varieties of Apples or other fruit. The compilers of the schedule are the persons to blame in this case, as in most others. No doubt they worded the class for varieties, and at the same time required distinct kinds. See p. 5, *Rules for Judging, and Suggestions to Schedule-makers,* published by the Royal Horticultural Society, price 1*s.* 1*d.*, post-free.

SEEDLING TYDÆAS: *J. P.* Your Tydæas show great variation, and are very pretty, though not more so than many others previously in gardens. We cannot say whether your crossing of the varieties as you describe it has made a difference. The form of the tube certainly seems more ventricose than we have before noticed.

SPANISH CHESTNUTS: *Streatham.* If you buy the best kinds of Chestnuts in the shops and layer them in a cold frame in sand or light soil, protecting them in hard weather by means of litter, for they must not get frozen, they will have germinated by the spring; and when the ground has got warmed a little you may plant them out where they are to grow permanently. Mark the position of each with a stake, to which the young plant may be loosely fastened when it reaches the height of 1 foot. Walnuts of all kinds may be treated similarly, for being deep tap-rooted trees, they grow better and are less liable to be blown over if this root be retained, which is not always the case when once or twice transplanted.

TOMATO FRUITS: *F. G. G.* There is no fungus disease in the Tomato fruits, and no means of determining from them alone what is the cause of failure. It must concern the plants themselves, and their surroundings. *M. C. C.*

TOMATO ROOTS: *F. G. S.* The roots are affected with eel-worms, often figured in these columns. Burn the plants, turn out the soil, and start with fresh soil.

COMMUNICATIONS RECEIVED.—J. W.—H. M. J. T.—L. C.—W. D., Egypt.—J.—J. H. G.—Ch. de B., Antwerp, Charles Baltet Troyes.—A. Cogniaux, Verviers.—Dr. C., Basle.—The Earl of A.—G. H.—Dr. R., Berlin.—Heleneveld Contich—Comte de R., Ghent.—"Single handed."—Rev. A. C.—W. B. H., Cork.—W. M. B.—H. M. J. T.—E. C.—Weeds.—W. D.—J. W.—J. F.—J. A.—A. J. L.—A. O.—M.—H. May.—P. F. L. S.—R. D.—J. McIntyre.—A. D. W.—C. T. D.—M. E. M.—A. C. F.—J. P.—J. Want.—J. E.—H. E. T.—W. H. D.—J. C. S.—A. J. B.—J. H.—J. W.—H. W.—J. T. H.—Q. R.—The Major.—W. D.—J. H.—A. J.—J. H.—R. M.—D. R.—J. B.—F. Cant (next week).

PHOTOGRAPHS, SPECIMENS, &c., RECEIVED WITH THANKS.—J. D. E. Benary.—A. Cogniaux, Verviers.

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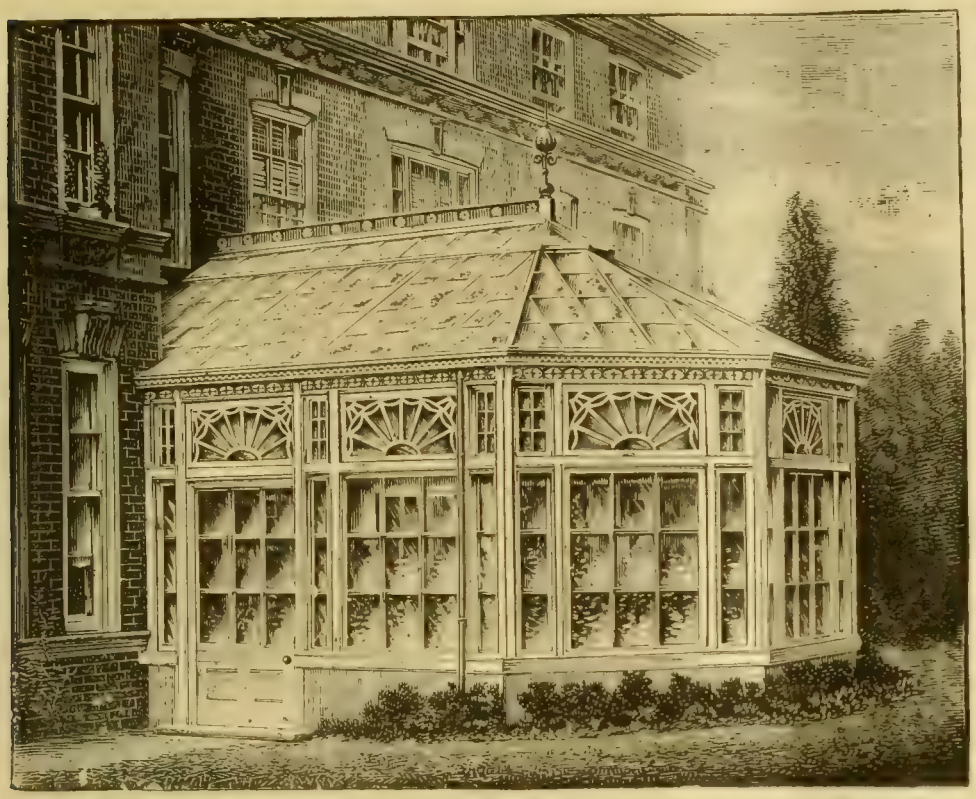
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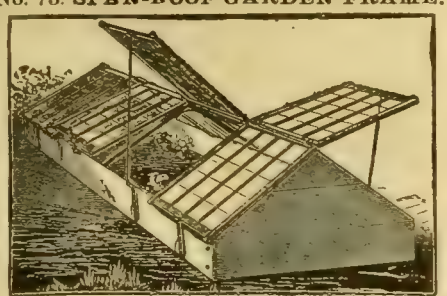
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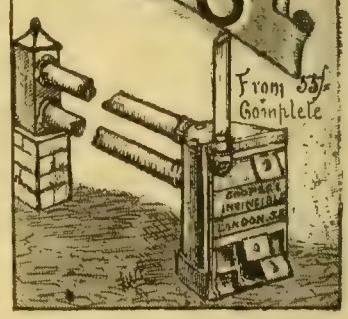
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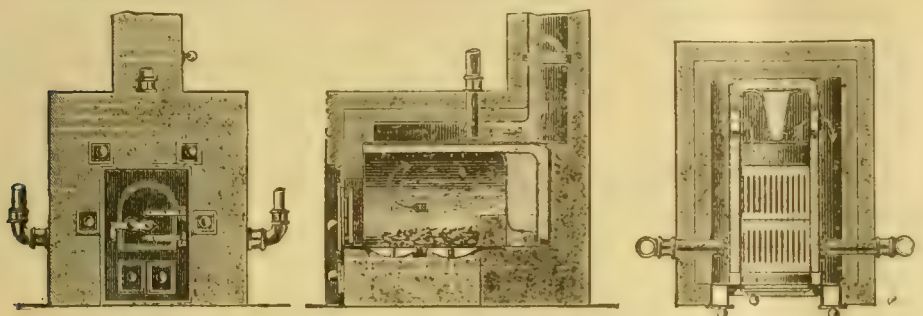
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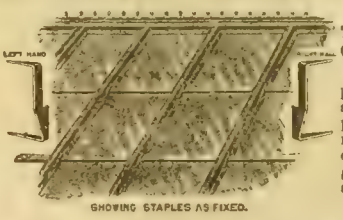
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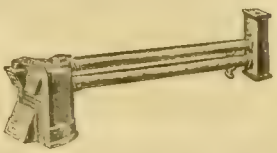
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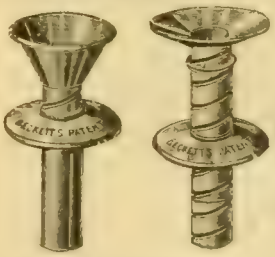
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34, St. John Street, West Smithfield, London, E.C.

Stock Lists and Prices on application. Please quote *Gard. Chron.*



BECKETT'S EXHIBITION FLOWER TUBES FOR Chrysanthemums, Roses, &c.

To be had of all Seedsmen and Nurserymen.

LIST FREE on application to

STILL & CO., 24, Charles St., Hatton Garden, LONDON, E.C.

TENTS! TENTS!! TENTS!!!—I have purchased 5000 ARMY TENTS (40 ft. circumference), scarcely used. Complete with poles, pegs, and lines. Cost £6 each. Will send any number, carriage paid, for 28*s.* each; inferior qualities, 22*s.* and 24*s.* each. Cash with order; can be sent on approval. Specially adaptable for sporting and pleasure purposes. TWO JUST SUPPLIED TO BUCKINGHAM PALACE. The following unsolicited testimonial is one out of many hundreds weekly:—

"April 29, 1896. Dear Sir,—Accept my thanks for the tents, safely received to-day. I am very pleased with them.

"F. H. HILL, Duddingston Park, Portobello, Midlothian."

MARQUEES for Flower Shows, Sports, &c.—Made of best Tent Canvas, 30 feet by 16 feet, with Poles, Pegs, Runners, Lines, Mallets, and Bags, all complete, ready for use, cash £14, cost £36.

ANDREW POTTER, Melbourne Works, Wolverhampton.

ORCHID PEAT.—Dry and prepared, 5*s.* 3*d.* per bag, on rail; 15*s.* per cubic yard, in 12-yard trucks. BROWN FIBROUS PEAT, 3*s.* 3*d.* per bag; 10*s.* per cubic yard.

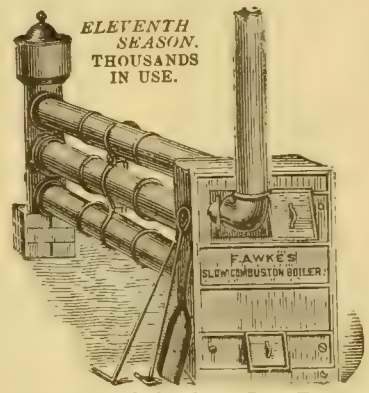
WALKER AND CO., Poole, Dorset.

CROMPTON & FAWKES,
CHELMSFORD.



CONSERVATORIES, GREENHOUSES,
FORCING-HOUSES, PITS, FRAMES, &c.

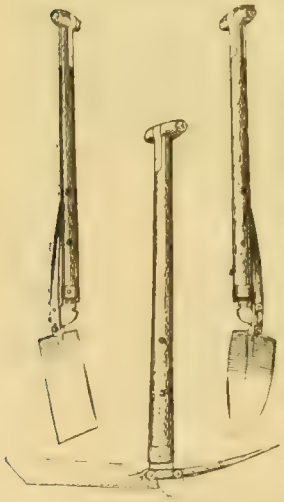
SLOW COMBUSTION HEATING APPARATUS. Most Efficient and Cheapest in existence.



Elaborately-Illustrated Catalogue Post Free.

CROMPTON & FAWKES, CHELMSFORD.

SHARPINGTON (PATENT)
COMBINED PICK AND SHOVEL
SYNDICATE (Limited).



Patented in **seventeen** different countries.

These tools are now being made in all shapes, sizes, and weights, suitable for Gardening, Sporting, and all purposes where the Pick, Shovel, or Hoe is required.

RETAIL PRICES, CARRIAGE PAID:—
Black ... ... 5*s.* 6*d.*
Half Bright ... 6*s.* 6*d.*
All Bright ... 7*s.* 6*d*
On receipt of P. O.

Special Trade Terms and all particulars may be had on application.

25, AUCKLAND ST., VAUXHALL. LONDON, S.E.

Telegrams:—"Pikeman, London."

HILL & SMITH,
BRIERLEY HILL, near DUDLEY.

H. & S's BLACK VARNISH,
For Iron, Wood or Stone Outdoor Work.



REGISTERED TRADE MARK.

Forty years' regulation. Ready mixed. Dries in ten minutes with perfect gloss. Is used at Windsor Castle, Kew Gardens, and London and Dublin Parks, and most Landowners. In 18 and 36-gallon Casks only, 1*s.* 6*d.* per gallon at works, 1*s.* 8*d.* at nearest Railway Station.

The Success achieved by Exhibitors at past Chrysanthemum and other Shows has clearly demonstrated, by examples staged, that the

XL ALL MANURES

are of the greatest importance to those who wish to have fine blooms and superior fruit.

Registered Trade Mark. Registered Trade Mark

XL ALL LIQUID MANURE.

To be used one part to fifty of water, making the cheapest Plant Food in the market.
Read the remarks below of a Champion Grower.
1 pint, 1*s* ; 1 quart, 1*s.* 6*d.*; 1 gallon, 3*s.* 9*d.*; 4 gallons, 12*s.* Cheaper in bulk.

XL ALL PERFECTLY SOLUBLE MANURE.

FOR TOP DRESSING or APPLYING IN SOLUTION.

Where there is a Heavy Crop of Fruit or Flowers to finish off—Use this !

TO OBTAIN A QUICK and BENEFICIAL RESULT.

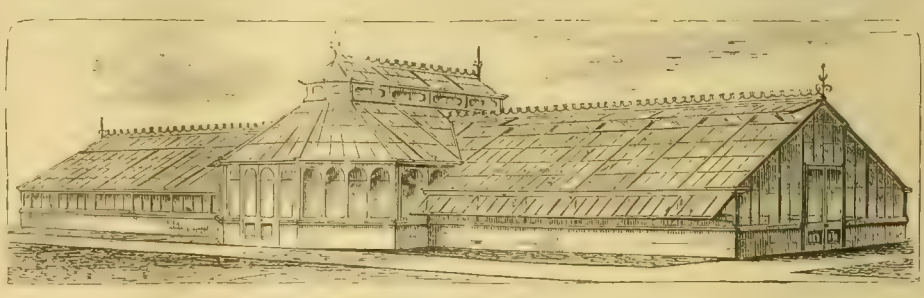
In 1*s.*, 2*s.* 6*d.*, 5*s.*, and 10*s.* tins. The small quantity necessary will make it a cheap manure.

Mr. W. H. LEES, The Gardens Trent Park New Barnet one of the most successful exhibitors of Chrysanthemum Blooms during the season of 1894 and 1895. This celebrated grower writes:—"I have used your new Liquid Manure on many things this season with highly satisfactory results—especially on Chrysanthemums."

The above and all other XL ALL SPECIALITIES can be obtained from all Nurserymen and Seedsmen, or direct from the Proprietor—

G. H. RICHARDS, OLD SHOT TOWER WHARF, LAMBETH, LONDON, S.E.

Five 1st Prize Medals recently awarded in open competition.



Five 1st Prize Medals recently awarded in open competition.

R. HALLIDAY & CO.,
HOTHOUSE BUILDERS and HOT-WATER ENGINEERS,
ROYAL HORTICULTURAL WORKS, MIDDLETON, MANCHESTER.

Vineries, Stoves, Greenhouses, Peach Houses, Forcing Houses, &c, constructed on our improved plan, are the perfection of growing houses, and for practical utility, economy, and durability cannot be equalled. We only do one class of work and that THE VERY BEST.

Conservatories and Winter Gardens designed architecturally correct without the assistance of anyone out of our firm, from the smallest to the largest. **Hot-water Heating Apparatus,** with really reliable Boilers, erected, and success guaranteed in all cases. **Melon Frames, Sashes, Hot Bed Boxes, &c.,** always in Stock.

Plans, Estimates, and Catalogues Free. Customers waited on in any part of the Kingdom.

Our Maxim is and always has been—

MODERATE CHARGES. FIRST-CLASS WORK. THE BEST MATERIALS.

THE GARDENERS' CHRONICLE FORM OF SUBSCRIPTION.

FROM _____

_____

TO THE PUBLISHER,
41, Wellington Street, Strand,
LONDON, W.C.

_____ 1896.

Please send me "THE GARDENERS' CHRONICLE" *for* _____ *Months*

commencing _____, *for which I enclose P.O.O.* _____.

☞ **Please Note that all Copies sent Direct from this Office must be paid for in advance.** ☜

THE UNITED KINGDOM:—12 Months, 15*s.*; 6 Months, 7*s.* 6*d.*; 3 Months, 3*s.* 9*d.*; Post-free.

ALL FOREIGN SUBSCRIPTIONS, Including Postage, 17*s.* 6*d.* for 12 Months.

Receipts for less than six months' subscription will not be sent unless specially asked for.

P.O.O. to be made payable at the Post Office,
GREAT QUEEN STREET, London, W.C., to H. G. COVE.
Cheques should be crossed "DRUMMOND."

G. C.
Oct. 24, 1896

THE GARDENERS' CHRONICLE

PUBLISHER'S NOTICES.

GARDENERS' CHRONICLE TELEGRAMS.—*The Registered Address for Foreign and Inland Telegrams is "Gardchron, London."*

ADVERTISEMENTS.

SCALE OF CHARGES FOR ADVERTISING

HEAD LINE CHARGED AS TWO.

4	Lines ..	£0	3	0	15	Lines ..	£0	8	6
5	„ ..	0	3	6	16	„ ..	0	9	0
6	„ ..	0	4	0	17	„ ..	0	9	6
7	„ ..	0	4	6	18	„ ..	0	10	0
8	„ ..	0	5	0	19	„ ..	0	10	6
9	„ ..	0	5	6	20	„ ..	0	11	0
10	„ ..	0	6	0	21	„ ..	0	11	6
11	„ ..	0	6	6	22	„ ..	0	12	0
12	„ ..	0	7	0	23	„ ..	0	12	6
13	„ ..	0	7	6	24	„ ..	0	13	0
14	„ ..	0	8	0	25	„ ..	0	13	6

AND SIXPENCE FOR EVERY ADDITIONAL LINE.

If set across two Columns, the lowest charge will be 20*s.*

If set across three Columns the lowest charge will be 30*s.*

Page, £8; Half Page, £4 10*s.*; Column, £3.

Advertisements guaranteed to appear on the front page are charged at the rate of 1*s.* per line, head line counting as two lines. No display is allowed.

GARDENERS AND OTHERS WANTING SITUATIONS. *26 words, including name and address, 1s. 6d., and 6d. for every additional line (about nine words) or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, which are charged at the ordinary scale.*

POSITION.—*Advertisers are specially requested to note, that under no circumstances whatever can any particular position be guaranteed for advertisements occupying less space than an entire column.*

Births, Deaths, and Marriages, 5s. each insertion.

NOTICE TO ADVERTISERS.—*In many instances Remittances in Payment of Repeat Advertisements are received without name, address, or anything beyond the postmark on envelope by which to identify the sender; this in all cases causes a very great deal of trouble, and frequently the sender cannot be identified at all.*

Advertisers are requested when Remitting to give their Names and Addresses, and also a Reference to the Advertisements which they wish repeated.

POSTAL ORDERS.—*To Advertisers, Subscribers, and Others.—It is very important in remitting by Postal Order that it should be filled in payable at GREAT QUEEN STREET, London, W.C., to* H. G. COVE, *as, unless the number of a Postal Order is known, and it has been made payable at a particular office, and to a particular person, it is impossible to prevent any person into whose hands it may fall from negotiating it.*

Advertisements for the current week MUST *reach the Office by first post, Thursday morning.*

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements,
41, WELLINGTON STREET, STRAND, W.C.

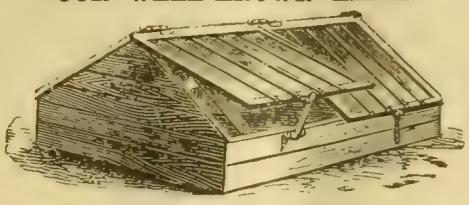
SUBSCRIPTIONS.

All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months. Post-office Orders to be made payable at the Post-office, Great Queen Street, London, W.C., to H. G. COVE.

Subscribers who experience any difficulty in obtaining their copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint).

GREAT REDUCTION IN FRAMES

OUR WELL-KNOWN MAKE.



PORTABLE PLANT FRAMES.

These Frames are made of the Best Materials, and can be put together and taken apart in a few minutes by any one.

Sizes and Prices, Glazed and Painted.		£	s.	d.
6 feet long, 3 feet wide	CASH	2	0	0
6 feet „ 4 feet „	PRICES,	2	5	0
12 feet „ 4 feet „		4	0	0
6 feet „ 5 feet „	CARRIAGE	2	15	0
12 feet „ 5 feet „		4	15	0
12 feet „ 6 feet „	PAID.	5	12	6

Larger sizes at proportionate prices.

R. HALLIDAY & CO.,
ROYAL HORTICULTURAL WORKS,
MIDDLETON, MANCHESTER.
London Agent, Mr. H. SKELTON, Seedsman, &c., 2, Holloway Rd., N.



ILLUSTRATED CATALOGUE FREE.

W. JONES' Treatise, "Heating by Hot-water,"
Second Edition, 216 pages and 96 Engravings,
2*s.* 6*d.* nett; per post, 2*s.* 10*d.*

JONES & ATTWOOD
STOURBRIDGE

COAL! COAL!! COAL!!!

Mr. Pascoe is now supplying his Celebrated

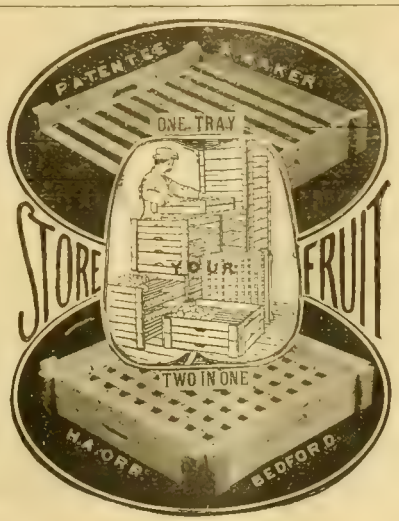
LARGE ANTHRACITE
HORTICULTURAL COAL & 'COBBLES'

At Lowest Possible Prices for Cash.

Buy direct from the Producer, and Save Middlemen's Profits.

ENQUIRIES SOLICITED

T. T. PASCOE, COLLIERY OFFICE, Swansea.



THE SYDNEY MAIL,
AND
NEW SOUTH WALES ADVERTISER.

CONTENTS:—

INTERCOLONIAL and GENERAL NEWS.
SPORTING and the FIELD, in which is incorporated BELL'S LIFE in SYDNEY.
RECORD of RACES and NOTES on the TURF.
CRICKET and AQUATICS.
THE FLORA of AUSTRALIA. (Drawn and engraved especially for this Journal.)
NATURAL HISTORY. (Original Articles.)
AGRICULTURE, PASTORAL, HORTICULTURE.
GOLD FIELDS and MINING generally.
STOCK and SHARE REPORTS.
ORIGINAL and SCIENTIFIC ARTICLES.
TALES by POPULAR ENGLISH and AUSTRALIAN AUTHORS.
THE FASHIONS. DOMESTIC ECONOMY.
INDOOR AMUSEMENTS.
THE CHESS PLAYER. THE HOME CIRCLE.
COMMERCIAL NEWS.
SHIPPING INTELLIGENCE.

The SYDNEY MAIL has a wide circulation throughout the Australian Colonies, New Zealand, Polynesia, &c. It contains a large amount of information on a great variety of subjects.

Subscription in Advance, £1 6s. per Annum.
Single Copies, 6*d.*; Stamped, 7*d.*

Publishing Office—Hunter Street, Sydney, New South Wales.

ENGLAND.

The undermentioned Newspaper and Advertising Agents are authorised to receive ADVERTISEMENTS for the SYDNEY MORNING HERALD and SYDNEY MAIL:—

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Mr. F. Algar, 8, Clement's Lane, Lombard Street, E.C.
Messrs. Gordon & Gotch, St. Bride Street, Fleet Street, E.C.
Messrs. W. H. Smith & Son, 186, Strand.
BRISTOL ..... James and Henry Grace, Royal Insurance Buildings.
MANCHESTER... James and Henry Grace, 73, Market Street.
EDINBURGH ... Robertson & Scott, 13, Hanover Street.
GLASGOW ..... W. Porteous & Co., 15, Royal Exchange Place.

☛ *Copies of each Journal are filed at the above Offices for the use of Advertisers.*

FARMS, ESTATES, RESIDENCES.

Any one desirous of
Renting a Farm or Residence, or Purchasing an Estate, can have copies of the

MIDLAND COUNTIES HERALD

SUPPLIED FREE FOR SIX WEEKS,

on stating the purpose for which the paper is required, forwarding Name and Address, and six halfpenny stamps for postage, addressed, "*Midland Counties Herald* Office, Birmingham." The *Midland Counties Herald* always contains large numbers of advertisements relating to Farms, Estates, and Residences for Sale and to be Let.

ESTATE SALES.

The Best County Medium for Advertising Sales of Estates.

THE "WORCESTER HERALD,"

ESTABLISHED 1794.

The Leading County Paper. Extensive circulation among the upper and middle classes in Worcestershire and adjoining counties. Advertisers would do well to forward for reference and distribution plans and particulars of Estates, Catalogues of Machinery, Furniture, Books, and other property advertised in the columns of the "HERALD."

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The "WORCESTER HERALD" is the most effective organ for giving publicity to announcements of this class. It is the leading Agricultural Paper in the County, and Circulates most extensively among Agriculturists in and around Worcestershire.

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Land Agents, Estate Managers, and all having Farms to Let, would do well to advertise in the "WORCESTER HERALD," the leading County Paper. Specially adapted for bringing such notices before Tenant Farmers. Large circulation. Moderate charge.

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For producing results the "WORCESTER HERALD" is recognised as a specially good medium. Cheap Rates.

Apply for Terms
SPECIMEN FREE. Price 2*d.*
Published Friday for Saturday.

OFFICES:—72, HIGH STREET, WORCESTER.

Instruction in Horticulture.

A SHORT Course of ELEMENTARY INSTRUCTION in the Science and Practice of Horticulture will be given during the three weeks commencing November 9. The class will be held daily at the Technical Laboratories, Chelmsford. The Committee are prepared to receive applications for admission from youths over fourteen years of age resident in the county, and either employed in gardens or seeking such employment.

From these the Committee will select candidates for fifteen Scholarships, holders of which will be eligible to receive a maintenance allowance during their course of instruction, and will be allowed a return railway fare to Chelmsford.

For further particulars and forms of application (which must be returned before 12 o'Clock noon of Friday, October 30) apply to— J. H. NICHOLAS, Secretary.

County Offices, Chelmsford.

ROYAL HORTICULTURAL SOCIETY'S

EXAMINATIONS IN GARDENING.

"Coaching" by Correspondence arranged for intending Candidates unaccustomed to write papers. Fees moderate, to suit Practical Gardeners.

COLVILE BROWNE, F.R.H.S., Hextable, Kent.

STOVES!—STOVES!

ROBERTS'S (IMPROVED) PATENT.

Terra-Cotta! Portable! For Coal!

Pure and ample heat, **24** hours for about **1d.**, without attention.

For Greenhouses, Bedrooms, &c.

Pamphlets, Drawings, and authenticated Testimonials sent. See in use at Patentee's,

THOMAS ROBERTS, 34, Victoria St., Westminster.

MATS SUPERSEDED BY USING "FRICI DOMO" CANVAS.

Registered Trade Mark.

Made of prepared Hair and Wool, a perfect protection to all Plants & Blooms. Cheaper than any kind of mat, and will last for years.

To be had from all Nurserymen and Seedsmen.

EPPS'S A1 PEAT

(SELECTED specially for ORCHIDS),

Also for Stove & Greenhouse Plants, Hardwood Ferns and Rhododendron do. (Trade supplied).

LOAM, SAND, LEAF MOULD, C. N. FIBRE, CHARCOAL, SPHAGNUM MOSS, &c. PEAT sent to all parts of the world at Special Through Rates. Large or small quantities.

EPPS & CO., F.R.H.S., Peat Depôt, Ringwood.

TECHNICAL HORTICULTURE.

COUNTY COUNCIL LECTURES.

THE COTTAGER'S CALENDAR

OF GARDEN OPERATIONS.

Will be useful to Lecturers and Students in the above subject.

Price 3d.; post-free, 3½d.

41, WELLINGTON STREET, STRAND, W.C.

ESTABLISHED 1851.

BIRKBECK BANK,

SOUTHAMPTON BUILDINGS, CHANCERY LANE, W.C.

TWO-AND-A-HALF per Cent. INTEREST allowed on DEPOSITS, repayable on demand.

TWO per Cent. on CURRENT ACCOUNTS, on the minimum monthly balances, when not drawn below £100.

STOCKS and SHARES purchased and sold.

SAVINGS DEPARTMENT.

For the encouragement of Thrift the Bank receives small sums on deposit, and allows interest at the rate of TWO-AND-A-HALF PER CENT. per annum on each completed £1.

BIRKBECK BUILDING SOCIETY.

HOW TO PURCHASE A HOUSE FOR TWO GUINEAS PER MONTH.

BIRKBECK FREEHOLD LAND SOCIETY.

HOW TO PURCHASE A PLOT OF GROUND FOR FIVE SHILLINGS PER MONTH.

The BIRKBECK ALMANACK, with full particulars, post-free. FRANCIS RAVENSCROFT, Manager.

Manchester Royal Botanical Gardens.

THE COUNCIL are desirous of appointing a successor to the late Mr. Findlay as CURATOR and SECRETARY. Applicants must have a thorough knowledge of Horticulture, be experienced in conducting Horticultural Exhibitions, Musical Entertainments, &c., also a good Correspondent, and capable of keeping accounts. Age 30 to 45. Salary, to commence, £200 per annum, with good House, Coal, and Gas. Applications to be made, with testimonials enclosed, not later than October 26, addressed—

Hon. SECRETARIES, Botanical Gardens, Manchester.

City of Liverpool.

The Right Honourable Frederick Arthur, EARL of DERBY G.C.B., Lord Mayor.

CURATOR—BOTANIC GARDENS

THE COUNCIL of the CITY of LIVERPOOL require the services of a CURATOR for the BOTANIC GARDENS, who will also be required to act as Deputy Superintendent of all the Parks and Gardens in the City, and may be required to give Lectures on Botanical subjects.

Salary, £150 per annum, with House, Coal, and Gas, subject to a deduction of £3 per cent. per annum to the Corporation Superannuation Fund, and to a condition that the Candidate appointed will effect an Insurance on his Life (if not already insured) to an amount equal to 2 per cent. of his Salary.

Applications, stating age, and previous engagements, accompanied by copies of not more than three Testimonials, endorsed "Curator, Botanic Gardens," must be sent to the Town Clerk not later than Ten o'Clock on the 31st day of October, 1896.

By Order—HARCOURT E. CLARE, Town Clerk.

Municipal Offices, Liverpool, October, 1896.

GARDENING INSTRUCTOR.—WORKING GARDENER WANTED (Single), to take charge of a Small Garden and Nursery in connection with an Agricultural School, and able to give demonstrations in improved Horticultural processes to Students and Villagers. Apply, stating salary required, and names of two references, to Secretary—M. C., 41, Wellington Street, Strand, W.C.

WANTED, as GARDENER (HEAD WORKING), an active married man, without encumbrance, by an English Gentleman, in a quiet part of Ireland. Must thoroughly understand Growing Hardy Fruits, Flowers, and Vegetables, and have some knowledge of Shrubs and Herbaceous Plants. Wife good Laundress or Dairywoman. Comfortable lodge.—P. BICKNELL, 85, Cromwell Road, S.W.

WANTED, GARDENER (HEAD WORKING), one other kept. Well up in Horticulture and Chemical Manures; experienced in the Modern Culture of Fruit and Vegetables, particularly Mushrooms (no flowers); active, thoroughly reliable, and interested in his work; no bothy. Letters only, in first instance, giving full particulars to J. G. ANDERSON, Helvetia, Eltham, Kent.

WANTED, GARDENER (HEAD WORKING), thorough experience in Vine, Melon, Stove and Greenhouse, Flower, Fruit, and Vegetable Culture. Competent to manage Home Farm and Poultry. Wife, dairy, when required. State wages, and give references to latest service. Abstainers preferred. Apply by letter only, to—X., Mr. Clark, 29, Yerbury Road, London, N.

WANTED, GARDENER and WIFE, without family, to take charge of small House and Garden; Wife to Cook, and Attend to Family when in residence.—Apply, with full particulars as to wages, &c., to C. WORSLEY, Manager, The Hall Nurseries, Bushey, Herts.

WANTED, GARDENER and COOK, married couple, for quiet country place. Wages £36, live in. Must be early risers, punctual, and willing.—Address, stating age, and full particulars, BETA, East Court, Gillingham, Kent.

WANTED, a thoroughly good conscientious GARDENER, for the Country.—Well up in Growing Fruit and Vegetables for Market; well practised in Budding and Grafting.—Apply, with full particulars, to Mr. COOPER, Calcot, Westby Road, Boscombe, Hants.

WANTED, a thoroughly competent BEGONIA SPECIALIST and GROWER. Entire charge of Department.—H. J. JONES, Ryecroft Nursery, Lewisham.

WANTED, NURSERY FOREMAN.—One who has had experience in organising Labour, and Growing General Pot-stuff (Palms, Ferns, &c.) for Market and Wholesale Trade. Character must bear strictest investigation as to ability, honesty, sobriety, and punctuality. Only those having had good experience in similar capacity need make application, by letter only, stating previous experience and wages required. Age between 35 and 40. Married. House found.—G. BETHELL, The Nurseries, Hillingdon Heath, near Uxbridge, Middlesex.

WANTED, WORKING FOREMAN, must understand Begonias, Gloxinias, and Florist's Flowers. Also TRAVELLERS on Commission.—YOUNG & CO., The Nurseries, Stevenage, Herts.

WANTED, an energetic MAN, as ROSE-FOREMAN for Branch Nursery. Must have a little knowledge of Shrubs, and be a thoroughly steady, reliable man.—State age, wage and references, to "ROSA," *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, November 7, FOREMAN for the Houses. Thoroughly understanding choice Stove and Greenhouse Plants, Orchids, Chrysanthemums; good Fruit Grower, especially Pines. Not under 26, single. No bothy. Wages, 25s. Those having held similar situation apply with reference, &c., to Mr. GEO. HUMPHREY, Nash Court Gardens, Faversham.

WANTED, JOURNEYMAN, for the Houses, not under 23. Must understand Chrysanthemums, Vines, Peaches, &c. No bothy.—Address, with all particulars, T, FISHER, Hampworth Gardens, Downton, Salisbury.

WANTED, a young MAN as CLERK and BOOK-KEEPER.—Energetic and accurate, with a knowledge of the trade. Apply, stating age, experience, and salary expected, with references, to—W. J. WATSON, Seedsman, Town Hall Buildings, Newcastle-on-Tyne.

WANTED, a STOKER, must be strong and active, one with some previous experience preferred. Good wages, and a permanent place to a suitable man.—H. B. MAY, Dyson's Lane Nurseries, Upper Edmonton.

WANTED, a FOREMAN, well up in Hothouse Fruit, Grapes, Peaches, Figs, &c. Cottage and 18s. per week.—Reply to Mr. OAKES, Nowton Court, near Bury St. Edmund's.

WANTED, a MARRIED MAN, for Pleasure Ground and Greenhouse.—One who can Mow with Scythe and Machine; must be able to Milk if required. Wife to attend to Lodge-gate. Wages 16s., with lodge (three rooms).—Apply to C. MARKWELL, Kenward, Yalding.

WANTED, HORTICULTURAL APPRENTICE.—South Coast, near Sea. Premium £50. Refer Clergy, Solicitors.—Apply, W., 41, Wellington Street, Strand, W.C.

SEED TRADE.—WANTED, an active, energetic young MAN, to act as MANAGER of the SEED and MANURE DEPARTMENT in a large House in Ireland. He must be a man of some experience, of good address, and thoroughly well up in all branches of the Seed Trade.—Apply, stating age, experience, salary expected, &c., to L. L., 41, Wellington Street, Strand, W.C.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

Advertisers are cautioned against having Letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. *on Wednesday will, in all probability, be held over to the next week.*

THOMAS BUTCHER can recommend several HEAD and UNDER GARDENERS of first-rate character and proved ability. Gentlemen seeking such may have particulars free.—Apply to THOMAS BUTCHER, Seed Merchant and Nurseryman, Croydon.

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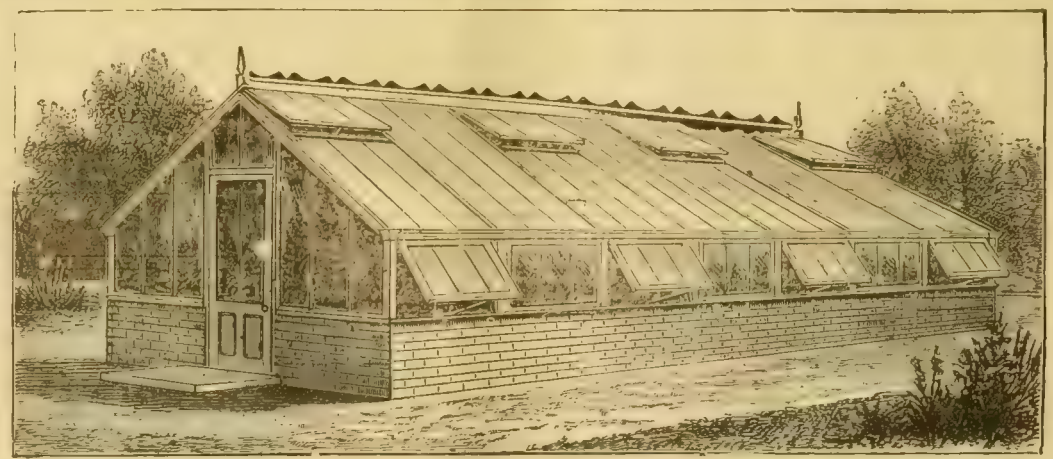
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Editorial communications should be addressed to the "Editor;" Advertisements and Business Letters to "The Publisher," at the Office, 41, Wellington Street, Covent Garden, London, W.C.
Printed for the Proprietors by Messrs. BRADBURY, AGNEW, & Co. (Limited), Lombard Street, Precinct of Whitefriars, City of London, in the County of Middlesex, and published by HARRY GILLARD COVE, at the Office, 41, Wellington Street, Parish of St. Paul's, Covent Garden, in the said County.—SATURDAY, October 24, 1896. Agent for Manchester—JOHN HEYWOOD.

The Gardeners' Chronicle

ESTABLISHED 1841.

No. 2914.

No. 514.—Vol. XX. { Third Series. } SATURDAY, OCTOBER 31, 1896. [Regt. as a Newspaper. { PRICE 3d. Post-free, 3½d.

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GOLDEN: 5 in. to 12 in., at 3s. to 8s. per dozen. Cash with order. J. J. CLARK, Goldstone, Brighton.

Important to Mushroom Growers.
CUTHBERT'S SPECIALITÉ MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5s.
R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

STANDARD ROSES. — Splendid, straight, well-grown, large heads, leading varieties. Catalogues on application.—FREDERICK PERKINS, Nurseryman, Regent Street, Leamington Spa.

To Rose Growers.—Amateur and Trade.
SEEDLING BRIARS. — Transplanted, for budding next season, in quantity.
STANDARDS of GLOIRE DE DIJON, with good heads. Offers solicited.
G. HODGSON, Hemsworth, Wakefield.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings. Patentees of the Duplex Upright Tubular Boilers.—King's Road, Chelsea, S.W. Telegraph Address "Hortulanus, London," Telephone, No. 8728

SALES BY AUCTION.

Farnham, Surrey.
About 1 mile from Farnham Railway Station, on the L. & S.-W. Railway.
GREAT SALE of NURSERY STOCK,
By order of Mr. S Bide.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, The Alma Nurseries, Farnham, on TUESDAY NEXT, November 3, and TWO FOLLOWING DAYS, at 12 o'Clock each day—

10,000 FRUIT TREES,

comprising Dwarf-trained Peaches, Nectarines, and Apricots; Standard, Pyramid, and Horizontal Apples, Pears, and Plums.

1500 RHODODENDRONS,

2½ to 4 feet, beautifully set with bloom buds.

10,000 STANDARD AND DWARF ROSES, by name, comprising the choicest sorts in cultivation.

200,000 FOREST TREES, splendid stuff, all transplanted.

100,000 strong QUICK.

Thousands of ORNAMENTAL TREES and FLOWERING SHRUBS.

EVERGREEN, CONIFERÆ, and DECIDUOUS SHRUBS in great variety.

May be viewed any day prior to the Sale. Catalogues may be had on the Premises, and of the Auctioneers, 67 and 68, Cheapside, E.C., and Leytonstone, E.

Hanworth, Middlesex.
About 1½ mile from the Feltham Station, L. & S. W. Rly.

VALUABLE FREEHOLD NURSERY FOR SALE, with Possession, by order of Messrs. W. Cooper, Ltd., who are relinquishing this branch of their business. IMPORTANT to FLORISTS, MARKET GROWERS, LAND SPECULATORS, and OTHERS.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at the Mart, Tokenhouse Yard, E.C., on FRIDAY NEXT, Nov. 6, at 2 o'Clock, in one or two lots, the valuable FREEHOLD ESTATE, known as COOPER'S NURSERIES, Hanworth, Middlesex, comprising an area of about 64 Acres of Fertile Land, possessing a frontage of 1600 feet to the Main Road, with 52 large Greenhouses, all efficiently heated with about 75,000 feet of Hot-water Piping. Commodious Trade Buildings and Cottage. The Land is particularly adapted for the Growth of Fruit Trees and General Nursery Stock, and possesses also prospective Building Value.

Particulars and Conditions of Sale may be had at the Mart; of Messrs. W. COOPER AND CO., Ltd., 755, Old Kent Road, London, S.E.; of Messrs. DOWSON, AINSLIE AND MARTINEAU, Solicitors, 19, Surrey Street, W.C.; and of the Auctioneers, Estate Agents and Valuers, 67 and 68, Cheapside, E.C.

Cooksbridge, Sussex.
Two Minutes walk from Cooksbridge Station, and two-and-a-half miles from Lewes.

MESSRS. PROTHEROE AND MORRIS will SELL BY AUCTION, on the premises, the Cooksbridge Nursery, Cooksbridge, near Lewes, Sussex, on FRIDAY NEXT, Nov. 6, at Half-past 12 o'Clock, by order of the Executor of the late Mrs. F. WOOLLARD, a quantity of—

VALUABLE and WELL-GROWN NURSERY STOCK,

Consisting of Specimen BORDER SHRUBS and ORNAMENTAL TREES, comprising Pinus, Thujas, Cupressus, Poplars, Horse Chestnuts, &c., 1500 Common and Portugal LAURELS, AUCUBAS and ENGLISH YEWS, good useful stuff; 3000 FRUIT TREES, Standards, Pyramids, and Dwarf-trained; about 3000 ROSES, well-grown Standards, Dwarfs and Climbers, all true to name; CLIMBING IVIES, VIRGINIAN CREEPERS and AMPELOPSIS, and a large quantity of HERBACEOUS PLANTS.

May now be viewed; Catalogues had on the premises, and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

West Farleigh, Kent.
About 1½ miles from Wateringbury and East Farleigh Railway Stations on the S. E. R.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION on the Premises, Parsonage Farm, West Farleigh, Kent, on TUESDAY, November 10, at 12 o'Clock punctually, by order of Mr. T. W. Startup, who is desirous of thinning his plantation, about

1000 CHOICE APPLE TREES,

of the finest bush growth on the English Paradise Stocks, all carefully prepared for transplanting, and in good bearing condition.

Also STANDARD and DWARF PLUMS and DAMSONS, GOOSEBERRY and CURRANT BUSHES, well grown, and including the best market kinds.

May be viewed any day prior to Sale. Catalogues had on the Premises; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

NOTE.—Most of the above Stock was purchased of Messrs. George Bunyard & Company in 1892 and 1893, and has already borne good crops of the finest quality of fruit, specimens of which have taken First and Second prizes at the Royal Horticultural Society and the principal Kent Shows.

Herne Hill, S E.

CLEARANCE SALE of the whole of the STOVE and GREENHOUSE PLANTS, ORCHIDS, GARDEN and FARM IMPLEMENTS, SUMMER-HOUSE, &c. Short Notice.

MESSRS. PROTHEROE AND MORRIS will SELL BY AUCTION on the Premises, Eversley, 39, Herne Hill, S.E., on WEDNESDAY next, November 4, at 12·30 o'clock precisely, by order of W. Sopper, Esq (who has recently left the neighbourhood), the whole of the STOVE and GREENHOUSE PLANTS, comprising well-grown Palms and Ferns, 30 Camellias, Azaleas, and Roses, 200 Orchids, &c., together with a large assortment of Garden and Farm Sundries, Frames, Lights, Rollers, Garden Seats, and a capital Summer-house.

May be viewed day prior to the sale. Catalogues may be had on the premises, and of the Auctioneers, 67 & 68, Cheapside, E.C.

Friday Next, November 6, 1896.

SALE of SUPERB TYPES of CATTLEYAS and LÆLIAS, GRAND PLANTS, in GRAND ORDER.

CATTLEYA INTERMEDIA WHITE, probably the LARGE, LOVELY WHITE VARIETY PARTHENIA.

Also 10 Plants of CATTLEYA INTERMEDIA SNOWFLAKE. We guarantee the plants to be according to our description; buyers can fully rely in each and every case on our guarantees. We shall show a preserved flower on the day of Sale which will give an idea of the great size of the White Blossoms of the incomparable Parthenia.

LÆLIA PURPURATA.—Found growing with the white intermedias and a remarkable type of Lælia elegans. We warrant them special. Collected on the mainland, and quite from a different district to where purpurata usually comes from. Many splendid specimens are among them. We never saw so great a variation displayed by a consignment; it is wonderful: and the plants could not be in better order. Many exhibition specimens are among them: they are a superb lot of plants, with plump bulbs and fresh green leaves—full of native vigour.

LÆLIA ELEGANS.—Most remarkable type, found growing with Lælia purpurata, white Cattleya intermedia, and a very distinct Cattleya Species or Hybrid. The type is wonderfully distinct and varied-looking. They are in grand order, and varieties among them are certain. There are snow-white flowered forms, and deep purple varieties with broad spreading flowers among them. Our man speaks most highly of them, and also of the large white-flowered intermedias he speaks in glowing terms. The white and crimson elegans, and superb purpuratas, were all found growing together.

CATTLEYA SPECIES (?).—Hybrid between Lælia elegans and Cattleya Leopoldi. A few remarkable plants found growing with Lælia elegans, L. purpurata, the white intermedia, and Cattleya Leopoldi. The natives say they have big flowers, with bright crimson lip, and golden, crimson-spotted segments.

ZYGOPETALUM GAUTIERII.—The bluest of blue Orchids, more nearly approaching sapphire-blue in its intensity than any other Orchid. No collection should be without this really superb Orchid, which is invaluable for hybridising.

CATTLEYA TRIANÆI.—Not the red Popayan form, but mostly the round, fungoid, white-sepalled and petalled kind from Cundamaras.

CYPRIPEDIUM CILIOLARE.—A beautiful Slipper Orchid, now very scarce, and difficult to obtain, valuable for hybridising and cut flower work.

Also ONCIDIUMS, BRASSAVOLAS, &c.

Also BEAUTIFUL ORCHIDS in FLOWER, &c.

TO BE SOLD BY AUCTION BY

MESSRS. PROTHEROE AND MORRIS, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, November 6, at half-past 12 o'clock, by order of Messrs. Sander & Co., St. Albans.

On view morning of Sale, and Catalogues had.

Friday Next.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, Nov. 6, at half-past 12 o'Clock, a large importation of CATTLEYA MOSSIÆ, just received in splendid condition, ex ss. "Don," many of them in very fine masses, some gigantic, probably the largest ever imported, one having 200 bulbs, another 190 bulbs, and one 115 bulbs, besides a large number with 20, 30, and 40 to 50 bulbs each, and upwards. They are from a new district, which accounts for the remarkable size of the specimens. Among them may be expected white and various other rare varieties.

Also a small but choice importation of LÆLIA PRÆSTANS, received direct—another property.

On view morning of Sale, and Catalogues had.

To be Sold.

THE NORMANDY MANOR NURSERIES, near Guildford, Surrey, area 42 Acres, with 16 Greenhouses, efficiently heated by 2700 feet piping, to be Sold, on advantageous terms, to wind up the Estate.

Full particulars of Messrs. PROTHEROE AND MORRIS, 67 and 68, Cheapside, London, E.C.

Perry Barr, Birmingham.
PRELIMINARY ANNOUNCEMENT.

MESSRS. PROTHEROE AND MORRIS have received instructions from Mr. Aimé Van den Bogaerde, Orchid Importer and Grower, of Perry Lodge, Perry Barr, Birmingham, to SELL by AUCTION, on the Premises, as above, on TUESDAY and WEDNESDAY, November 17 and 18, at half-past 12 o'Clock each day,

15,000 ODONTOGLOSSUM CRISPUM,

collected in the best districts of Pacho and La Vega, imported and semi-established plants, and 5000 SEMI-ESTABLISHED CATTLEYAS, TRIANÆ, MOSSIÆ, GASKELLIANA, SKINNERI, LABIATA, &c. All the plants are in splendid health and unflowered.

Catalogues of the Auctioneers & Valuers, 67 and 68, Cheapside, London, E.C.

DUTCH BULBS.

SALES EVERY DAY (Saturdays excepted).

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., EVERY DAY (excepting Saturdays), at 12 o'Clock, large consignments of NAMED HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other BULBS from Holland, received direct for Unreserved Sale, Lotted to suit the Trade and Private Buyers; together with white ROMAN HYACINTHS, paper-white NARCISSUS, SNOWDROPS, special TULIPS, &c.

On view morning of Sale, and Catalogues had.

MONDAY, TUESDAY, WEDNESDAY, THURSDAY, and SATURDAY NEXT.

DUTCH BULBS-DUTCH BULBS

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., as above, at half-past 12 o'Clock precisely each day—

GRAND IMPORTATIONS OF DUTCH BULBS

FROM LEADING GROWERS,
in the finest possible order, and specially lotted to suit both large and small buyers.
On view mornings of Sale, and Catalogues had.

WEDNESDAY NEXT.

GREAT SALE OF BULBS.

500 Choice named Standard, Short Standard Half-STANDARD, and DWARF ROSES, from a celebrated Prize Grower in Germany, including many of the best-known sorts.

A Selection of Standard Roses from an English Grower.

An Importation of Liliums from Japan, comprising LILIUM LONGIFLORUM EXIMIUM and L. LONGIFLORUM (supposed L. Brownii).

A Small Collection of English-grown Palms.

Azaleas from Ghent to name.

A fine variety of Azalea mollis, Choice Rhododendrons, well-grown LAURELS, AUCUBAS, RETINOSPORA, CONIFERS, and other small DECORATIVE SHRUBS, CLIMBERS, and a large number of ROSES, &c., from Holland.

A Surplus Stock of ORNAMENTAL SHRUBS, from an English Nursery.

Also a Grand Importation of

SPECIAL DUTCH BULBS.

From a trustworthy Grower.

30,000 FORCING BULBS, from France.

25,000 Best Berlin LILY OF THE VALLEY CROWNS

DAFFODILS,	GLADIOLI,	SNOWDROPS,
ACONITES,	FREESIAS,	ANEMONES,
IRIS,	IXIAS,	NARCISSUS,

DAHLIAS, AMARYLLIS, SPIRÆA JAPONICA, and varieties

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, November 4, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

DUTCH BULBS-DUTCH BULBS

SALES NEARLY EVERY DAY TILL THE END OF DECEMBER.

MR. J. C. STEVENS begs to announce that he has arranged with several of the first Nurserymen in Holland to Continuously Supply his Sales, during the present season, with only really First-class Bulbs, of the best quality.

Fourth Annual Sale.—Milford Nurseries, Milford, near GODALMING, SURREY.—Highly important THREE DAYS' SALE of first-class NURSERY STOCK.

MESSRS. MELLERSH have received instructions from Messrs. Maurice Young & Son, to SELL by AUCTION, on the Premises, the Milford Nurseries, Milford, near Godalming, on MONDAY, TUESDAY, and WEDNESDAY, November 16, 17, and 18, 1896, at 11 for 12 o'Clock precisely each day, a large quantity of exceptionally well-grown NURSERY STOCK,

lotted to suit all classes of buyers, comprising 3,000 specimen Evergreens and Conifers in borders, from 2 to 8 feet, consisting of Piceas, Abies, Pinus, Cupressus Lawsoniana, Fraserii, Erectas, Cærulea, &c.; Thujas, Cedrus Deodara, Aucubas, Laurels, Hollies, Golden Junipers, Golden Yews, &c.; many thousand well-grown small shrubs, suitable for pots, winter bedding, window boxes, or growing on, such as Retinosporas of sorts, Cupressus, Thujas, all in good variety; a quantity of named Hybrid and Ponticum Rhododendrons, Azalea Mollis, and Pontica, &c.; large quantity of transplanted Forest Trees from 1½ to 4 feet, comprising Ash, Hazel, Spanish Chestnut, Scotch Fir, Spruce Fir, Witby, &c.; a quantity of Standard, Pyramid, and Trained Fruit Trees; Standard and Pyramid-flowering Crabs, Ornamental Deciduous Trees, &c.; 1,000 Dwarf H.P. Roses of leading kinds; Tea Roses in pots, Clematis, Ivies, Ampelopsis, Honeysuckle, Passion Flower, &c.; 1,000 fine bushy Laurels of sorts from 1½ to 3 feet; Oval-leaf Privet, 2 to 4 feet; and a quantity of general Nursery Stock.

The Auctioneers specially invite the attention of intending planters to this important sale. They have personally inspected the stock, which has made good growth, and is in exceptionally fine condition for removal this season.

The stock may be viewed. Luncheon (by ticket) will be provided each day for purchasers, and Catalogues may be obtained on the premises, and of MESSRS. MELLERSH, Auctioneers and Surveyors, Godalming and Guildford.

Central Auction Mart, Bristol.

GREAT UNRESERVED SALE of FIRST-CLASS DUTCH BULBS, including about 13,000 HYACINTHS, to name; many thousands of TULIPS, NARCISSUS, &c; 7000 GLADIOLUS THE BRIDE, and other Bulbs, with 350 AZALEA MOLLIS, splendid stuff, well set with buds; 120 GLOIRE DE DIJON ROSES, HARDY PLANTS, &c.

MESSRS. DUROSE SUTTON AND CO. will SELL the above by AUCTION on THURSDAY NEXT, November 5, 1896, at 12 o'Clock.

Catalogues of the Horticultural Auctioneers and Valuers, 1, Queen Anne Buildings, Bristol; and at Frome, Somerset.

TO BE LET, about ¾ of an acre of WATER-CRESS BEDS, together with a piece of GARDEN GROUND. Also THREE CAVES for Mushroom growing. Together or separate. Adjoining station, G. E. Railway.

Apply to J. R. RUSSELL, The Bury, Westwell, Buntingford, Herts.

FOR SALE, at Gordon House, Isleworth, a RANGE of GLASSHOUSES, six in number, as they stand, with Hot-water Apparatus complete, and first-class Tubular-boiler to heat the same.—May be seen any day by applying to the GARDENER on the premises.

SECOND-HAND SADDLE BOILER, and large quantity of 4-inch H.-W. pipes and connections, in good condition, for sale. Apply—FITTEN, Aldenham Street Board Schools, St. Pancras, N.W.

JOHN S. IRELAND,

Horticultural and Agricultural Agent,

122, GEORGE STREET, EDINBURGH.

Lists forwarded on application. Agencies invited.

GREAT SALE OF ORCHIDS.

(BY PRIVATE TREATY.)

PURCHASERS OF ORCHIDS SHOULD SEE

JOHN COWAN'S & CO.'S CATALOGUE

Which is now ready.

A large quantity of Orchids, in the finest condition, are offered at

GREAT REDUCTIONS.

INSPECTION is EARNESTLY INVITED.

Catalogues post-free on application to the Company,

THE VINEYARD and NURSERIES, GARSTON, near LIVERPOOL.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

ASPARAGUS for Forcing.—Five years old, splendid roots, 12s. 6d. per 100; extra fine, 6 years old, 15s. per 100. On rail, cash with order. My Asparagus always makes top price at Covent Garden.

J. J. CLARK, Market Gardener, Goldstone, Brighton.

KEYNES' ROSES.—Strong and well-rooted. Thoroughly good and reliable. Catalogues gratis. KEYNES, WILLIAMS AND CO., Rose Growers, Salisbury.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free. P. McARTHUR, The London Nursery, 4, Maida Vale, London, W.

MALMAISON CARNATIONS, in 4-inch pots, 50s. per 100; Germania, Reynolds Hole, and others, strong layers, 18s. per 100.

J. LITTON, Grosvenor Cottage, Bath.

Extraordinarily Cheap.—Must be Sold at once.

200 BUSHELS, PHEASANT-EYE NARCISSUS (dry bulbs), 4s. 6d. per bushel; 10 bushels for 40s. Fine bulbs, not rubbish. Sample bulbs sent free.

R. GAYE, Carlton, Lowestoft.

Herbaceous and Alpine Plants.

CUTHBERTSON'S Illustrated and Descriptive CATALOGUE of over 1000 species and varieties post-free. MICHAEL CUTHBERTSON, The Great Scotch Herbaceous Grower, Rothesay.

PEACHES and NECTARINES. — Dwarf-trained young fruiting trees, which have kept up a continuous supply of fruit since middle of July to present date in cold orchard house. Names and price from—

FREDERICK PERKINS, Regent Street, Leamington Spa.

Strawberries at Reduced Prices.

GEORGE BUNYARD AND CO. beg to say they are now offering the best sorts, in fine plants, at reduced rates. CATALOGUES free.

Royal Nurseries, Maidstone.

GIANT BERLIN LILY OF THE VALLEY.

W. ICETON'S well-known GIANT BERLIN LILY OF THE VALLEY. 100,000 Planting Crowns at 12s. 6d. per 1,000, 1 and 2 years; also a few thousand retarded Crowns. Price on application to—

W. ICETON'S, Putney, S.W.

GOOSEBERRY TREES, 10,000 Strong Two Years. Best Market Varieties, Mitchell's, Keepsake, Windham's Industry, and Lancashire Lad. On Rail, 12s per 100; £5 per 1000.

G. W. RESTALL, Leckhampton, Cheltenham.

PRIZE COB FILBERTS.

MR. COOPER, F.R.H.S., is the largest grower in the kingdom of the above for sale. Plantations near Reading. Price Lists and Pamphlets on application to—

Mr. COOPER, Calcot, Bascombe, Hants

CHRYSANTHEMUMS.

THE FINEST HOUSE OF THE FINEST NOVELTIES IN EUROPE.

W. J. GODFREY has pleasure in stating that his **ANNUAL EXHIBITION** is **NOW OPEN**, and excels all previous ones. The Collection embraces Novelties culled from all parts of the world, and is displayed in the Best and most Handsome Chrysanthemum Show House in the Kingdom. (Catalogues Free).

No one interested in Chrysanthemums should fail to inspect same. Worth going many miles to see.

W. J. GODFREY, THE NURSERIES, **EXMOUTH, DEVON.**

ODONTOGLOSSUM CRISPUM.

LINDEN'S UNRIVALLED TYPE.

THE LARGEST AND HEALTHIEST STOCK IN CULTIVATION.

We have much pleasure in offering a limited lot of VERY FINE SEMI-ESTABLISHED PLANTS, UNFLOWERED, from the very same district whence we have imported our FAMOUS STRAIN which produced OD. CRISPUM AUGUSTUM (sold 300 gs.); OD. CRISPUM MELEAGRIS; OD. CRISPUM CITRATUM (sold 240 gs.); OD. CRISPUM MOORTEBECKIENSE (sold 270 gs.); OD. CRISPUM LINDENIÆ (sold 220 gs.); &c., &c., &c.

UNFLOWERED { Fine Plant, 7s. 6d.; the dozen 63s.
Splendid Plant in Spike, 10s. 6d.; the dozen 100s.
Stronger at 15s.; the dozen 150s.

CARRIAGE PAID TO LONDON.

APPLY TO— **MESSRS. LINDEN, L'Horticulture Internationale, BRUSSELS.**

FRIDAY, NOVEMBER 13. 1896.

BY ORDER OF MESSRS. W. L. LEWIS AND CO., SOUTHGATE.

CATTLEYA ACLANDIÆ.

A MARVELLOUS IMPORTATION OF ABOUT

2000 PLANTS,

FROM A NEW DISTRICT, IN MAGNIFICENT ORDER, WILL BE SOLD BY

Messrs. PROTHEROE & MORRIS, 67, CHEAPSIDE, LONDON

FRUIT TREES and VINES.

JAMES VEITCH & SONS

Beg to direct attention to their very fine Stock of all the leading varieties of the above.

CATALOGUES AND ALL PARTICULARS MAY BE OBTAINED AT

THE ROYAL EXOTIC NURSERY, CHELSEA, LONDON.

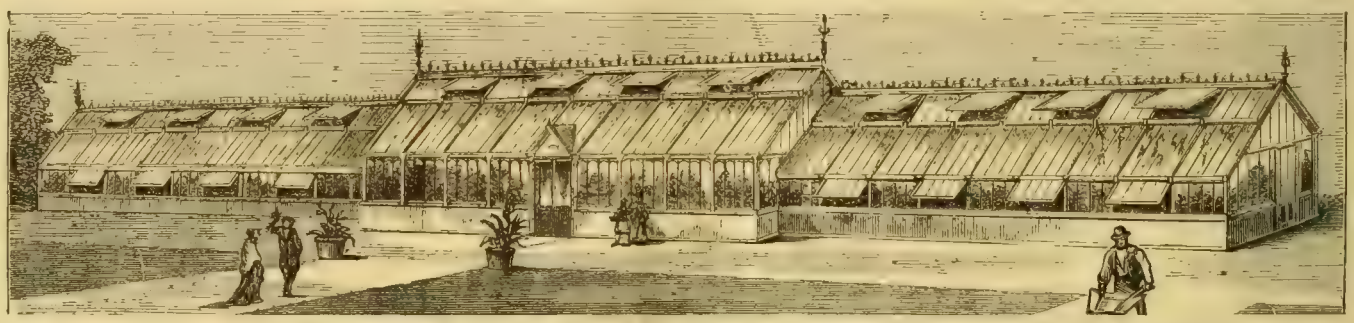
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FOR EVERY KIND OF
GLASSHOUSES
Free on receipt of Particulars.
SURVEYS MADE.

WRINCH & SONS
MANUFACTURERS, IPSWICH.

Write for Our
NEW ILLUSTRATED CATALOGUE,
Consisting of 120 pages, containing numerous designs of
Conservatories, Greenhouses, &c.
POST FREE ON APPLICATION.

TEAK-WOOD HOUSES A SPECIALTY.

HORTICULTURAL BUILDERS TO Her Majesty THE QUEEN.



HORTICULTURAL BUILDERS TO Her Majesty THE QUEEN.

WRINCH & SONS, Horticultural Builders, ST. LAWRENCE WORKS, **IPSWICH** and 57, HOLBORN VIADUCT, **LONDON, E.C.**

FOR PLEASURE AND PROFIT

FRUIT

Nothing so profitable and easy to grow.
80 Acres of Saleable Trees.

SEEDS

THE BEST PROCURABLE.
Lists Free.

ROSES

HUNDREDS of THOUSANDS.
Bushes in variety. Packing and Carriage free for Cash with order.
8/- per doz., 60/- per 100.
All other Nursery Stock carriage forward.

ROSES IN POTS From 15/- a doz.
Ornamental Trees, 91 Acres,
A Superb Collection of Herbaceous Plants.
Four Acres of Glass.
Clematis (80,000) from 15-doz.
N.B.—Single Plants are sold at slightly increased prices.

GENERAL CATALOGUE
(Over 170 pages of Nursery Stock, artistically produced, containing some hundreds of illustrations, and full of valuable information, free on receipt of 3d. for postage
Please mention this Paper.

RICHARD SMITH & Co. WORCESTER

The Success achieved by Exhibitors at past Chrysanthemum and other Shows has clearly demonstrated, by examples staged, that the

XL ALL MANURES

are of the greatest importance to those who wish to have fine blooms and superior fruit.

Registered Trade Mark. Registered Trade Mark.

XL ALL LIQUID MANURE.

To be used one part to fifty of water, making the cheapest Plant Food in the market.
Read the remarks below of a Champion Grower.
1 pint, 1*s.*; 1 quart, 1*s.* 6*d.*; 1 gallon, 3*s.* 9*d.*; 4 gallons, 12*s.* Cheaper in bulk.

XL ALL PERFECTLY SOLUBLE MANURE.

FOR TOP DRESSING or APPLYING IN SOLUTION.

Where there is a Heavy Crop of Fruit or Flowers to finish off—Use this!

TO OBTAIN A QUICK and BENEFICIAL RESULT.

In 1*s.*, 2*s.* 6*d.*, 5*s.*, and 10*s.* tins. The small quantity necessary will make it a cheap manure.

Mr. W. H. LEES, The Gardens, Trent Park, New Barnet, one of the most successful exhibitors of Chrysanthemum Blooms during the season of 1894 and 1895. This celebrated grower writes:—"I have used your new Liquid Manure on many things this season with highly satisfactory results—especially on Chrysanthemums."

The above and all other XL ALL SPECIALITIES can be obtained from all Nurserymen and Seedsmen, or direct from the Proprietor—

C. H. RICHARDS, OLD SHOT TOWER WHARF, LAMBETH, LONDON, S.E.

EXHIBITIONS.

THE BLACKBURN and DISTRICT HORTICULTURAL SOCIETY'S SHOW of CHRYSANTHEMUMS, ORCHIDS, &c., in the Exchange Hall, Blackburn (lighted by Electricity). Open Class for Chrysanthemum Blooms, Silver Cup value 5 Guineas, and other Prizes. Entries close Monday, Nov. 2. Schedules & entry forms from HERBERT ARTHUR, Hon. Sec., 146, Preston New Road, Blackburn.

FARNHAM CHRYSANTHEMUM SOCIETY.
A SHOW will be held at the CORN EXCHANGE, Farnham, on NOVEMBER 10 and 11, 1896. PRIZES to the value of £33 for Chrysanthemums, Fruit, Flowers, and Vegetables, will be offered in the Open Classes. Schedules and Entry Forms from
F. WELLER-POLEY, Hon. Sec.
Heath House, Farnham.

FOLKESTONE CHRYSANTHEMUM SOCIETY.
GRAND EXHIBITION, November 10, 11, 1896. £100 and Six N. C. S. MEDALS in PRIZES, open to all England. Prizes to Gardeners' Societies in Kent. BRONZE JUBILEE MEDAL N. C. S. for Best Bloom in Show, Japanese or Incurved. Judges:—Mr. George Gordon, Kew; Mr. Richard Dean, Secretary, N. C. S. Schedules sent on receipt of address. All prizes won, guaranteed. Entry forms of—
T. J. HARRISON, W. H. HAMMERTON, } Hon. Secs.
3, Canterbury Road, Folkestone.

KINGSTON-ON-THAMES.—20th ANNUAL SHOW of the KINGSTON and SURBITON CHRYSANTHEMUM SOCIETY, at Drill Hall, Kingston (Surbiton or Kingston Stations, L. & S. W. R.), TUESDAY and WEDNESDAY, November 10 and 11. Eighth Champion Vase, value 25 guineas, and numerous valuable Prizes. Entries close Nov. 6. Schedules of Mr. E. H. DOUET, Hon Sec., "Ortner," Surbiton Hill, Surrey.

GREAT YARMOUTH CHRYSANTHEMUM SOCIETY.
The EIGHTH ANNUAL SHOW will take place in the Town Hall, on WEDNESDAY and THURSDAY, November 11 and 12. Silver Cup value £5 5s. given for 36 Japanese Blooms. Schedules and all information from—
C. W. HORNE, Hon. Sec, Royal Naval Hospital

BURY ST. EDMUND'S & WEST SUFFOLK HORTICULTURAL SOCIETY.
ANNUAL SHOW of CHRYSANTHEMUMS, Corn Exchange, Bury St. Edmund's, THURSDAY and FRIDAY, Nov. 12 and 13, 1896. £100 in Prizes. Entries close Friday, Nov. 6.
Schedules free of the Hon. Sec, GEO. A. MANNING, 19, Abbeygate Street, Bury St. Edmund's.

BRADFORD CHRYSANTHEMUM SOCIETY.—NINTH ANNUAL EXHIBITION, in St. George's Hall, November 13 and 14. £100, and four Silver Cups to be competed for. Entries close November 9.—Schedules, &c., from J. COLLIER, Hon. Sec., 5, Shipley Fields Road, Frizinghall, Bradford.

SHEFFIELD CHRYSANTHEMUM SOCIETY.
ANNUAL SHOW, Corn Exchange, Sheffield, NOVEMBER 13 and 14, 1896. Open class Prizes, £15. For Schedules, free, apply— WM. HOUSLEY, Secretary,
177, Cemetery Road, Sheffield.

LEEDS PAXTON SOCIETY'S CHRYSANTHEMUM SHOW.—At the Town Hall, Leeds, Nov. 24 and 25, 1896. £180 in Prizes, including Four Silver Challenge Cups. Schedules may be had of the Hon. Sec —
JAMES CAMPBELL, The Gardens, Methley Park, Leeds.

YORK CHRYSANTHEMUM SHOW.

The SEVENTEENTH ANNUAL SHOW will be held on
NOVEMBER 18th, 19th, and 20th, 1896.
Upwards of £200 offered in Prizes, in liberal proportions, for Plants, Cut Flowers, Fruit and Vegetables,
Challenge Prize, value £20, added to the First Prize of £10 for 36 Cut Blooms. Cup value £10, and £4 cash for Group. N. C. S. Silver Medal, &c. Schedules, &c., to be had from—
J. LAZENBY, Sec., 13, Feasegate, York.

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£275 OFFERED in MONEY PRIZES,
INCLUDING
£10, £7, £5, £3 and £1 10s. for Group of Chrysanthemums.
£10, £7 10s., £5, £2 10s., £1 10s., and £1 for 24 blooms, Incurved, distinct.
The same for 24 blooms, Japanese, distinct.
And £5, £3, and £2 for six bunches of Grapes.
ALL OTHER PRIZES IN PROPORTION.
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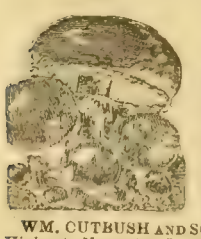
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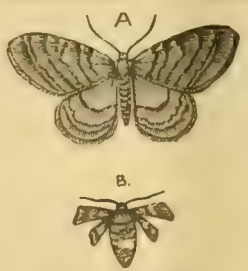
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The grand New Single Pillar Rose.

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THE
Gardeners' Chronicle.
SATURDAY, OCTOBER 31, 1896.

PICTORIAL ASPECT OF KEW.

THE fine series of views of the lake in the Kew Arboretum and its vicinity, the work of M. and Madame de l'Aubinière, were referred to in the *Kew Bulletin* for last year (p. 303), when a selection from them was placed on exhibition in the North Gallery. The talented artists have now had twenty-four of the most characteristic engraved by Count Ostrorog, and published in a volume entitled *The Poetry of Kew Gardens*, of which Her Majesty the Queen has been pleased to accept the first copy. At their request the Director furnished the following preface:

"Visitors to Kew who admire its stately trees, its sylvan glades, and its spacious lawns, probably in most cases suppose that Nature endowed it with its charms. But this is far from being the case. Kew throughout is the creation of the art of the gardener applied continuously for a century and a half, and never even at the present day ceasing to modify, develop, and refine.

Landscape gardening, as exemplified in such a domain as Kew, is peculiarly English. It originated, no doubt, partly in an intelligent appreciation of the possibilities afforded by the climate, which allows smooth turf to grow in a manner unknown in other countries, partly in the demand for giving to country mansions harmonious and sympathetic surroundings. Its evolution has been gradual, and it is not without interest to notice that Kew has been the scene of the earliest attempts of its successive masters.

English gardens down to the end of the sixteenth century were ordinarily walled enclosures laid out with extreme formality. They were adjuncts to the dwelling-house, and shared its defensive protection against disorder. The gardener stayed his hands at the limits of his boundary.

Though in the next century walls gave way to hedges, the treatment of the garden still remained formal. The stately methods of the great French landscape gardeners were bodily transported to England at the Restoration. They were, it may be admitted, well suited to splendid pageantry and a grandiose mode of life. But they were only adapted to large domains, as they sought to bring the surrounding park into connection with the garden by the plantation of extended avenues. This extension was the germ of landscape gardening proper; but the defect of the system was that its interest was almost exhausted at a first impression, and its monotony soon became wearisome.

The beginning of the eighteenth century saw a violent reaction against the formal style. This was largely due to the influence of Pope and Addison. Switzer was the first to introduce 'rural gardening.' The object was to connect the garden with its natural surroundings without the stiff and costly methods of Le Nôtre.

Bridgeman at about the same time went even further. In the Royal Garden at Richmond (now incorporated with Kew) he 'dared to introduce cultivated fields, and even morsels of a forest appearance.'

Kew, as it exists to-day, was formed by the fusion of two distinct properties or domains, both royal, but with entirely different histories. They corresponded roughly to the west and east halves of the present gardens. The western half was known as Richmond Gardens (or the Royal Garden at Richmond). The eastern half corresponds in great part to the grounds of Kew House, and to this the name of Kew Gardens was originally confined. The two properties were separated by Love Lane, the ancient bridle-road between Richmond and Brentford-ferry. This was shut up, and the two properties thrown together in 1802.

Frederick, Prince of Wales, the father of George III., obtained in 1730 a long lease of Kew House. Sir William Chambers, who erected the Pagoda, the Orangery (now Museum No. III.), and other buildings, many of which have not survived, gives a description of the eastern half of the gardens in the middle of the last century.

'The gardens of Kew are not very large, nor is their situation by any means advantageous, as it is low and commands no prospects. Originally the ground was one continued dead flat, the soil was in general barren, and without either wood or water. With so many disadvantages, it was not easy to produce anything tolerable in gardening; but princely munificence, guided by a director equally skilled in cultivating the earth and in the polite arts, overcame all difficulties. What was once a desert is now an Eden.'

The task could not have been easy. But there seems reason to believe that in the main features which still survive it was the work of Kent, who has been termed the 'founder of the school of landscape gardening.' By the introduction of the sunk fence or ha-ha (largely used at Kew) instead of walls or fences, he brought external scenery into his landscape effects.

An even more celebrated practitioner of the art, 'Capability Brown,' was employed by the Dowager Princess of Wales to remodel the western half of the gardens. A pretty clean sweep was made of the 'rural gardening' of Bridgeman. Brown's entire plan, which included the erection of a new palace, was never carried out. But Kew probably owes to him the beautiful Hollow Walk, now devoted to Rhododendrons, which, according to local tradition, was made about the middle of the last century by the Staffordshire militia while quartered at Kew.

For the greater part of a century after this Kew remained comparatively untouched. After the accession of Her Majesty to the throne it was determined to devote it to the purposes of a national botanic garden.

Sir William Hooker was appointed the first director, and assumed office on April 1, 1841. The part then opened to the public was only the original Botanic Gardens of about 15 acres. The remainder had lapsed into the condition of a wilderness, and was used as a game preserve by the late King of Hanover.

By slow degrees the ground accessible to the public was increased, and in 1850 the whole of the 'pleasure-grounds' were thrown open. Sir William Hooker found himself in charge of a spacious area, in many parts thickly wooded and overgrown, but devoid mostly of distinctive features or picturesque effects. The problem which he and his successors have had to face was how to treat this so as to convert it into a beautiful garden after the English plan, and yet utilise it for the scientific purposes to which it had been devoted.

The plan adopted was that which has been customary in the treatment of great domains in this country in more recent times. It combines something of the more ancient practice with a free employment of that which succeeded it. The formal treatment which is still needed to harmonise gardening with architectural effects blends insensibly with the naturalistic, which is most appropriate at a distance. Formality has neither been carried into the landscape with Le Nôtre, nor banished altogether with Kent and Brown. When large buildings—the Great Palm-house, the Winter Garden, the New Museum, and the Water Tower—were erected for the new purposes to which Kew had been devoted, the ground immediately adjacent to them was laid out under the advice of Nesfield in a strictly formal and stately way. To him are also due the long vistas which stretch away into the pleasure-grounds, now the Arboretum. The more distant portions have been gradually remodelled, the aim being to weave the various collections of trees and shrubs into a whole which should avoid an artificial, and yet yield an agreeable effect, while still subserving a definite purpose. It can hardly be doubted that the result has been successful, and that it is possible to construct a great botanic garden which shall sacrifice nothing to its object, and yet be neither arid nor ugly.

The lake at the southern end of the Royal Gardens, like every other picturesque feature which they contain, is of entirely artificial origin. It is difficult, perhaps, now to realise that the ground it occupies was once as flat as the rest. The lake was commenced about forty years ago by Sir William Hooker, who had nothing more than an old gravel-pit to work upon. It was further developed by Sir Joseph Hooker, and no pains have since been spared to improve its scenic beauty.

I believe it was by accident that its pictorial merits attracted the attention of M. and Madame de l'Aubinière. At any rate, they have devoted two years to the work of depicting its varying aspects, and a collection of their studies is exhibited in a room at the North Gallery." *Kew Bulletin.*

New or Noteworthy Plants.

CATTLEYA HARRISONIANA, BATEMAN, COMTE VISART'S VARIETY.

This is a very good thing indeed. Imagine a well-developed flower of the typical form, but of the purest snowy white except a little pale golden yellow blotch on the lip, and some purplish microscopical spotlets on the reverse-side of the sepals. The flower I have at hand is in its natural position, full 10 cm. (4 inches) across, the odd sepal linear lanceolate, the lateral ones falcate, and elegantly bent downwards; the petals are broader, and waved at the border; the lip is rather different from that of Cattleya Loddigesii, the species to which C. Harrisoniana has close relation, but the middle lobe is more waved and crisped; the veins are stronger marked, and the five longitudinal keels are very elevated. If botanists regard those characters as trifling ones, this question may be discussed at another time, for to-day Cattleya Harrisoniana stands as a true species also accepted by Reichenbach, who changed the name to Epidendrum Harrisonianum. If the typical plant is estimated as desirable, this variety will be appreciated far more. Albinos are very much in fashion to-day, but true albinos of every species are always very scarce. Among a large lot of the typical specimens imported by Mr. F. Sander into his new establishment at Bruges, very few specimens of this variety were found. One of them was purchased by Count Visart, St. Croix, Bruges, and flowered for the first time in the collection of this gentleman, who was highly surprised and enchanted to find himself that morning the *beatus possidens* of this fine plant. *F. Kränzlin.*

RABY CASTLE GARDENS.

Raby is, perhaps, one of the grandest places from a horticultural point of view that is to be found in England, and the baronial castle, surrounded by its moat, is one of the most characteristic structures anywhere to be seen, being in a perfect state of preservation. It is situated one mile and a half north of the village of Staindrop, and is traditionally supposed to occupy the site of the house given by Canute to the church of Durham. The present edifice is principally indebted for its splendour to John de Neville, who in 1379 obtained a license to construct a castle on his manor, and to embattle and crenulate its towers and walls. The park consists of some hundreds of acres, and is well stocked with various species of deer, and the breed of red deer is considered to be the finest in England; fallow deer are also numerous.

On the occasion of a recent visit, we entered the "East Garden" through the old gateway, which is in keeping with the castle. The chief features of this garden are fruit-walls, a ribbon-border and hedges of Fuchsia Riccartoni, which is hardy in the northern locality if protected by straw and mats. This variety of Fuchsia is used as a background plant in all the flower borders at Raby. On the north wall of this garden well-trained healthy young Morello Cherry-trees were bearing heavy crops of fruit; the most of them were planted by Mr. Tullet, the present gardener. The Apples grown in this garden are principally culinary sorts, and the trees are young, in a good bearing condition, and at the time of my visit were laden with fruit of large size.

The south wall has in front a border 12 feet wide, which is bedded out in ribbon style, with Henri Jacoby Pelargonium, Alyssum maritimum, Mrs. Lever pink-flowered Pelargonium, Viola Bullion, and a splendid Lobelia of Mr. Tullet's raising, its beautiful colour and compactness stamping it as one of the best Lobelia erinus in cultivation. On the opposite side to the ribbon border we come face to face with one of the finest sights in the way of a wire fence, covered with Clematis Jackmani. About every 7 or 8 yards standards are raised which create a grand effect, and interspersed are a few Lady Caroline Neville Clematis.

The other walls are covered with fruit trees, and one half of a wall 200 yards in length, has been replanted with the best known kinds of Pears; and on the other part of the wall the Plums, Pears, and Apples, are in good condition. One lean-to house, built against the south wall, measures 50 by 9 feet. It is planted with the well-known Raby Castle Fig, and the trees were bearing a good crop of fruit of fine quality. All round this garden a ribbon-border runs for 150 yards, in a semi-circle. At the background of this border is a hedge of Fuchsia Riccartoni, next a row of Calceolaria Golden Gem; Rev. Atkinson and Bonfire zonal Pelargoniums; also silver-leaved Pelargonium May Queen; Viola Blue Bell, then Pyrethrum, and finally an edging of Lobelia erinus. On the south wall there are two late Peach-houses, 120 feet in length. All the fruit-tree borders have been remade by Mr. Tullet since he came here. Some of the old trees were replanted, and others shifted, and throughout the house the trees were noted as being heavily cropped with fruits of fine quality. The Peaches chiefly consisted of the varieties Dr. Hogg, Sea Eagle, Bellegarde, Barrington, Royal George, Noblesse, and Princess of Wales. Nectarines are Pine-apple, Elruge, Lord Napier, and Pitmaston Orange. In front of these Peach-houses is a triangular bed, filled with bedding-plants, the centre being filled with sub-tropical and fine-foliage plants, golden-leaved Elder being used with good effect.

Leaving the east garden by an archway covered with Clematis in full flower at the time of my visit, the visitor enters the Rose and Carnation garden. This is laid out in the Italian style, and the beds are

filled with Carnations and Roses; the varieties of the former mostly planted are Raby Castle and the old Queen of Bedders, a very fine scarlet variety. The scrolls all round were very effectively planted with red and white dwarf scarlet Nasturtiums, Viola Bluebell being used to bring out the colour. The Rose beds are filled with all the leading varieties, and the plants were clean and healthy.

Passing from this garden we enter the "grass-garden" by the fountain, which is one of the prettiest of the Raby gardens. It is entered from the castle by a new gateway, which forms also the chief entrance to the gardens. The middle-walk has a border on each side planted with Hollyhocks as back-row plants. About 40 yards from the gateway plants of Yucca aloifolia, and three of Campanula pyramidalis. All these clumps are loosely arranged on the grass.

At the top of this garden, which has a southern aspect, is a wall that is covered with Apricot trees, young, healthy, and which bore splendid crops of fruit. In front of the wall runs a border 12 feet wide, most effectively planted in ribbon style.

Passing from this garden, the "Dutch garden" is entered. It is well sheltered by Yew hedges of good height. The beds were filled with plants having a choice blending of colours. Several beds of tuberous Begonias in this garden were very fine, the plants blooming profusely. At the top of it, facing south, is a conservatory 100 feet in length by 20 feet in width—a half-span. The roof of this building is covered with creeping flowering plants. One feature of the place is a large plant of Brugmansia alba, presenting a noble appearance when covered with its large white flowers. Orange-trees in this house were bearing fine fruit of good quality; and the house, on the whole, is well filled with choice plants, showing, in their clean and healthy appearance and profusion of bloom, good cultivation.

Leaving the Dutch garden, we go westward to the gardener's house. On the south wall of the garden at this point are two Peach-houses, one an early house, the other a succession-house. The trees in these peacheries are healthy, and bear excellent fruit, especially noticeable being the varieties of Peaches, Sea Eagle, Exquisite, Goshawk, and Stanwick Elruge Nectarine. A vinery forming part of this range is the earliest house, but the Grapes were all consumed. Mr. Tullet told me that the Vines carry fine bunches of fruit. The principal feature in this garden consists in its borders of herbaceous plants, which contain most of the leading kinds of herbaceous perennial plants, the borders being a perfect mass of bloom during spring, summer, and autumn. The plants are arranged in rows, and the back row consisted, this year, of Cactus Dahlias, double flowered Poppies, then came Zinnias in mixture, then rows of Asters, and of East Lothian Stocks. Another border was planted with Tritoma Uvaria as a back line plant; following this were, in order of their names, Anemone japonica, zonal Pelargoniums, and Viola Bullion.

We now enter the chief plant-houses. One span-roofed house is 150 feet long by 24 feet wide, divided into three parts. Entering by the western door, the stove division is entered; here the plants include the best known species in cultivation, including many of recent introduction. Every plant is in good condition.

A second house, devoted to the cultivation of stove plants, was entered from the first one, and in this was found a huge specimen of Cycas revoluta in fruit, and other fine specimens, notably Maranta Veitchii, Phœnix rupicola, and a magnificent specimen of the Golden Fern. Some Bananas in this house are well done. A few Orchids noted here are also well grown.

Passing from the stoves, a greenhouse was entered, in which a Lapageria rosea extending over the roof was a grand feature, it being covered with blooms at the time.



Fig. 92.—Raby Castle, Durham. (See p. 520.)

the visitor comes to a small lake, furnished with a fountain in the centre, surrounded by a rockery, the stones of which are covered with natural moss. This garden is also bounded by fine old Yew hedges, and it has a lawn in the centre, upon which is a very fine bed, planted this year, in a simple manner, which was a glorious mass of flowering-plants. Dracæna Veitchii serves as a useful centrepiece, with Scabious, silver-leaved Pelargonium May Queen, small Fuchsias, and Perilla Nankinensis, filled the bed which was bordered with Blue Bell Viola. A feature in this garden consists in sub-tropical plants dotted about in clumps of three or six; one clump noticed was formed of three Bamboos, which grow from 6 to 8 feet in height, and of three Campanula pyramidalis, 4 to 5 feet high. Other clumps were formed of three plants of Phormium tenax Veitchii and three Lilium auratums; still another clump was planted with three

These three houses are well adapted for plant-growing; all the brick-work used consists of glazed white brick, which has a clean bright appearance. Ranges of pits skirt the front of these houses; cold ones are devoted to Violet-growing, for winter supply, the variety Marie Louise being one of the varieties grown in quantity; Lady Hume Campbell is also thought much of as a Violet for succeeding M. Louise.

After the Violet pits come those in which Cucumbers are grown; then Pine-pits on the old system—the Pines grown in them are very fine. The varieties consist of Queen, smooth Cayenne, and Charlotte Rothschild. The fruiting Pine-stove is an old-fashioned structure that serves its purpose very well; it is divided into two compartments.

The propagating ground is large, as it needs must be to supply the requirements of the place. Passing from the plant-houses the North garden is reached, and note is made of the fine specimen Conifers. A wall facing south extends the entire length of this garden, on which are built the four chief vineries, which have a length of 200 feet by 20 feet in width. All the borders in these houses have practically been renewed recently, and the Vines show the good effects of this, the canes being strong, and the foliage clean and healthy. The Vines bear fine crops of Grapes, large in bunch and berry, that colour well. The varieties mostly grown are Barbarossa, Madresfield Court, Gros Colmar, Muscat Hamburgh, Black Hamburgh, Black Alicante.

The Muscat Vines look well, and several new canes have been planted. The last house consists principally of Hamburghs, the crop was a nice one, and the fruit well-coloured. To the north of this garden we come to what is called the "new kitchen garden," of 4 acres, made two years ago. This garden is intended principally for the growing of winter vegetables, all of which had a most healthy vigorous appearance. The advantage afforded by this new garden is that owing to its exposed position, the crops grown in it are thereby better enabled to resist the rigours of a severe winter than those grown in sheltered gardens. *John McIntyre, Woodside, Darlington.*

Orchid Notes and Gleanings.

CYPRIPEDIUM × LEYSENIANUM.

This is one of the most distinct of recent seedlings, taking front rank among the bellatulum crosses, and a plant of it is flowering in the choice collection of Samuel Gratrix, Esq. (Mr. David McLeod, gr.), West Point, Whalley Range, Manchester. The flower is after the general outline of the Fairrieanum breed, having arching petals, in this particular instance elongating to a point considerably under the level of the thimble-shaped pouch. The dorsal sepal is roundly ovate, in colour a fine purplish-rose, flushed with deeper rose lines, radiating from base to extremity. At the basal portion is a cloud of green; the inferior sepal is half the size of the dorsal, with fine rosy-pink lines on a greenish-ground, purely ovate. Petals much broader than any of the Fairrieanum breed, but twisted, or rather screwed, of beautiful arching outline, ground-colour greenish-white, with a profusion of very distinct chestnut spots, with a general flushing all over the surface, as in the dorsal sepal. The pouch is formed as in bellatulum, it is very smooth, and of a vinous colour; staminode reniform, and exposed, with a cloud of dense lines around it; peduncle twice the length of that of bellatulum. Mr. Gratrix bought it as a cross between bellatulum and barbatum; but this is evidently a mistake—there is no barbatum about it. It is more like vexillarium × bellatulum, as the flower could not have an arching outline in its petaliferous limbs with either barbatum or bellatulum commingled. There is no doubt about it being from bellatulum, and from a second remove of the Fairrieanum breed, possibly vexillarium. *J. A.*

Orchids at Belsize Grove, Hampstead.

The suburbs of London contain many pretty and interesting gardens, and Orchids are cultivated in a greater number of them than is generally supposed; and, singularly enough, where properly cared for, they thrive better than most other plants, and in spite of London fog and smoke, they give a better proportion of autumn and winter flowers than other warm-house plants generally do. A very good example is found in the garden of W. Shuter, Esq., at Belsize Park, where Mr. Armstrong, the gardener, succeeds in cultivating Phalænopsis successfully, a feat which many in more pretentious country gardens cannot boast of. The plants have been kept in health and flowered regularly for years. They never grow into large specimens, for as a leaf or two is made others are lost; still, they preserve their good health. Another satisfactory Orchid in Mr. Shuter's garden is Pleione lagenaria, of which there are at the present time some very pretty plants in 48-size pots, covered with pretty white and crimson flowers.

In the warm-house the Calanthes have made splendid pseudo-bulbs, and are sending up stout spikes; and many species of Cypripedium are in bloom, including C. Spicerianum, C. Sedeni, and C. longifolium; also Aërides virens, Cœlogyne speciosa, Epidendrum osmanthum (known in gardens as E. Godseffianum and E. Capartianum), and several other species. Through his large correspondence with the tropics, Mr. Shuter often gets some singular species and rare plants, and many years ago, when Cattleya eldorado and its white variety C. e. Wallisii were little known in gardens, we remember seeing quite a show of their pretty, fragrant, and variously-tinted flowers in his Orchid-house. Nor are other branches of gardening neglected, as witness the fine house of Chrysanthemums which Mr. Armstrong has set up; the heavy crop of black Alicante Grapes; the good supply of Cucumbers, and the great variety of pretty table and decorative plants, such as Crotons, Dracænas, Amasonia punicea, Saintpaulia ionantha, Streptocarpus, &c., to be seen in beauty in the houses. Gardening in London may be difficult, but diligence always secures good results.

Lælia pumila.

The plant known in gardens as Lælia præstans has been flowering in collections for some time past, and although they exhibit great variety, there is no doubt that they may be referred to the typical Lælia pumila. On the other hand, the species often called Lælia pumila Dayana is a distinct species, which should be called Lælia Dayana.

The finest form of Lælia pumila which we have seen this season is forwarded from the collection of Dr. Jessop, Roundhay Mount, Leeds (gr., Mr. T. Tyson). In colour it is rich and bright, and its broadly ovate petals exceed 5 inches across, measured together, the width of each being 2 inches. It is a very pretty species, and the flowers in proportion to the stature of the plant, are of extraordinary size.

Sketch and photographs of a fine variety of the same species are kindly sent by Ernest A. Tucker, Esq., Vernon Lodge, Preston, Brighton. *J. O'B.*

THE TERCENTENARY OF THE POTATO.

It is with great pleasure that we notice that an exhibition to commemorate the tercentenary of the introduction of the Potato into the United Kingdom is to be held this year at the Rotunda Rooms, Dublin, from December 8 to 10, under the auspices of the Irish Gardeners' Association. We wonder what would have been the result had not the tuber found a home on our shores, for without pausing to think of what would have taken the place of the Potato in the food of the working-classes of England, it would have meant starvation entirely in many districts of Ireland, where the Potato is the staple if not the only food, and its cultivation the one industry of the inhabitants. If the pig pays the rent in the sister isle, the Potato certainly feeds its master, and in many parts of the western coast a dish of Potatos, with an occasional fish, constitutes the whole of the *menu* the full year round.

The vegetable, which belongs to the natural order of the Solanaceæ, is believed to have been well known to the natives of Chili and Peru, from whom it is thought by many authorities to have been procured, and brought to England from Santa Fé by Sir John Hawkins in 1565, while others maintain that it was introduced into this country by Sir Walter Raleigh, in 1586; others, again, ascribing its introduction to Sir Francis Drake in the same year. Certain it is that Queen Elizabeth two years previous, viz., in 1584, granted a patent "For discovering and planting new countries not possessed by Christians," when Sir Walter Raleigh equipped some ships and set sail for America. Thomas Herriott, who accompanied this expedition, sent home the description of a plant called Openawk by the natives of Virginia. Gerard, in his *Herbal*, mentions that he had the plant from Virginia, that he had grown seedlings of it in 1590, and that it grew admirably in his garden. He gave it the name of Solanum tuberosum, afterwards adopted by Linnæus, which title it still retains. The plant is stated to have been generally introduced in 1592, and its first culture in Ireland is generally credited to Sir Walter Raleigh, who had large estates in that country round and about Youghal, in the county of Cork, in 1596 (according to some 1595), and it is this date which is to be honoured by the tercentenary exhibition; the house and garden where it was grown still exists, and are shown.

Sir Robert Southwood, President of the Royal Society, claimed the honour for his grandfather of having first cultivated the plant in Ireland, he stating that his ancestor obtained roots of the plant from Sir Walter Raleigh's gardener at Youghal, on going to taste the Apples of the fine American fruit, being so sadly mortified at not finding them, and of his subsequent discovery of the tubers, when his master desired him to throw out the weeds, is probably authentic. The Potato, it seems, had been known in Europe for some considerable time before, though the tuber was not known in Flanders till 1620.

A fine kind of Potato was first brought from America by Mr. Howard, who cultivated it at Cardington, near Bedford, in 1765, and its culture in England became very general soon after. The name which we now apply to it seems to have been taken from the Spanish and Portuguese, while they derived the epithet from the mountaineers of Quito in South America. The inhabitants of Quito called it *Papas*, which the Spanish corrupted into *Battata*, and the Portuguese softened it into *Batata*, hence the English Potato. The plant was cultivated in Ireland long before its introduction into Lancashire, which was owing, it is said, to a shipwreck at the mouth of the Ribble. From Lancashire it soon spread, first to the gardens, and gradually into the fields of Great Britain.

The failure of the Potato crop in Ireland for several years, especially in 1846, caused a famine, to which succeeded a pestilent disease of which multitudes died, among them many priests and physicians. Parliament then voted £10,000,000 sterling for the relief of the inhabitants, and several countries of Europe and the United States of America forwarded provisions and succour of various kinds. In 1868 half a million acres were under Potato cultivation in England and Wales, against one million acres in Ireland alone. In 1872 the Potato disease prevailed very extensively in England, and in consequence the value of Potatos imported amounted to £1,654,240, against £225,732 only the preceding year. In 1876 a great deal of alarm was caused by the importation in the autumn of the American Potato-beetle, a bug which came to be very generally known as the Colorado-beetle, but which has now very fortunately been well nigh exterminated, at any rate on this side of the big ditch.

Although we import now a very large quantity of Potatos, not only from abroad, but from the Channel Islands, these latter being generally the first in the market, there is no doubt that the British-grown tuber still holds its own, and this is shown in the fact that during the past twenty-five years the trade has undergone a great and a significant change for the better, the volume of imported Potatos

having very considerably decreased. For the three years ending 1875, the annual average importation was 268,157 tons, while for the three years ending 1895 the annual average importation was only 154,835 tons, an average decrease of no less than 113,322 tons. This year, although the crop has been large, it is now, owing to the rains, becoming very diseased, and those Potatos which are still in the ground may be looked upon as doomed. Indifferent sorts are now fetching only £1 per ton, and many growers in the Fen districts are offering good sorts at as low as 10*s.* a ton, and the common varieties they are giving away to whoever likes to clear them. When it is borne in mind that in the poorer districts of London anything but good Potatos are retailed at a halfpenny a pound, which means at the rate of £4 5*s.* per ton, some idea of the profits made by costermongers and greengrocers will be gained, while the better sorts are sold at prices which yield from £6 to £7 per ton. The German redskins, which were formerly very popular, have declined very much in favour, while the Belgian kidney is also now very seldom seen in the markets. From its importance alone as a staple food, the Potato deserves to be honoured by an exhibition, the more so as its cultivation is essentially an industry of the British Isles. Well may we say, "Floreat Potato, root and branch!" *Wm. Norman Brown.*

Colonial Notes.

WEST AUSTRALIAN PLANTS.

The *Western Australian Year-book*, a copy of which has just reached us, contains an article from the pen of the late Baron von Mueller on the "Vegetation of Western Australia," one corner of which we used to know as Swan River, but which now stretches from south to north, forming the eastern third of the great Continent. The Baron contributes a list of the extra tropical species of plants, among which are many of the greatest value for horticultural and economic purposes. The last sentence of the memoir has all the more interest in that it reached us after the death of the lamented botanist:—"In parting sorrowfully and reluctantly from this charming flora, with the elaboration of which the writer throughout more than forty years has become prominently identified, and which to his extreme regret he can hardly hope ever to see again, he trusts that, should life still be spared to him by merciful Providence, if he can still further unroll in future editions of this annual the descriptive picture of the great and largely unique Western Flora for fuller cognisance and appreciation, it will be to him one of the most pleasing of tasks."

TRINIDAD.

The October number of the *Bulletin of Miscellaneous Information*, published by the authorities of the Royal Botanic Garden, contains a variety of notes of interest to the colonists, and to naturalists generally. Two drift fruits are mentioned, one the fruit of Manicaria saccifera; the other, which was not recognised till recently, is now shown to be the fruit of Sacoglottis amazonica, a tree belonging to the Humiriaceæ, now discovered to inhabit the Cedros district of Trinidad, but previously only known from the banks of the Amazon. A note on the Sugar-cane shows that numerous seedling plants may now be seen in the gardens. Some of these may be found superior to the varieties from which they sprang.

CAPE OF GOOD HOPE.

Messrs. P. Macowan and Eustace Pillans have prepared for the Department of Agriculture an excellent treatise, entitled *A Manual of Practical Orchard Work at the Cape*. The Cape, speaking generally, has two very different climatic areas, the conditions in the eastern half being very different from those in the western portion. Consequently, special directions, applicable to each case cannot be given. The general principles of cultivation are nevertheless of universal application, and having grasped them, the cultivator should be in a position to apply them to his own needs. The points most neglected in fruit culture at the Cape—may we not say the same here—are the incredible neglect of the mechanical condition of the soil, and the general avoidance of deep trenching, the unintelligent use of irrigation, the absence of any intelligent system of sub-drainage, unscientific pruning, both formative and in maintenance, and an easy satisfaction with seedlings that have thrown back, instead of only growing pedigree sorts propagated by bud and graft. Reform of cultural custom and practice on these five points lies at the foundation of all improvements in Cape fruit growing. The directions are given in so "racy" a style as to make them amusing reading, while their forcefulness should result in general improvement.



Fig. 93 FLOWER OF ARAUJIA SERICIFERA: SHOWING MODE OF CAPTURE OF MOTH.

A, pollen-masses; B, their stalks; C, proboscis of moth; D, head of moth; E, portion of antenna.

ARAUJIA SERICIFERA AND MOTH.

Some time ago a discussion arose in these columns respecting this plant, which is sometimes called the "Cruel Plant," the flowers of which were said to be capable of ensnaring moths and other insects, and it was also affirmed by some, and denied by others, that such was the case. I resolved to study closely the subject as soon as occasion offered, and I have just recently had ample material for so doing. That such is the case is undeniable, and I have made a rough sketch to illustrate the manner in which it takes place.

The family Asclepiadaceæ, to which the Araujia or Physianthus belongs, are very complicated in the structure of their flowers, and to illustrate the subject fully would require several diagrams of the different organs, but the accompanying illustration (fig. 93) is sufficient to show how it takes place. A shows the two pollen-masses, which are attached by B, two glandular bodies in the form of a caudicle, or tail, to the stigma; and C represents the proboscis of the moth entrapped.

The pollen-masses, being glutinous, adhere to the proboscis, and by their peculiar arrangement and connection to the caudicles, B, a strong leverage or resistance is produced by the exertion of the moth in attempting to withdraw its proboscis.

Again, the proboscis, which is thrust beyond the pollen masses, is caught a slight distance from the point, and the moth finding itself caught, rolls the end which becomes wedged tightly against the appendages which forms the corona.

One morning I found seven moths entrapped, including two large Privet Hawk-moths (Sphinx Ligustri), and five Pot-herb-moths (Hadena oleracea), and other insects.

I am also further convinced that there is a change which takes place in the organs of the flower during the day-time, as I have observed that as soon as the sun shines upon the flowers, some of the moths succeed in effecting their escape; and I have also remarked that the Humming-bird-moth (Macroglossa stellatarum), which flies in the day-time, thrusts its proboscis into the flowers without ever being caught.

It is probable that the warmth of the sun causes an expansion of the flower, or else there is but a slight sensitiveness in the organs. It is also curious to notice the little lizards making their round in the morning amongst the flowers, searching for the moths which are entrapped. *Riviera.*

WILLOWS AND BASKET-WORK.

"In basket-work," says the *Kew Bulletin*, quoting from a paper by Mr. W. J. Cochrane in the *Transactions of the Highland and Agricultural Society of Scotland*, "is the main use to which they are to be put, perhaps the best kind is the common white Willow, Salix alba, which grows fast and attains a large size, yielding tannin and salicin, while, in addition to its utility for basket-making, its wood is suitable for wattles, fuel, and chip. The common Willow, Salix viminalis, is a very good osier for general purposes, being suited alike to rough and to delicate work; while a taller variety, the long-leaved Willow, Salix triandra, growing to a height of 20 feet, is one of the most useful of all Willows. Amongst others I would mention S. rubra and S. laurina; whilst if the substance salicin, obtained from the bark and used for medicinal purposes, is wanted, the species S. fragilis, or the crackling Willow, is recommended as being the richest in this substance, and at the same time yielding a fair amount of very good timber."

In order to determine botanically the different osiers bearing these local names, cuttings of a dozen kinds were obtained at Kew from Mr. R. Brown, Somersham, Hunts, a practical osier grower; these have now flowered, and have been definitely determined.

1. Glibskins, Salix triandra, ♀; 2. Jelstiver, S. triandra, ♀; 3. Black Hollander, S. triandra, ♂; 4. French osier, S. triandra, ♂; 5. Old black, new kind, S. triandra, ♂; 6. Green sucklings, S. triandra, ♂; 7. Black Mauls, S. triandra, ♀; 8. Cardinal Willow, S. alba, var., ♀; 9. Golden osier, S. viminalis, ♂; 10. Cane osier, S. viminalis, ♀; 11. Welsh osier, S. purpurea, ♂; 12. Mottled Spaniards, S. decipiens, ♀.

(S. decipiens is very nearly allied to S. fragilis, and is placed as a mere form under that species by many authorities; others regard it as a hybrid.)

According to Mr. Brown, Nos. 1, 2, 3, 4, 6, 7, 11, 12, are the best for basket-making (for the best class of work), while Nos. 5, 8, 9, and 10, are for rougher work, such as gardening-baskets (for Potatos fruit, &c.).

NOTES FROM THE MANCHESTER ROYAL BOTANIC.

CATTLEYA × PORPHYROPHLEBIA = INTERMEDIA × SUPERBA.—This is a hybrid, partaking more of the characteristics of the seed than of the pollen parent. In habit it shows some likeness to the growth of C. superba, with its stiff roundish leaves, and its plump smooth-skinned foot-stalks; but it is more after the intermedia type, both in foliage and in flower. There are three flowers springing from the sheath, larger than those of intermedia; sepals lanceolate; petals ovate, with a fine sheen of blush; lip very showy and of good size. The convolute half of it of similar colour to the segments, the lower portion expanding to more than normal form of either of the parents; theextremity being a clear shade of magenta, with the central lines running up to the end of column, showing all the more prominently because of the white ground colour on either side of these magenta lines. There is no doubt that the intermedia colour and formation is a little disturbed, but not to the extent of either the bright colour and rather straggling form of a normal flower of Cattleya superba.

ACALYPHA MUSAICA.

This plant is casting a fine dash of colour in the Botanic stove. It is allowed to ramble amongst a mixture of stove plants, the roots getting through the pot into the bed of earth, and the wealth and beauty of the leaves arrest attention. The leaf is ovate acuminate, with numerous blunt serratures, and the intermediary ribs springing from the central one very prominent. What enhances its appearance is the effective crimson shade of the leafy matter between the subsidiary ribs. This, too, is interspersed with brownish-black spots here, and patches there, making an effective combination. As an ornamental plant it is exceedingly striking, not only for a botanic, but for any garden where there is a warm conservatory.

NEPENTHES × MASTERSII.

There is a grand plant of Nepenthes Mastersii growing in a square basket; suspended from the roof of the stove, there were scores of its fine ruddy brown-shaded pitcher appendages, the pitchers being nearly all uniform in size, because of its being kept "short by the head," not allowed to ramble away, as when that is permitted the pitchers invariably elongate until almost to become converted into tendrils. There is no doubt that to suspend Pitcher plants within a short distance from the glass in a house where there is abundance of foliage within, and below the eye-line, encourages robust habit, and it is well exemplified here.

SEAFORTHIA ELEGANS.

There is a very fine plant of Seaforthia elegans in fine fruit in the Palm-house of the gardens. It is a splendid subject for ornamentation, either in a small or a large plant, and when one sees it with its ornamental drooping thyrses of inflorescence, it is more than pleasing. The crowds of red coffee-looking berries as round as a Rowan, get scattered about, and numerous self-sown berries are producing young plants about and around the parent tree. Unfortunately, to provide head-room for this giant among Palms, the house will shortly require to be raised; pity many of our Seaforthias have to be sacrificed for want of suitable accommodation.

PSIDIUM POMIFERUM.

This favourite species of the race of Myrtaceæ from the West Indies is in splendid fruit in an intermediate house. It is allowed to grow up and ramble away, its leaves rubbing the glass, and it seems to be easy of culture. It bears brownish stems with ovate leaves on short footstalks; the leaf is of a light shade of green. From the axils of the leaves spring the fruit, generally in pairs. The fruit ripens off into a fine shade of lemon, is round, and smooth in the skin. It is of excellent flavour. It is the first time I have partaken of the fruit of Psidium pomiferum, and I can thoroughly recommend it as an acquisition to the choicest dessert.

All these plants have been under the management of Mr. Charles Paul since Mr. Bruce Findlay's decease, and these and the collection generally are doing well.

THE ANNEXE SHOW HOUSE.

This show house of 250 feet in length by 54 feet in width, is laid out with the view of forming a pleasing groundwork for exhibition plants. The promenades are spacious, 33 feet wide, winding round central beds, and offering a good view of all the subjects arranged on the sloping sides and in the central designs. The roof is curvilinear, tied together with suitable iron rods, and the living drapery is entirely of the five-lobed Ampelopsis quinquefolia. In summer, while the great mid-summer show is on, it is simply beautiful, the festoons hanging down in all directions, hugging the taller Tree Ferns and Palms in the central beds; when shows are not on, it is kept filled with a variety of plants in flower, the main-stay being Kentia Fosteriana, Seaforthia elegans, Latania borbonica, Areca lutescens, Chamærops excelsa, C. Fortunei, C. humilis, Dicksonia antarctica, Alsophila excelsa, R. Williamsii, Cyathea dealbata, Araucaria excelsa, and A. Cunninghami. At the time of one of my visits, Lilies were in flower, and the sides were covered with the useful Francoa appendiculata, the Tobacco plant, various Ferns, and Fuchias in groups, a collection of the handsome cut-leaved Japanese Maples, and several of the beautiful vari-coloured Cannas. From the luncheon entrance, which was the main entrance during the great exhibition of 1887, the view commands the whole area, from the steps down to the music-room entrance, and on a great exhibition day it is one of the most pleasing of sights. *J. A.*

TREES AND SHRUBS.

ABIES BRACHYPHYLLA.

THIS is well worthy of attention, being of free growth, highly ornamental, and perfectly hardy. It is handsome in growth, having regular whorls of somewhat rigid, horizontally-placed branches, with densely-arranged small leaves, that are deep green above, and intensely silvery beneath. The cones are cylindrical, 3½ inches long by 1¼ inch wide, and smooth by reason of the non-protruding scale-bracts. The stem grows stout and straight, and when planted in light, dampish soil, and a sheltered site, the upward rate of growth is from 18 inches to 24 inches per year.

One of the largest and best-furnished specimens I have seen is growing at Claremont in Surrey, having been planted by H.R.H. Princess Beatrice on April 7, 1873; it is now considerably over 25 feet in height, the branches covering a spread of fully 18 feet in diameter.

There cannot be a doubt that in the present species we have a highly ornamental tree, and one that, if I am not greatly mistaken, will yet turn out of value for forest planting in this country. So much do I think of the tree, that I have just recommended its use in the formation of an avenue in an old-fashioned English park. *A. D. Webster.*

LAURELS.

Among broad-leaved Evergreens grown for ornament in Britain, the Laurels occupy a leading position. The best known are the "Common Laurel Cherry,' Prunus Lauro-cerasus, introduced from the Caucasian regions about 320 years ago (1576); and the "Portugal Laurel," brought from Portugal about the year 1648. The Common Laurel Cherry is one of the most effective of evergreen shrubs in gardens and pleasure grounds, and when allowed to grow free, without cutting or trimming, it assumes the dimensions of a small tree, but rarely a shapely one, and in favoured localities it then bears, in good seasons, abundant crops of its cherry-like fruit. The typical variety of the Common Laurel is rather tender on wet and heavy soils, and is frequently killed to the ground in severe winters; but the two fine varieties, colchica, and rotundifolia, have both proved to be much hardier than the type, and are very distinct and effective in their appearance. Several other varieties of the Common Laurel are in cultivation, and all of them are more or less useful for ornamental planting.

The Portugal Laurel is a much hardier, and on the whole, a more useful shrub, since it is rarely killed by the severity of our winters, unless when planted in the worst situations; and it is more amenable to pruning and trimming without spoiling its appearance. And because of these valuable properties, it is much used in topiary work, and where it is necessary to keep the shrubs close cut in annually. There is not a better or neater covering for steep, formal slopes or terraces in pleasure-grounds than thickly-planted Portugal Laurels, cut back early in spring to a flat surface, from 1 to 2 feet above the ground. With a little attention to the removal of stem-shoots, the Portugal Laurel forms a handsome small tree, and in good soil rises to a height of 40 feet or more. In this attractive form it might be oftener seen, if those in charge of vigorous young plants, growing in suitable places, would give them the needful attention, by training them to clean stems with well-balanced heads for a few years. The specimens with clean stems and rounded heads, trained in imitation of Orange trees, and set out in many flower gardens, are minor examples of the appearance which well-managed standard Portugal Laurels would present, with the addition of a more natural and vigorous aspect.

Having occasion to inquire recently as to the existence of large and old specimens of Laurels in Britain, none were clearly traced to be over a century old, except where the specimens have been renewed by suckers, or side-shoots, rising from the base of the original plants. What was said by Loudon, in his *Arboretum et Fruticetum Britannicum*, 1844, vol. ii., p. 719, to be "the largest common Laurel in the world," grew at Shelton Abbey, co. Wicklow, Ireland, and was stated to be growing in a light loamy soil, on a sub-stratum of shingle. It was then ninety years planted, 45 feet high, diameter of trunk 6 feet, and of head 101 feet. The trunk is stated to have been about 1½ feet high, and had an extraordinary diameter at that, as commented on by Loudon at the time. Like most of the old Laurels mentioned by Loudon, as notable specimens half a century ago, the Shelton Abbey Laurel has disappeared before the storm, forty or more years ago. It would be interesting if some of the contributors to the *Gardeners' Chronicle* would point out where old and remarkable specimens of Laurels are to be seen, especially those the age of which is known to be approaching, or over, a century, with a note of their condition and dimensions at the present time. *M.*

GARDEN-TRAINING IN GERMANY.

[THE following extracts are taken from an article in the *Dundee Advertiser*. We commend them to the notice of our readers in confirmation of our often-expressed opinion as to the absolute necessity for further and more thorough educational training in this country. ED.].

GEISENHEIM.—There are many schools for the study of fruit-culture in Germany, but this is the most important. It was established twenty-four years ago. The grounds extend to 74 acres, most of which are planted with Vines, though the fruit, flower, and vegetable gardens are extensive. The buildings are large, and well furnished. In the laboratory I saw a lecturer working like a slave, with his sleeves rolled up, surrounded by those innumerable bottles and pipes and globes which are indispensable to the chemist. I was more at home in the botanical-room, with its wax models of fruit of every kind and colour, and its specimens of plants dying and dead, victims of those same germs—same, at least, to the ordinary individual, which bring decay and death to countless numbers of the human race. But perhaps I was most at home in the little jam manufactory, with its tiny pans and fruit-drying and peeling-machines. It is in every respect a model

of neatness and perfection; while the wine manufactory seems to have every appliance necessary to teach the student how to transform the luscious Grape into Rhenish wine.

The importance of this and similar institutions throughout the country, more or less closely connected with the State, cannot be over-estimated, and they show conclusively the interest that is being taken in the development of the fruit trade; and the thoroughness with which the work is carried on goes a good way to explain, when applied to other industries, why the Germans are shooting ahead and taking the place of Britain in the markets of the world.

Students come to this college not only from the remotest part of the German Empire, but from all the ends of the earth. At the present time there are three students from Australia, one from France, and four from Russia. Before entering the college they must have a University education. The necessity for this will be at once seen when I tell you that the subjects include chemistry, botany, anatomy, physiology, mineralogy, zoology, and mathematics; besides such subjects as the cultivation of fruit, flowers, and vegetables, the preservation and packing of fruit, and the manufacture of jam, jelly, and wine, land surveying, soil cultivation, landscape gardening, and I know not what besides.

A full course of study takes two years, and the probable cost is about £30 per year, which is trifling when compared with the expense of a University training in Scotland. It is not necessary to take all the subjects, and selection is made according to the aim of the student, and the period of training is in consequence reduced. For instance, just now there are twenty-three students entered for one year only. Besides there are seventeen studying fruit and Vine cultivation, and twelve studying fruit culture. Some of these students settle down on the Rhine, and others go to Italy or California and begin the practical work of life.

The school is run on popular lines, and short courses of lectures are given on such subjects as cultivating, packing, and drying fruit, the manufacture of jam and wine, and any other subject that may be of interest to those who cannot undergo a full course of training. These short periods of tuition are invaluable to the gardeners and fruit-growers of Germany, and they seem to be taken advantage of. When leaving the college I saw about twenty or thirty men, some of them pretty well up in years, who had come to undergo a short period of training.

The Germans go to the foundation of things, and it will not be disputed that their ideas of fruit culture are far ahead of our own. But they are as practical as they are theoretical. At this college theory and practice go hand in hand. The working day begins at 6.30. Lectures are given then and during the forenoon. After dinner the students rough it out in the gardens and fields pretty much as labourers do, thus receiving an education which is indispensable, and which cannot be bought or obtained in any other way. The evening is devoted to transcribing notes; and those of the students who stay within the college grounds must retire at ten. Sunday is the only day they have to themselves, as on that day there is no work done.



Fig. 94.—Agave ferox, in flower in the gardens of the Marchese Hanbury, at La Mortola.

Agave ferox at La Mortola.

Our illustration (fig. 94) represents a plant of Agave ferox, growing in the gardens of the Marchese Hanbury at La Mortola, near Mentone. The central plant in the foreground is Yucca aloifolia, at the left are plants of Agave Franzosini and Yucca guatemalensis; in the background is a flowering-plant of Agave Salmiana, and near the enormous peduncle of the Agave ferox is a flower-spike of Agave filifera. The Agave ferox was laden with seed-capsules, 2 inches long, in the first week of last August, and it would appear that this species propagates itself by seeds only, as it does not show any stolons around the base of the rosette of leaves or bulbils within the inflorescence, as so many other species do. The photograph from which our illustration was prepared, and the information concerning the plants composing the group, were kindly afforded by Mr. K. Dinter, the Curator of the gardens at La Mortola.

Belgium.

Meeting of the Brussels Orchidéenne.

At the meeting on Oct. 18, MM. Lucien Linden et Cie. showed a group of fifty Lælia præstans flowering abundantly, the flowers distinguished not only by great variety of colouring, but by their exceptional size. These fine specimens were newly introduced. The same firm showed also an extra dark Oncidium Lanceanum, a very pretty Odontoglossum Hunnewellianum, remarkably coloured; quite a collection of Cattleya labiata, Lælio-Cattleya illuminata (C. labiata autumnalis × L. purpurata), with the sepals and petals of the former and lip of the latter. L'Horticulture Internationale sent two very fine Vanda Sanderiana, the flowers large, three divisions delicate rose, the other two darker—the lip darkest of all; Catasetum revolutum roseo-pictum and C. revolutum aureo-maculatum, two first-class varieties; and Odontoglossum crispum Triomphe de Rambouillet, one of the most beautiful of known varieties. M. Alf. Van Imshoot showed an excellent variety of Miltonia Blunti Lubbersiana, Cypripedium Elliottianum

and Rothschildianum ; Zygopetalum Wendlandi, with a large lip bordered widely with white; Cypripedium × Massaianum (C. superciliare × C. Rothschildianum), with large flowers and a remarkable lip; Cœlogyne pandurata in great beauty. From the Royal Gardens at Laeken came a splendid Cattleya aurea, with three well-developed blooms. Visitors to this meeting were agreeably surprised to find the large hall turned into an exhibition-room. There is therein now an interesting collection of ornamental plants, tastefully arranged in fancy pots and stands. On November 15 a Chrysanthemum show will be held there. On October 25 a Franco-Belgian competition for the twelve best varieties of Cattleya labiata autumnalis will take place in this building.

The jury decided, in future, to be more particular as to the plants to which they allotted rewards. On the occasion of which we now speak, first-class Diplomas of Honour were awarded to MM. Dallemagne for Odontoglossum Triomphe de Rambouillet ; MM. Cahuzac for Lælio-Cattleya × illuminata ; M. Linden for Catasetum spendens var. aureo-maculatum (all the above were *à l'unanimité*) ; M. Linden for C. revolutum var. roseo-punctatum; and M. Coppens for Cattleya Eldorado var. A second-class Diploma was allotted to M. Linden for Catasetum fimbriatum var. Cogniauxi. The following first-class Certificates of Merit were allotted to M. Van Imshoot for Cœlogyne pandurata (*à l'unanimité*); MM. Lucien Linden et Cie. for a collection of Cattleya labiata (Warocqueana), *à l'unanimité par acclamation*, and again for Lælia præstans ; to M. Linden for Vanda Sanderiana ; Dr. Capart for V. Sanderiana ; M. Stepman for Cattleya labiata ; for C. aurea from the Royal Grounds, Laeken ; and for Cypripedium Massaianum to M. Van Imshoot. A second-class Certificate was awarded to M. A. Van Imshoot for Miltonia Lubbersii.

THE WEEK'S WORK.

THE HARDY FRUIT GARDEN.

By G. WOODGATE, Gardener, Rolleston Hall, Burton-on-Tren .

Gooseberries are greatly in request both for tarts, for preserving, and for dessert. I have, therefore, selected six varieties of each colour. Reds : Companion, Clayton, Conquering Hero, Dan's Mistake, Duke of Sutherland, and Red Champagne. Yellows : Broom Girl, Candidate, Catherine, Glory of Ratcliff, High Sheriff, and Leader. Greens : General Markham, Green Overall, Green London, Green Walnut, Gretna Green, and Lofty. Whites : Alma, Antagonist, Careless, Freedom, King of Trumps, and Lady Leicester.

Figs.—Brown Turkey and White Marseilles are two varieties which succeed well against a south wall, but require some kind of protection during the winter.

Grape Vines, if planted against walls having a south or south-west aspect, will produce a large quantity of fruit in favourable seasons, which though not sufficiently ripened for dessert, is suitable for making first-class wine ; Black Cluster, Pitmaston White Cluster, July Frontignan, and Royal Muscadine, are four hardy and useful kinds.

Quinces and Medlars.—The three varieties are Apple-shape, Pear-shape, and Portugal; the last-named makes the best marmalade, but does not produce its fruit so freely as the other two. Of Medlars, the two best varieties are Dutch and Nottingham ; the former produces the largest fruit, but the latter has the best flavour. Quinces and Medlars should be left on the trees until sharp frosts occur. The Quince does not keep well for more than two months after being gathered. Put sufficient of the soundest of the fruits away to last that period. They should be stored in a dry, cool room, but not with other dessert fruits, as the aroma of the Quince seems to attach itself to other fruits. The remaining part of the crop of Quinces should be taken into the kitchen. When Medlars are gathered, dip the stems in strong brine, as a preventive against the attack of mould. The fruit should afterwards be thoroughly dried, and then stored in the fruit-room, placing the fruit singly on shelves with the eye downwards.

Nuts and Filberts.—Atlas Cob, Kentish Cob, and red and white Filberts, are good varieties. A few plants of Cosford and Pearson's should be planted among the others, as they produce such an abundance of male catkins. Of Walnuts, Dwarf Prolific is a good kind to plant, as it produces nuts much earlier than other varieties. Another good one is thin shelled, the nuts of which are well filled, and of good flavour.

Caterpillars of various kinds are most destructive to hardy fruits, and every means should be taken to reduce their numbers. Put pieces of grease-proof paper, 6 to 8 inches wide, tightly round the stem of fruit-trees, choosing the smoothest portion of the bark between the lowest branches, and well above the soil. On this place a thin layer of a sticky composition, as Horne's Fruit-tree Dressing, or one of the many kinds that are advertised for that purpose. Young standard trees which have any supports attached to them, must have some composition placed round these also. In the case of espaliers, all the supports which enter the ground should be given a layer of the composition at a point just above the soil. The composition will require renewing during the winter, for the bands should be kept on until March.

THE KITCHEN GARDEN.

By CHARLES HERRIN, Gardener, Dropmore, Maidenhead.

Storing of Culinary Roots.—Beetroot being a rather tender root, I have already advised its being lifted and stored, but where the roots are still in the ground no time should be lost in getting them under cover, or some of them may be injured by frost. Carrots up to the present time have continued to grow, making early lifting unadvisable, especially as a few degrees of frost do not injure the roots. If the crop is to be stored in the root-house they should be carefully drawn, adherent soil rubbed off, and the tops cut off about half an inch from the crown. As the Carrot is more liable to decay than the Beetroot, more care becomes necessary in storing them, and some dry earth should be used for separating the layers of roots. A Carrot-heap may form a bank against a wall, or a cone standing free on the floor ; but in whatever fashion they are stored, the tops ought to be uncovered, so as to permit of the leaves growing, as they then will do, a little. Carrots may be left in the ground and protected from frost by means of litter or bracken, especially if there is no wireworm in the land. A covering of 6 inches in thickness will be sufficient to preserve them safely in any ordinary winter, as if slightly frozen they take no harm when left covered whilst thawing.

Salsafy and Scorzonera may be lifted and stored as advised for Beetroot, although these roots retain their freshness and good quality much better when allowed to stand where they have grown, a portion of the crops being protected in severe weather in the same method as advised for Carrots. These roots are, practically speaking, quite hardy, but a portion should be protected, otherwise lifting in frosty weather is difficult.

Jerusalem Artichokes.—Owing to the drought, these plants were very late in forming tubers, but they have made rapid growth since the rains, and the tubers are sufficiently large for table-use. It may be stated that, so long as the tops remain green, the tubers are increasing in size. In any case, the roots should be left in the ground and lifted as may be required. I find that Sutton's White is a variety in every point superior to the old purple. A portion of the crop should be covered with litter, so that lifting may be rendered possible during frosts.

Crosnes.—The useful Chinese Artichoke, Stachys tuberifera, has not made its usual amount of growth this season, and the tubers are still very small ; however, they may yet increase in size slightly if left in the ground, as they should always be, and lifted as required.

Various.—The maincrop Leeks should be well earthed up to facilitate the blanching of the stems, and being quite hardy plants, no other kind of protection from frost is needed. Cardoons should be similarly treated, or else swathed in hay-bands. Celery, if sufficiently advanced in growth, should be moulded up high when the earth is dry enough to use for this purpose, the tops of the ridges being given a sharp slope to shoot off the rain ; and the higher the earth is piled up the less protection with other kinds of materials will be needed later on. Celery heads which are full grown may be earthed so as to cover the leaf-stalks and a portion of the lower foliage.

PLANTS UNDER GLASS.

By JNO. MCINTYRE, Gardener, Woodside, Darlington.

Cyclamens.—If these were raised from seed in the autumn of 1895 or early in the spring of this year, they should have been finally re-potted last August or early in September ; if however, owing to lack of opportunity, this was not done, it may now be done. A suitable compost for these plants consists of two parts fibrous loam, one each of leaf soil and sharp river or pit-sand. Much care should be taken in the potting of Cyclamens, their large and fleshy roots being easily injured. While some plants require firm potting, Cyclamen will not thrive if potted too firmly. Having mixed the soil in readiness for a beginning being made, let the required number of pots be crocked with care, and let every one be clean and sweet, using either new or very clean pots and crocks. In re-potting use no rammer, but gently press the soil round the old ball. Those plants which are re-potted at this season will be useful late in the spring. In the case of corms which flowered last year, and were shaken out and planted out in cool pits or frames in April and May last to start afresh, if they were re-potted at the proper time they will now have become established, and more water may be afforded them, but this should be tepid. The degree of warmth applied to plants about to come into flower is 55° at night and 60° by day. Vigorous plants may be afforded some kind of artificial fertiliser ; but plants which are not healthy and not growing kindly should not be supplied with a fertiliser, to do so being an error in treatment.

Bouvardias. — Those Bouvardias which, being planted out in frames during the summer, had the root-masses cut of a suitable size for being put into pots, may be taken up and potted. In doing this, do not disturb the roots much ; and after potting place them in a temperature of 60°, keep close and shaded for a week, or till there is no longer any flagging ; afford water once copiously, and then but moderately till they are established.

Azaleas.—If there is a good stock of small plants, some of those with very prominent flower-buds may be placed in a pit or house with a temperature of 55° to 65°. They will flower if gently pushed on about the end of November, and one of the best for early blooming is Deutsche Perle.

Deutzias may now be lifted from the open ground and potted in readiness for forcing ; the plants mature better for the check given by lifting them at this date.

Palms and Cycads, which were sent to exhibitions, or used for decorative purposes, and afforded stove treatment last month, should now be in active growth, and in need of every encouragement to make good growth, and to this end frequent applications of some trustworthy fertiliser should be made. It must be noted that I only advise this treatment for such Palms and Cycads whose growth, on account of their frequent use, has been checked at the proper season.

Miscellaneous Items.—Continue to push forward winter-flowering plants by placing them in positions near the glass, in a forcing-house which has a higher temperature than that of the stove. All flowering specimen plants, as Clerodendron, Ixora, Bougainvillea, Allamanda, and Dipladenia should now be at rest. It must be remembered that most of them must not be subjected to a lower temperature than 50°, water being very sparingly afforded, some growers indeed withhold it altogether. I do not agree with this practice, and think that water, in sufficient quantity, should be applied to keep the wood and roots from shrivelling. Dipladenias being tuberous-rooted plants, will mature their growths better if afforded scarcely any water, and must on no account be placed in a lower temperature than that of an ordinary plant stove. Bougainvilleas should always be treated as warm greenhouse or intermediate-house plants. This plant will stand with safety during the winter months in a house having a temperature not falling lower than 45°, and water should be withheld till the time arrives to start the plants into growth. Allamandas, on the other hand, should have water sparingly applied throughout the resting season, and be afforded a temperature not lower than 55°. The flowering of the Ixora depends upon the thorough ripening of the shoots ; keep the plants therefore on the dry side, in a temperature of 60°, and as soon as the shoots are ripe, cut these hard back.

THE ORCHID HOUSES.

By W. H. WHITE, Burford, Dorking.

Dendrobiums.—By the time this note appears in print most of the evergreen section of Dendrobium, such as Farmeri, thrysiflorum, densiflorum, Schroderæ, Griffithianum, chrysotoxum, and its variety suavissimum, will have finished their growth for the season. This will render their removal to the coolest part of the intermediate-house a matter of prudence. The species above-named should not be severely dried off as is proper for the deciduous species, but they should be sparingly watered occasionally so as to keep the foliage fresh-looking, and the pseudo-bulbs from shrivelling. The rare

D. Harveyanum will now have begun to rest, and a cool place in the East Indian-house will be a suitable place for the plant during the winter. The same conditions will likewise suit D. Treacherianum. Dendrobium sulcatum is an evergreen species which seems to do best in an intermediate temperature at all seasons. If any of the above-mentioned species should have started again into growth, they should be kept in the warmer and lighter part of the house until growth is completed. Such Dendrobiums as Bensoniæ, crepidatum, Virgineum, cretaceum, Pierardi, Dalhousieanum, euosmum, fimbriatum, Parishii, albo-sanguineum, primulinum, superbum (macrophyllum), and its varieties Burkei and Huttoni, will not endure low temperatures whilst at rest, and the cooler part of the East Indian or warmer part of the Cattleya-houses form suitable wintering quarters for the plants. Dendrobium Bensoniæ, Parishii, and albo-sanguineum require to be kept rather dry whilst at rest, but the others above-named must be watered often enough to prevent undue shrivelling of the pseudo-bulbs. Those Dendrobes that are more or less in growth at all times, viz., glomeratum, subclausum, Rhodostoma ×, Huttoni, sanguinolentum, purpureum, curviflorum, triadenium, &c., should be encouraged to grow with plenty of heat and moisture at all seasons. Plants of D. Brymerianum as a rule do not thrive for any length of time in a stove-like temperature, but succeed in the less warm Cattleya-house, where also D. cymbidioides will grow luxuriantly.

Bolleas and Pescatoreas.—When well-grown, few Orchids are more highly appreciated than the Bolleas and Pescatoreas. Our plants of both genera are now freely growing, and are placed at the coolest part of the East Indian-house, where the temperature during the winter does not descend below 60°. The plants are stood where they can be conveniently shaded, the least degree of sunshine or very strong light being injurious. The air around the plants is kept very moist always, and the plants are never allowed to become dry at the root. A pailful of tepid rain-water should be kept handy, and the growths dipped into it several times a day to prevent red-spider finding lodgment on the foliage.

FRUITS UNDER GLASS.

By W. Pope, Gardener, Highclere Castle, Newbury.

Midseason and Late Vineries.—If only a few bunches are hanging on those Vines which will be started early in the month of February, they should be removed with as much of the shoot attached as can well be spared, and placed in bottles filled with water, in which some charcoal is placed. The bottles must be so suspended that the bunches of Grapes will hang quite clear of them. The foliage on the shoots thus relieved of fruit may be cleared of leaves, but the ends of shoots that have been allowed to extend beyond the bunch should not be cut. For storing Grapes in bottles, a late vinery where fruit is still hanging on the Vines, or a cool dry fruit-room, should be selected. Vines are benefited by the removal of the crop of fruit, as it allows of free exposure of the Vines to the air. Should the wood not be thoroughly matured, mild artificial heat may be used by day till the foliage gives indications of falling off. In later houses, where the Grapes are expected to hang till the end of the year or longer, the atmosphere should be kept dry, but the temperature not so high as to cause shrivelling of the berries; 50° to 55°, with liberal ventilation on dry days, will be a suitable degree of warmth just before the foliage falls, a critical time for Grapes, and it is then that the fruit becomes very liable to decay and requires the closest attention on the part of the cultivator. If the foliage is very dense it should be reduced somewhat, taking leaves from the ends of the lateral shoots first, which will enable the meagre sunlight to have access to the bunches. The border should be covered with clean dry straw, or bracken, to prevent evaporation from the soil and dust, which if it sets on the fruit spoils its appearance. No pot should remain in a vinery where Grapes are hanging if water must be afforded them. See that the directions given for covering outside Vine-borders is carried out.

Figs, Early Pot-trees.—Trees which it is intended to force early, should be brought under cover, and be stored for the present in some cool, airy place, being careful that the soil does not get too dry. Any shortening of shoots, or relieving of crowded and weakly ones, may now be attended to, and the trees washed with a brush and soft-soap at the rate of 8 ozs. to the gallon of warm water. As soon as the foliage falls from the earliest of the trees growing in the border, the pruning and cleaning of the trees can be carried out. As a dressing for Fig-trees at this season, Gishurst Compound and soap and water, thickened to the consistency of paint, with loam and soot, may be used. Trees growing too robustly should be root-pruned, removing in so doing some of the large roots, and covering the smaller and younger ones with fresh compost, which should be rammed firmly, and a mulch may be applied over all. Water will not be required till forcing begins. This is, or should be, a period of complete rest, the house being kept open whenever there is no severe frost.

Strawberries for Forcing.—These plants must now be afforded protection, and cold-frames, Peach-houses, or the like cool and airy quarters do well for this purpose. They will require water at the root occasionally. Plants for late forcing should be plunged to the rim in coal-ashes, or cocoanut-fibre refuse, on an elevated spot in the frame-yard, and in very severe weather some bracken or litter should be laid lightly over them, removing it directly it is no longer necessary.

THE FLOWER GARDEN.

By Hedley Warren, Gardener, Aston Clinton, Tring.

Clematises. — As ornamental flowering climbers, Clematises are found among the more useful and generally popular plants; and the species and varieties are so numerous, that suitable positions for them for a display of bloom may be obtained during fully nine months. If used simply to cover walls, the evergreen varieties, C. montana and C. cirrosa, are suitable, and although their flowers are somewhat small, they are abundantly produced. The large-flowering varieties especially should receive liberal manuring as surface-dressings, and not be dug over or disturbed at the roots. The pruning of the different varieties is a point in their cultivation which must be carefully studied, the spring and autumn flowerers requiring quite different treatment in this respect. Those which flower on the old wood, and these are usually early flowerers, should not be pruned till after they have flowered, when any necessary pruning and training should be done; and those which flower on the current season's wood may be pruned in early winter, cutting back the shoots on old examples rather severely, so as to obtain an abundance of young flowering-shoots. The training of all varieties should not be neglected, or a tangled mass will result that will defy the efforts of the gardener to unravel; but after the long shoots are laid in, in the desired direction, on fences, arches, walls, &c., and to the desired length, some to reach a foot or so from the ground, some half-way to the top, and others to the top, they should be left alone, too severe training spoiling the effect. If stations are to be made for Clematises, the land should be well-manured and deeply-dug—putting at the least a 6-inch layer of half-rotten, rich dung at the bottom of each trench or hole. In heavy soil the drainage should be carefully seen to, adding rubble, sods, &c.; in light soils, on the contrary, no extra precaution in this direction is necessary. The following selection of varieties in their various sections and order of flowering may be helpful to those who are intending to plant during the present season.

Patens section (flowering from May to June).—Albert Victor, lavender, pale bars; Fair Rosamond, blush-white, red bars; Lady Londesboro, silver-grey, pale bars; Miss Bateman, white, one of the best; Mrs. Quilter, pure white, very fine; Sir Garnet Wolseley, pale blue, plum bar; The Queen, mauve-violet, very large bloom. The growths made in this section of plants should not be pruned at all, but when too numerous, remove entirely all wood not required, retaining the best-matured growths at their entire length.

Florida section (flowering from June to July).—Belle of Woking, silver grey, good double; Countess of Lovelace, bluish lilac, very attractive; Duchess of Edinbro, white, double, vigorous, and fragrant; Enchantress, double white, flushed rose; John Gould Veitch, lavender-blue, double, very fine; Venus Victrix, pale lavender, double, very good. In pruning, treat as in the Patens section.

Lanuginosa section (flowering from June to October).—Anderson Henry, creamy white, very fine; Duchess of Teck, white, mauve bar; Fairy Queen, pale flesh, pink bar, very large; Lady Caroline Nevill, blush, lavender bars, good; Lawsoniana, reddish purple, very distinct; Louis Van Houtte, violet purple, dark veins; Mrs. Hope, lavender, large, fine form; Princess Beatrice, silvery lilac, magnificent variety; Reine Blanche, mauve, lighter bar, good. Plants in this section should be but moderately pruned.

Jackmanni section (flowering from July to October).—Alexander, pale violet, free; Gipsy Queen, velvety purple, free and good; Jackmanni, deep purple, very popular variety; Jackmanni superba, an advance on the former; Lilacina floribunda, pale lilac, six-petalled, good; Madame Edouard André, velvety crimson, unique; Magnifica, reddish purple, red bars, very fine; Rubella, claret, free, very distinct; Star of India, reddish-purple, red bars, good; Velutina purpurea, mulberry, distinct. Plants in this section should be severely pruned, in most instances to within 12 or 14 inches of the soil.

Viticella section (flowering from July to October).—Lady Bovill, grey-blue, cupped, very fine; Madame Thibaut, lilac, red bar, good; Mrs. James Bateman, pale lavender, veined; rubra grandiflora, rich claret, distinct; Thomas Moore, rich violet, white stamens, good; Venosa, an attractive striped variety. In pruning, treat as in Jackmanni section.

Montana section (January to May).—The varieties in this section are not numerous, montana being the most popular variety. Although indivisa lobata is classed with this section, it is not hardy, and should be grown only in a greenhouse or conservatory, where it usually thrives and produces an abundance of small star-like flowers; it is also evergreen.

Herbaceous section (flowering from June to September). — Coccinea, vermilion, interior of flower yellow; Davidiana, of shrubby growth, lavender, fragrant; integrifolia, bluish-violet, good; recta, white, scented, a good variety; recta angustifolia, white, foliage small. Although plants of this section are seldom seen, they should be included in every collection of herbaceous plants, however small.

THE APIARY.

By Expert.

Extra Covering for Bees.—I have previously mentioned that second-hand Government blankets make good quilts to cover the frames with in winter, three thicknesses being tacked together, with a small proportion of flaked naphthaline sprinkled between each before being sewn; and in addition to this, a very simple and inexpensive plan is to place a few newspapers or sheets of brown-paper over the quilts, to add to the warmth, and to take the place of extra wraps that may be required as the weather gets colder; and leaving out the question of expense, there is but little doubt that paper will keep the frost from penetrating into the hives to a great extent, and will also keep the temperature of the hive fairly even, if the bees are strong, and too many frames are not allowed to remain, otherwise the bees scattered over a larger space must suffer in consequence as the cold weather comes on. And I would strongly advise all bee-keepers not to open any hives in cold weather, as harm must be done in doing so. I may mention that I purchased a few days ago, two old rick-covers in very good condition for a few shillings from a local dealer, and these when cut up made good quilts, and were quite sufficient to make, after three had been put together, quilts enough for covering sixty or seventy stocks, which shows how very cheaply coverings can be secured by a little forethought before purchasing; and in addition to cheapness the very small proportion of tar in the cover tends to keep moths and other insects away.

Feeding.—On examining an apiary I found that one of the stocks of driven bees had not taken down any of the syrup that had been given to them, owing to a fault in the feeder, and as there were plenty of bees in the hive I thought it worth while to try and save them if possible, and firstly took away several frames, leaving them five filled with foundation, to keep the bees in as small a space as possible to keep them warm. I then placed on a "Canadian rapid feeder" filled with warm syrup, which I carefully covered up with thick quilts, cushions, &c., after placing hot bricks on the top of the feeder, to keep the temperature at its normal height, and so encourage the bees to take down the syrup. If I had not done this, they would not, in all probability, have taken down cold syrup so late in the season. In a few days I found they had taken down all the syrup, and after filling the feeder again, I found this was also taken down, and the combs sealed over, and the stock is now strong enough to stand the winter with the aid of a candy-cake made from a receipt which appeared in a previous article. In addition to this, I placed in the hive at the back several partly-filled 1 lb. sections. I do not recommend this without it is carried out very carefully and without delay. I have tried this as an experiment, otherwise I should have had to unite them to another stock, which I was anxious to avoid doing.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the PUBLISHER.

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

APPOINTMENTS FOR NOVEMBER.

SUNDAY,	Nov. 1	Royal Horticultural Society of Ghent.
MONDAY,	Nov. 2	Chrysanthemum Show at Kennington Park.
TUESDAY,	Nov. 3	National Chrysanthemum Society's Jubilee Exhibition (four days). National Chrysanthemum Society's Jubilee Banquet at the Hôtel Métropole. Chrysanthemum Show at Southampton and Eastbourne.
WEDNESDAY,	Nov. 4	Chrysanthemum Shows at Ascot, Bromley, Coventry, Hitchin, and Lowestoft.
THURSDAY,	Nov. 5	National Chrysanthemum Society's Conference at 7 P.M. Chrysanthemum Shows at Exeter, Jersey, Bexley, Windsor, Romford, and Finchley.
FRIDAY,	Nov. 6	Chrysanthemum Shows at Wolverhampton and Altrincham.
SATURDAY,	Nov. 7	Isle of Wight Horticultural Association. Société Française d'Horticulture Meeting.
SUNDAY,	Nov. 8	—Brussels Orchidéenne Meeting.
TUESDAY,	Nov. 10	Royal Horticultural Society's Committees. Chrysanthemum Shows at Leeds, Folkestone, Croydon, Huddersfield, Brighton, Kingston, Chesterfield, Devizes, and Plymouth.
WEDNESDAY,	Nov. 11	Root Exhibition at Messrs. Harrison & Son's Warehouse, Leicester. Chrysanthemum Shows at Birmingham, Yeovil, Blackburn, Hull, Carlisle, Liverpool, Dundee, Hanley, Rugby, and Great Yarmouth.
THURSDAY,	Nov. 12	Chrysanthemum Shows at Glasgow, Longton, Highgate, Lizard, Bury St. Edmund's, Winchester, and Melton Mowbray.
FRIDAY,	Nov. 13	Chrysanthemum Shows at Lichfield, Bradford, Eccles, Stockport, Sheffield, and Wellingborough.
SATURDAY,	Nov. 14	—Royal Botanic Society Meeting.
SUNDAY,	Nov. 15	—Ghent Chrysanthemum Show.
TUESDAY,	Nov. 17	Chester Paxton's Society, Fruit and Chrysanthemum Show. Chrysanthemum Show at Birkenhead.
WEDNESDAY,	Nov. 18	Chrysanthemum Shows at Newcastle, Bristol, and York (York Florists').
THURSDAY,	Nov. 19	Chrysanthemum Shows at Edinburgh, Barnsley, & Leamington.
FRIDAY,	Nov. 20	Chrysanthemum Shows at Manchester Town Hall, and at Alderley Edge.
TUESDAY,	Nov. 24	Royal Horticultural Society's Committees.
SATURDAY,	Nov. 28	—Royal Botanic Society Meeting

SALES FOR THE ENSUING WEEK.

MONDAY,	Nov. 2	Dutch Bulbs, at Protheroe & Morris' Rooms. Dutch Bulbs and Plants, 200 English Roses, Shrubs, &c., at Stevens' Rooms. Library of Books and Natural History Specimens, Curiosities, &c., at Stevens' Rooms.
TUESDAY,	Nov. 3	Dutch Bulbs, at Protheroe & Morris' Rooms. Great Sale of Nursery Stock, at the Alma Nurseries, Farnham, by order of Mr. S. Bide, by Protheroe & Morris (three days). Poultry, Pigeons, and Dogs, at Stevens' Rooms. Dutch Bulbs, Lilies, &c., at Stevens' Rooms.
WEDNESDAY,	Nov. 4	Dutch Bulbs, at Protheroe & Morris' Rooms. Clearance Sale of Plants, Orchids, Utensils, and Sundries, at Eversley, Herne Hill, by order of W. Sopper, Esq., by Protheroe & Morris. English and Foreign Roses, Shrubs, Japanese Lilies, Bulbs in variety, &c., at Stevens' Rooms.
THURSDAY,	Nov. 5	Dutch Bulbs, at Protheroe & Morris' Rooms. Dutch Bulbs, Lilies, Plants, &c., at Stevens' Rooms.
FRIDAY,	Nov. 6	Dutch Bulbs, at Protheroe & Morris' Rooms. Nursery Stock, at the Cooksbridge Nursery, Cooksbridge, by order of the Executors of the late Mrs. F. Woollard, by Protheroe & Morris. Valuable Freehold Nursery, known as Cooper's Nurseries, Hanworth, at the Mart, London, by Protheroe & Morris. Imported Orchids, at Protheroe & Morris' Rooms.
SATURDAY,	Nov. 7	A Collection of Dutch Bulbs, at Stevens' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—45·1°.

Bacteria in Gardening.

HITHERTO the processes and methods of the agriculturist have mostly been of a cruder, rougher character than those employed by the gardener. The scale on which operations are carried out in the two cases suffices to account for this difference. There are, however, indications that the differences we have alluded to are becoming obliterated, and that in the future we may have to look to the farmer rather than to the gardener for the finer applications of science to practice. The depression through which agriculture is passing contrasts with the generally prosperous condition of horticulture. Whilst arable land is going out of cultivation, the growth of crops under glass has increased, and is increasing, in a way that seems marvellous, but which will be still more remarkable when market-gardeners see their way to the profitable use of the electric light. The depressed state of agriculture may ultimately turn out to be a blessing. It is already stimulating research and enquiry, it is promoting experiment, it is enforcing the adoption of less wasteful methods, and the more careful adaptation of means to ends; and hence it is, we say, that agriculture bids fair to overtake horticulture in the application to practice of scientific methods and procedures. Agricultural training and education are also in a more forward state than is the case with horticulture, and the leaven thus infused into the agricultural body is certain to work for the benefit of the community. Climatal difficulties the gardener can meet better than can the farmer, but it looks as if in the not remote future the expenditure by the farmer on manures and fertilisers will be rendered largely unnecessary. Instead of tons of farm-yard manures, it will suffice to employ a few ounces per acre of the right kind of fertiliser, applied at the right time, and with a due regard to the circumstances of the case. Again, the presence or absence of some particular microbe or bacterium may make all the difference in the way of successful cultivation of particular plants. Our old friend and valued correspondent, M. CHARLES NAUDIN, some years since, threw out the suggestion that the difficulty of growing particular plants in certain countries, or on certain land, was due to the absence of the right kind of bacterium. Actual experience gained since this suggestion was thrown out has tended to confirm its substantial correctness. The introduction, on a commercial scale, of a substance known as "Nitragin" is a case in point. The nature of this nitragin, the method of preparing it, and its use in agriculture, are explained in a paper by Dr. J. A. VOELCKER, in the last number of the *Journal of the Royal Agricultural Society*.

The presence of little nodules on the roots of leguminous plants has long been known to botanists. Chemists, and practical farmers, on their side, have long known that nitrogenous manures applied to Clovers and other leguminous plants, produce no proportionate benefit; and further, the farmer has long been aware that a leguminous crop, such as Clover, was a good precursor to Wheat. The chemist showed that this was due to the actual accumulation in the soil of nitrogenous matter over and above what was supplied in the manure. To find out where this excess of nitrogen came from, was the problem agricultural chemists then attacked. In spite of the preponderating amount of nitrogen in the air, chemists and physiologists are unanimous in asserting that, as a rule, no nitrogen in a free state is assimilated from the atmosphere. The leguminous plants form an exception—and that exception had to be explained. Briefly, it may be said that the clue was furnished by these little nodules on the roots, which had long since attracted attention. Improved microscopes and specially improved methods of preparation and investigation, revealed the fact that these little bodies were the homes of countless organisms of minutest dimensions, and generally classed as bacteria, though MARSHALL WARD gives a different identification. The word "microbe" is, perhaps, the best to use at present, as it affirms nothing as to their nature. Precisely what they are is an important point to determine, but, for the moment, it is a matter of less consequence to the cultivator than to understand what they do.

Their work, then, consists in enabling the plant which gives them a home to utilize the nitrogen by which it is surrounded, but of which, without their aid, it could make no use. These things being proved, the thing next was to turn them to practical account.

In the paper before us, Dr. VOELCKER briefly narrates how this has been done by HELLRIEGEL, NOBBE, and others. Referring the reader to the paper for full details, it must suffice here to state that the main objects of the experiments have been, first, to isolate and to cultivate the particular microbe required (for each genus of Leguminosæ appears to have its own microbe); and then, secondly, either to infiltrate the soil, or to inoculate the seed with that particular microbe. It is obvious that few farmers or gardeners have the means or the leisure to carry out the delicate work of examining, isolating, and cultivating bacteria. That must be left to professional experts, and they have, as we have already stated, been so successful, that the substance known as Nitragin is now manufactured on a commercial basis. It is very unfortunate for English people, we may remark incidentally, that this term should have been employed, as it will constantly be confounded with the well-known nitrogen. In Germany, where the word "stickstoff" is employed to designate what we call nitrogen, no such confusion will arise. Nitragin is a gelatinous liquid, sold in bottles at a cost of about 2*s.* 6*d.* a bottle, the quantity in each vessel being sufficient to inoculate about half an acre. The seed may be thoroughly sprinkled with the diluted nitragin, or a quantity of soil may be infected with the liquid, allowed to dry, and then spread over the soil to be infected, or carefully worked into a depth of about 3 inches. It is obvious that a good deal of experiment, under varied conditions, has yet to be done before the practical value of the method can be adequately estimated. For this purpose, Dr. VOELCKER has commenced a series of trials at the Woburn Experimental Farm,

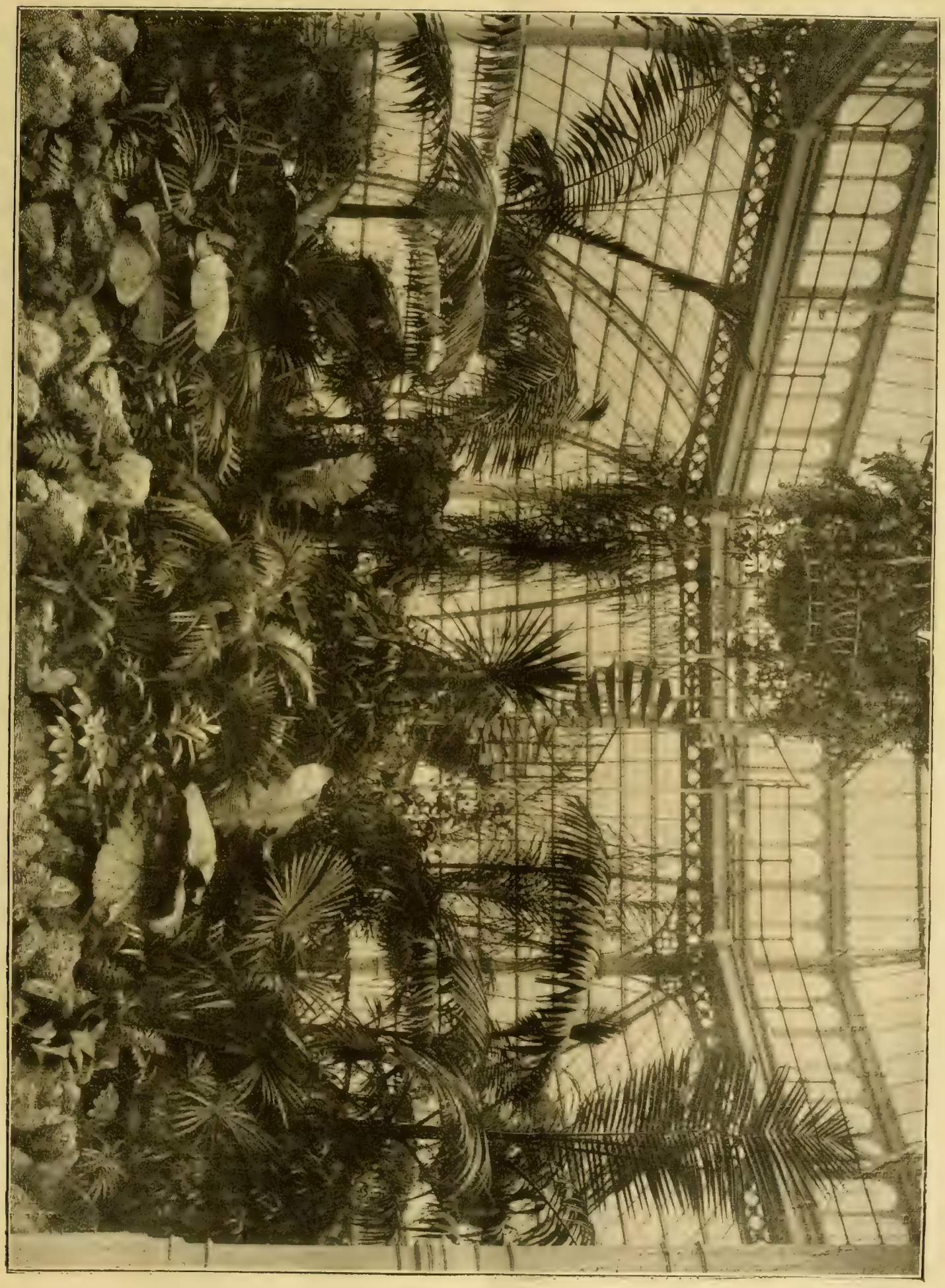


FIG. 95.—THE YATES-THOMPSON CONSERVATORY, SEFTON PARK, LIVERPOOL. (SEE P. 531.)

which we had the pleasure of seeing recently, and the results of which will be eagerly awaited. In the meantime may we hope that similar experiments be made next season at Chiswick, in the case of Peas and Beans. A half-crown bottle of Nitragin and an hour or two's work are, as it seems, all that is required, and the results of one season's growth of a row of Peas and one of Beans, with a check-row untreated, would probably suffice to show whether the experiment were likely to be useful to horticulturists, or worth continuing for a second season. Up to the present time seventeen varieties of Nitragin have been prepared for as many agricultural crops. French Beans and Scarlet Runners are not in the list, but as these are of great consequence to gardeners, we have no doubt the deficiency could speedily be supplied.

In the light of these discoveries, we may well ask, What are we coming to? A pinch of fertilising dust, a few drops of bacterial fluid, an hour or two's exposure in the twenty-four hours to the electric light. These are among the methods by which the "new cultivator" will baffle the antagonism of climate, neutralize foreign competition, diminish the cost of production, increase the amount of the crop. Can all this be true? Yes; we have no doubt that substantially it will be so, and great is the responsibility of those who do not avail themselves of the opportunities put before them.

Essex County School of Horticulture.—A course of elementary instruction in the science and practice of horticulture will be given at the Technical Laboratories, Chelmsford, during the last three weeks in November. Students must be resident in the county, and must either be employed in gardens, or intending to be so. Eight or nine hours daily are devoted to the work; of these two hours are occupied by lectures and didactic teaching, two hours in the laboratory, three hours in the garden or greenhouse, one hour or one hour and a-half are employed in reading. In the first week soils in relation to plant life are treated of, in the second fruit culture, and in the third planting and propagation. We need not detail the instruction given in the lecture-room, but we may specify the work that is done in the garden as follows:—Study of different kinds of soils, mixing soils for pot culture; demonstrations and practice in digging and trenching; preparation of beds for herbaceous plants; preparation of ground for fruit trees; drain-making demonstration and practice; planting fruit trees and bushes; pruning fruit trees and bushes; practice in root-pruning; visit to a fruit farm; training of trees, nailing of wall trees; pruning of Vines; visit to nurseries and private gardens; planting herbaceous beds; planting bulbs and spring-flowering plants; potting bulbs for forcing; preparation and insertion of cuttings of deciduous and evergreen shrubs; transplanting and pruning shrubs. The programme is an excellent one, but one better adapted, as we think, to a lad who has been employed in garden work for twelve months than for an absolute novice, who would find it hard to see the significance of what he was doing, and harder still to keep up day by day with the instruction given.

Floral Decorations in Paris.—One of the most ingenious decorations on the occasion of the Russian Emperor's visit, according to the *Revue Horticole*, consisted in attaching flowers to the stalks of Grapes (*rafles*). In eating Grapes, the berries are picked off and the branched stalks left on the plate. Some ingenious decorator had the idea to take these bunch-skeletons and attach to their free tips small paper flowers. The bunches were tied on to the trees, so that they looked like pyramidal inflorescences. The designer must at least be credited with ingenuity. The glazed paper flowers tied on the trees in the Champs Elysées were simply circular discs of paper stamped or cut into four or five lobes at the circumference. Two of these were placed in apposition, but in such a way that the lobes of the one alternated with those of the other, as the sepals of a flower would do with the petals. The paper was then folded in half or in quarters, and so a more or less funnel-shaped flower was formed. We may commend these devices, not indeed to our horticultural societies, which, we trust, will keep free from such things, but to the managers of the flower-battles, which are now becoming popular.

The Cardiff Gardeners' Association held a meeting at the Temperance Club, St. John's Square, Cardiff, on Tuesday evening, October 20, Mr. A. Pettigrew presiding. Mr. John Storrie delivered a very interesting address, which he illustrated by means of specimens under the microscope. The subjects of Mr. Storrie's address were "Cyclosis, or Circulation of Cell Sap," "Low Vegetable Organisms," "Ancient Vegetables," and the "Formation of the Coal Measures."

Japanese Flower Arrangement.—In the current number of the *Studio*, Mr. Josiah Conder has an article on the Japanese method of arranging flowers. Instead of crowding a mass of more or less incongruous flowers into one meaningless bouquet, where no individual flower has a chance of displaying its form and its characteristics, and where the flowers are so jammed that the wires which support them are concealed, the Japanese arrange their flowers singly or loosely. From a base which is really, as it appears to be, a support, rises one principal branch, and from it diverge one or more secondary branches, now ascending, now spreading, now reflexed, so that when analysed the arrangement is seen to be a more or less close copy of the natural growth of a shrub or tree, each with its own peculiarities modified by external circumstances, and the growth in one direction balanced by that in another.

Economic Entomology.—Messrs. Wesley & Son's catalogue, No. 126, contains a long list of publications relating to injurious and useful insects, which will be of interest to students of the subject. The address of Messrs. Wesley & Son is 28, Essex Street, Strand.

Cattleyas at Brussels.—A "match" took place on Sunday last at the Horticulture Internationale between M. Lucien Linden and M. Dallemagne, of Rambouillet, France. The two competitors were to present a certain number of varieties of Cattleya labiata var. autumnalis imported within the last six months, and the jury was called on to decide which was the better collection, having regard solely to the quality of the flowers. Voting was by ballot, and when the result was announced it was found that all the voters were of opinion that M. Linden was the winner of the "match."

Fruiting Pomegranates.—Mr. E. C. A. Byrons records in the *Garden*, p. 306, the production of no fewer than nine Pomegranates from a tree growing against the south wall of a house. This is so far as we know, the first time the Pomegranate has been recorded as fruiting in the open air in this country.

French National Chrysanthemum Society.—The first meeting of this newly-formed society's floral committee was held at Lyons on the 21st inst. The exhibits were not numerous, but certificates were awarded to the following varieties:—National Chrysanthemum Society's Jubilee (Calvat), a large pinkish incurved Japanese; A. Verlot (Calvat), Aug. Nonin (Calvat), Lucile Mathieu de la Drôme (de Reydellet), and Madame Fleur de Lis (Beney). Eight other varieties were the recipients of "félicitations." The society has just issued the second number of its official publication, *Le Chrysanthème*, containing details of the conference to be held at Bourges on Nov. 7, reports of the committee meetings, several essays on various subjects connected with the flower, a list of donations to the society's library—from a perusal of which we wonder when some of our leading English Chrysanthemum societies will consider it a part of their programme of operations to do likewise. Chrysanthemum literature is now becoming so extensive that unless an attempt be made soon, great difficulties will be encountered in securing some of the old and scarce treatises that have been written by authors at home and abroad. As instances of which we should feel curious to know how many present-day cultivators there are who have ever seen Ruprecht's work, *Ueber das Chrysanthemum Indicum*, published in Vienna sixty-three years ago; George Taylor's treatise published forty-five years ago; or the more modern ones of Lebois of Paris, and John Salter of Hammersmith. These should all be, as some are, in the Lindley Library, access to which, it may be remembered, is not confined to Fellows of the Royal Horticultural Society, but also to members of the Chrysanthemum Society—indeed, subject to certain regulations, to the public at large.

National Chrysanthemum Society: *Oct.* 28, 1896.—The Floral Committee met on the above date, and some excellent varieties were staged, and several First-class Certificates of Merit were awarded. To Mr. C. Beckett, The Gardens, Aldenham House, Elstree, came Japanese Royal Sovereign, a large deep yellow incurved variety, which may be described as a greatly improved W. H. Lincoln; to Messrs. H. Cannell & Sons, nurserymen, Swanley, for Japanese Mrs. J. M. Lewis, a broad petalled white variety, in the way of Mdlle. A. D. Gilbert, but yet distinct enough from it; to W. Seward, Esq., The Firs, Hanwell, for Japanese John Neville, bright orange-red with golden reverse, very bright in colour, and distinct; and to George Seward, the surface of the petals dark orange, with a pale yellow reverse, very pleasing in colour. To Mr. Norman Davis, Framfield, Sussex, for Japanese Western King, a fine broad-petalled incurved white variety, rather small, but of high quality; to Japanese Nathan Smith's White, a large full white flower, with drooping florets, the petals horned at the points, and to Modesto, a magnificent yellow Japanese, as glorious in colour as it is fine in size and build, much incurved and very deep. These were raised by Messrs. Nathan Smith & Son, Adrian, Mich., and we thus see that America and the Colonies are in the front rank in producing new varieties. A similar award was made to Mr. W. Wills, Earlswood, Redhill, for Australia, bright violet amaranth, with a silvery reverse, very large and full, a New South Wales seedling. A yellow-flowered hairy variety, named Lescadie Gentils, from Mr. Quetier, Orleans, the committee wished to see again, as they also did a large white incurved variety, named La Perle d'Algeriæ, also a white, which Mr. C. Gibson, The Gardens, Morden Park, stated is a true incurved. A white Nerine was shown by Mr. T. S. Ware, of Tottenham.

The Jephson Gardens, Leamington.—We understand that Mr. T. W. Dell, who has for several years held the position of head-gardener at the Jephson Gardens, Leamington, which has hitherto been managed by a committee, has been appointed to the important office of head-gardener and parks-manager, under the Leamington Corporation. The municipal authority having obtained powers under the New Town Improvement Bill, will take over the gardens on November 1 next.

Dessert Apples as Decorations. — M. Charles Baltet, of Troyes, describes how, at certain of the banquets recently held in connection with the recent Franco-Russian *fêtes*, French horticulturists provided fruit not merely of the finest quality, but prepared in a fantastical manner, but showing considerable patience and care. He mentions how the delicate Apple, Calville Blanc, gathered in the fertile regions of Rosny, showed a carmine glow upon its pearly surface, thanks to the art of the grower, who had moistened the skin in summer with a damp sponge; the drop of water formed a blister, and the colour developed under the sun's rays. Another little arrangement also astonished the guests: the Russian eagle spread its wings in green on the Alexandre Apples, in white on the Calvilles; a paper cut with the desired silhouette was stuck on to the skin, forming a

screen which the sun's rays did not penetrate, and at harvest-time, on raising the paper, a non-coloured design was apparent. By reversing the process, a piece of paper covered the fruit, leaving the pattern only exposed to the sun, so that the design appeared in red.

Mr. James Goldie speaking, in a letter, of certain incidents in the life of his father, the late John Goldie, says:—"My father visited this country (Guelph, Ontario, Canada), in 1817, returning to Scotland, I think, in 1818. He came back again in 1819 and remained, I believe, till 1821. In 1824 he made a collection of plants, trees and shrubs for the Botanical Gardens that were then being constructed in St. Petersburg, Russia, and went there with them. He was connected with the gardens for some time. He travelled in that country collecting novelties, and introduced many fine things. He afterwards re-visited Russia and Siberia to investigate the rich botanical wealth there. He came to Canada in 1844 with his family, and resided at Ayr till his death. Nearly all of his journals and notes of travel in the various countries he visited were lost by the burning of his house." *Mechans' Monthly, October.*

German Government Fruit Depôt. — A correspondent of the *Dundee Advertiser* thus speaks of the institution described in our columns, by our Berlin correspondent, some time since:—"It was established about three years ago, and exists for the purpose of assisting the fruit-growers of Germany. They send samples of their fruit; these are shown to fruit-dealers. A bargain is struck if the parties, through the medium of the Department, can fix a price, and the fruit delivered. This is done free of charge, and entirely with the object of developing the trade. So far it has been appreciated by seller and buyer alike, and has met with entire success. Other depôts are to be started, if, in fact, they have not already been established, in different centres throughout the Fatherland."

Dutch Competition in Fruit.—Were the freight from Holland as high as the freights paid by the home-grower, it would be a big obstacle in the way of foreign competition. But, while railway service and freight are about as unsatisfactory in Scotland as they could well be, different companies compete with each other to carry foreign produce, and the result is extremely low rates, which enable the foreigner successfully to compete with the home-grower. From Rotterdam, for instance, to Hull, it is 230 miles, and the freight is only 24*s.* per ton. The passage takes eighteen hours. As stated in my last article, it is 91 miles from Hull to Manchester, and the freight is 23*s.* 9*d.* Fruit can be in the Manchester market in something like twenty-six hours after it leaves Holland, the whole distance covered being 321 miles, and the freight 47*s.* 9*d.* From Rotterdam to Leith it is about 380 miles. The ordinary passage is thirty hours, but the *Britannia*, one of Messrs. Gibson & Co.'s boats—the fastest boat trading between the Continent and Scotland—has done the passage from quay to quay in twenty-seven hours. The freight on Strawberries is 30*s.* per ton; Currants, 35*s.*; and Gooseberries, 20*s.* Special trains convey the fruit on the arrival of the steamers to different towns throughout the country. The Dundee boat comes from Rotterdam in thirty-six to forty hours. It leaves on Saturday, and is in on Monday. Currants are charged 40*s.* per ton, and Gooseberries 25*s.* If the fruit were sent to Scotland by Harwich, the time would be considerably lessened, though, no doubt, the freight would be increased. Fruit leaving Holland at night is in Harwich next morning, and could be in the Glasgow market twenty-four hours or so after it is shipped. The full significance of these figures cannot be thoroughly understood until they are put alongside the rates charged in Scotland, and I intend in a subsequent article on foreign competition to make a comparison. *Dundee Advertiser.*

Farmers and the Income Tax.—The Board of Agriculture has this week issued a leaflet of great interest to all connected with farming—as, by the way, it is to all of us. The subject was noticed by the Board in 1893, and at the time gave much satisfaction; the issue of the present leaflet is as opportune as it is of value, for the matter has been carefully revised and brought up to date. Advice is given to farmers under all the schedules, and also in cases where there has been a remission of rent by the landlord, who, in turn, has something placed to his credit where there has been deterioration or destruction of crops. The farmer is shown how to proceed in procuring a return of money paid to the Receiver of Taxes. Generally speaking, the four pages constituting the leaflet are of interest to all connected with British husbandry, and copies may be obtained, post free, on application to the officials of the Board of Agriculture, 4, Whitehall Place, S.W. It is to be presumed that market-gardeners have the same statutory rights as farmers or "persons occupying lands for the purpose of husbandry only."

London Pride.—It has been assumed on very slender foundation that Saxifraga umbrosa received the name London Pride because it was a favourite plant of London, the famous nurseryman, who died in 1717. London is further supposed to have been the means of introducing it to cultivation. In the current number of the *Journal of Botany*, Mr. Britten points out that it was common in London in Gerard's time, and that it "flourished exceedingly" in his garden. Gerard says it was called of our London dames "Pratting Parnell;" whilst Parkinson says some of our English gentlewomen have called it Princes' feather. The name London Pride attached to the plant before the end of the 17th century.

Belgian Fruit Culture.—The *Dundee Advertiser* is publishing a series of articles on small-fruit culture in Belgium. One shows how by labour and diligently tilling small areas the peasantry have converted what is naturally a very poor soil into productive land. Strawberries and bush fruit are largely grown, together with Onions and other vegetables. The English market is, of course, largely catered for; and some Scotch jam, it is hinted, has a basis of Belgian Carrot—but it is a question whether the fruit would not be cheaper than the Carrot!

Horticultural Agency.—Mr. John S. Ireland, who is so well known in the North among gardeners, foresters, and agriculturists, has commenced business as a Horticultural and Agricultural Agent, at 122, George Street, Edinburgh. Mr. Ireland is already entrusted with several important agencies, which his great experience and business abilities will enable him to carry on successfully.

A One Man Exhibit of Tulips in Cork, 1897.—The notice in the Cork press that Mr. W. Baylor Hartland, of Ardcairn, Cork, is giving a "one man exhibit" of late single self-coloured Tulips in May, 1897, for the benefit of Hospital Saturday Collection. It is unique for Ireland, and we wish the undertaking much success. The collection should be worth seeing.

THE NEW CONSERVATORY AT SEFTON PARK, LIVERPOOL.

We have already (July 18, p. 66) figured the exterior of this building, the munificent donation of Mr. H. Yates Thompson, to the City of Liverpool. We now lay before our readers a view of the interior as furnished mainly by Messrs. James Veitch & Sons. The idea of Mr. Yates Thompson was to supply a building which should be not only a place of refuge and shelter during inclement weather, but one which should afford delight to the eye, interest to the student, and generally make life brighter, and, it may be, better. The whole space underneath the dome is filled with plants, skilfully arranged. Around the margin of this space a rockery has been built, some 3 to 4 feet high, entirely composed of tufa stone, brought specially from Matlock Bath for the purpose. This stone is well suited for this class of decoration, being porous, and partially honeycombed, which enables it to get quickly covered with small Ferns and mosses, thus giving a soft and pleasing tone to the general effect. Rockeries of this stone have also been built flanking each of the entrances. Conspicuous among the plants in this central portion are four very fine specimens of Seaforthia elegans; they are from 20 to 25 feet high, and it is expected that in time they will grow about 10 feet more, which will bring them well into the dome. Between these four plants are arranged varieties of Dracænas, Bamboos, Eucalyptus, Verschaffeltia splendida, Cocos, &c. The following is a list of the varieties in this central portion:—Chamærops excelsa, Sparmannia africana, Strelitzia augusta, Aralia trifoliata, Seaforthia elegans, Laurus camphora (Camphor-tree), Clethra arborea (Lily of the Valley-tree), Cocos flexuosus, Citrus species (Orange tree), Latania borbonica, and Bambusa aurea. There are also two fine Dicksonia antarctica on the walk. Between the eight pillars of the dome are suspended large baskets containing various trailing plants. These are intended to relieve the openness of the great dome, and in a few years they will present a mass of delicate overhanging foliage.

A wide border runs round the entire building, the principal plants in which are the following:—Dracæna lineata, Rhapis flabelliformis, Glaziova insignis, Rhopala corcovadensis, Caryota Cunninghami, Kentia Fosteriana, Araucaria Rulei, Bidwilli, and elegans, Dracæna lineata variegata, Hedychium Gardnerianum, Pritchardia grandis, and varieties of choice greenhouse Rhododendrons. The climbers on the roof include the following varieties:—Cobœa scandens variegata, Bougainvillea glabra, Stigmaphyllon ciliatum, Passiflora racemosa, Lapageria rosea, Myrsiphyllum asparagoides, Passiflora cœruleo-racemosa, Clematis indivisa lobata, Lapageria alba, Asparagus plumosa scandens, Plumbago capensis, Tecoma jasminoides, Bignonia chirere, Cissus rhombea, Passiflora Constance Elliott, Tacsonia exoniensis, Stauntonia latifolia, and Habrothannus elegans. The building was erected by Messrs. Mackenzie & Moncur at a cost of about £10,000.

CHRYSANTHEMUM CHAT.

Again we have entered upon the season so largely devoted to the worship of the Chrysanthemum, and one is led to reflect if its claims to such admiration in 1896 are less forceful than they were half-a-dozen years ago. It is evident at the outset that in almost all gardens the greatest floral effect during the next six weeks will be due to the cultivation of this eastern plant. There are, doubtless, other plants that, under special culture, are capable of affording blossoms in November, and it is happily not rare to see a house of Eucharis in bloom, or even a few Carnations, and a magnificent blaze of Pelargoniums. Salvias, Cyclamens, Heaths and Orchids, besides many other species, are also in bloom in more or less abundance. It may be remarked, too, that the possibilities in connection with the practice of postponing the flowering season of many plants by means of a "retarding" process, may far exceed our present knowledge of them. Still, we admit that at the present time it is not easy to point to a plant that might be grown out-of-doors for six months during the year that would repay for its cultivation by yielding a display of flower in the late autumn suitable for all purposes in the same measure as does the Chrysanthemum.

Persons who are not disposed to favour the attempt to thrust large blooms upon us, before Dahlias and even Roses have disappeared from our gardens, may have noticed that, until this week, there have been very few such blooms exhibited during the present autumn. The poor character of the September show held by the National Society was nothing unusual, but that held upon the 13th of the present month was also of very small extent; yet last year, an exhibition held at nearly the same date, was a distinct success. This fact may be taken to indicate that the plants are slightly later than usual—certainly later than last season; and this view is supported by the appearance of the various collections we have had the opportunity to inspect.

During the coming week the National Chrysanthemum Society will celebrate by the best means in their power the attainment of its Jubilee, and it is hoped that the exhibition at Westminster will be the largest and best ever held. A glance at the appointments on p. 528 will give some idea of the number of exhibitions that will be held during November, but that list only includes some of the more important of them, and probably a greater number of smaller events are omitted. Editors of horticultural journals will have some difficulty during the next few weeks in preventing each issue from becoming merely a Chrysanthemum number.

IN THE LONDON PARKS.

In most of the parks under the management of the County Council the usual autumn displays of Chrysanthemums are now open for inspection by the public. The liberal policy which is pursued by the Council in matters pertaining to the management of the parks and open spaces has been frequently referred to in the *Gardeners' Chronicle*, and an illustration of this is afforded by the Chrysanthemum exhibitions. The holding of these has necessitated the building of houses suitable to display the plants, in addition to the cost of raising them and of increasing the stock. That the privilege of visiting such floral manifestations, provided by the rates, is appreciated by a great part of the populace, is attested by the thousands of visitors to each of them, and the remarks that are made during an examination of the flowers.

Battersea Park is accessible to a very large population, by whom it is used with greater freedom than ever for most forms of recreation and amusement. The Chrysanthemum exhibition is held in a house in a spot known as the frame-yard, and close to the Albert Bridge entrance. The house is furnished with strict regard to general effect, and the result is first-rate. The plants are arranged in one group, which faces a broad path running along one of the sides. They are arranged to make three undulations, with good sweeps on the surface. At the back of the group have been trained tall plants on the rafters of the house, and at the side of the building to which the path adjoins, the same means to give at furnished appearance have been adopted. Such varieties as Margot, and similar ones, are trained to the rafters; and the Cedo Nulli varieties, and Sœur Melanie, besides many others of similar character, have been tied down upon an improvised trellis to hide the wall as far as possible. At none of the parks has this been better done. The display was opened on the 17th inst., and many of the blooms are more developed than in other collections, even incurved types such as Queen of England, Jeanne d'Arc, and others are nearly fully built up. Many varieties of the Japanese section are capital, particularly Charlotte de Montcabrier, rosy-lilac in colour, and very distinct. President Borel, Sunflower, Miss Dorothy Shea, and Florence Percy. The newer variety, Lady Byron, may be seen here as a first-rate deep Japanese flower of pure white. This variety especially is very fine at Battersea. The only conspicuous variety of the Anemone type is Descartes, and of the Pompon Mdlle. E. Dordan. Altogether, the exhibition provided by Mr. Coppin, the superintendent of this park, is the best we have seen at Battersea; and much credit is due to Mr. Wheeler, who has had charge of the plants throughout the season, for they are possessed of vigorous foliage, and individually present a good appearance.

Waterlow Park, at the top of Highgate Hill, is of smaller area than most of the others. It was a present from the late Sir Sydney Waterlow, and is composed of hill and dale throughout. A rustic bridge and waterfall have been constructed in this very pretty rendezvous since we last visited it, which, when furnished with suitable plants, is likely to prove a further attraction. In regard to the Chrysanthemum exhibition, and in comparison with other parks, Mr. Pallett, the superintendent here, has had both advantages and disadvantages, for the atmosphere at this elevation is decidedly more favourable to vegetative growth than in Victoria, or Southwark parks, for instance. But the accommodation for housing the plants is insufficient, and it has been necessary to put a new roof on the old conservatory, the completion of which was not effected early enough to prevent the plants from being huddled together for a time in the small vineries. It has been finished now, however, and the display to be seen here is quite commendable. Many well-known varieties could be mentioned as exhibited well, such as D. B. Crane, Louise, Phœbus (one of the best smooth-surfaced flowers of deep yellow), W. Tricker, &c. Mrs. E. S. Trafford, on second crown buds, is a capital colour; Utopia is a finely-formed Japanese flower, florets slightly recurved, and cream coloured; Bride of Maidenhead shows very well, so does Madame Carnot and Mrs. H. R. Williams.

Finsbury Park.—Visitors to this particular park—one of the finest—are informed that the Chrysanthemum show will be found in the house that it has been held in for years—excepting three years ago, when the plants were arranged in a fine new house that had just been completed. Owing, we suspect, to the architect embodying in his plans his own ideas rather than those of a practical man, the house was found to be too high and otherwise unsuitable. It is now used as a conservatory for Palms and miscellaneous plants. The other house has a span-roof, is of a good length, but is not sufficiently wide. Last year, a path ran round the sides of the house, and the plants were arranged to face both ways. To provide a change, the exhibition now open is composed of one group with undulations on the surface, and a serpentine margin to the face. A path runs through the house upon one side. The show was opened to the public on the 10th inst., and visitors have good reason to be pleased with its general character. When our visit was made, one of the most conspicuous varieties was Mrs. E. G. Hill, which, as tall plants at the back, carried a fine lot of blooms. Mrs. C. E. Shea, Madame Lacroix, Golden Beverley, Yellow Avalanche, Marquis de Paris, Florence Davis, and J. R. Pearson are only some of those that appeared to good advantage. Mons. Chas. Lebosceqz and Descartes, both Anemone-flowered varieties, are so good that they should be in every collection. The labels to the plants are printed ones, but the spelling upon them might be improved with advantage.

Victoria Park.—There is usually a fine exhibition made at this park. The superintendent, Mr. Moorman, has long been known as an enthusiastic cultivator of Chrysanthemums. The show is made in a fairly wide, span-roofed house. A path runs through the centre, which is faced on either side by a fine group of plants extending the whole length of the house. In the arrangement there have been obtained the usual sweeps or waves upon the surface, and the best effect possible has been secured. Mr. Large, the grower, has to contend with a vile atmosphere, but the plants have been well cultivated, and about 2000 are required to furnish the house, whilst another 1000 or so, we saw under an improvised shelter for re-placing extra-early flowering plants when they have passed. The collection upon the whole is rather later than some others, but there were many varieties with perfected blooms a week ago. We noticed Mons. Gruyer, a rather flat Japanese incurved bloom, with rose-coloured florets, and a straw-coloured centre, the reverse of florets very silvery. The new variety, Jno. Fulford, was not yet in bloom; Bride of Maidenhead, Mutual Friend, and the fine Lady Byron were good, also Robert Petfield, and Pride of Madford, a new Japanese incurved, with purple-crimson florets, and silvery reverse, the florets being very broad; Gloire du Rocher is always an unusually bright colour in this collection. Miss Elsie Teichmann is a very large flower, with broad florets, slightly twisted and incurved. The colour as seen here is creamy white, but rather deeper towards the centre of the bloom.

Highgate Cemetery.—The Chrysanthemum has long since invaded some of our cemeteries with its presence A few days since we saw some hundreds of plants arranged in a house in the one at Highgate. It is said that they were grown with a view to displaying them to the public when visiting the graves of their departed friends, but before the blooms have faded, they are sold in order to recoup the company for its outlay. On one plant in this collection, there were flowers of both Mdlle. Lacroix and Mr. C. E. Shea. It will be remembered that the latter is a sport from the former.

(To be continued).

OLEARIA HAASTII.

No other flowering shrub of the year, has been so profuse and attractive as this New Zealand plant during late autumn.

Here the compact specimens are, as the photograph taken by Mr. W. Waite shows (fig. 96), literally covered with flowers, forming large ball-like masses of white.

The plant is well known, having been introduced in 1858 by Messrs. Veitch of Exeter, yet its popularity does not seem to have brought this species to such a frequent use as might be expected. When we consider the ease with which it can be grown, and the numerous ways in which it may be used for the ornamentation of our garden, this is the more surprising. It has been used for hedges; and for a mixed border of shrubs is most useful, lightening the sombre green foliage by the floriferousness at this season. It is a good town plant.

HOME CORRESPONDENCE.

THE QUEEN'S CELEBRATION, 1897.—The suggestion of your correspondent "A. D." in *Gardeners' Chronicle*, p. 500, concerning an exhibition portraying the advancing stages of horticulture during Her Majesty's reign, is a happy one. And what marvellous changes we should see in all departments. When Her Majesty ascended there were few Roses of merit [?], if we except some half-dozen or so species, a variety or two of Mosses, Provence and Damasks, that are still found in the best and most complete collections. Our best yellows at that date were Banksia lutea and Rosa lutea variety; Harrisoni, a double-flowered form of Austrian Briar. In this colour alone we have a very interesting improvement; all forms and sizes, shades of yellow and copper, in delightful variety and quantity, from the deep apricots of Safrano (1839), Mdme. Falcot (1858), and William Allen Richardson, to the magnificent size and form of Maréchal Niel. It is the same in almost every class. Might not small classes or collections be got together, each one being confined to those varieties introduced during a decade? One would see at a glance the improvements which have been made, and a series of such classes at the Crystal Palace show of the N. R. S. would certainly attract much attention. *A. P.*

NEPENTHES.—These interesting and handsome plants are grown in considerable numbers at Syon House. These are chiefly concentrated by Mr. Wythes in two of the houses, the largest being suspended in the newer Banana-house, where the conditions are perfectly suited to the needs of the plants, others are in one of the three-quarter-span stoves over the Orchids. Of the newer species, N. mixta is grand in pitchers and colouring, so also are N. Curtisii superba and N. × Mastersii. *H.*

MALMAISON CARNATIONS.—I send you a few blooms of the variety "Princess of Wales." The plants have been grown in the gardens of the Hon. Henry Edmund Butler, Nidd Hall, Ripley, Yorkshire, in 6-inch pots, and have produced on an average ten terminal buds. Some of the blooms have measured upwards of 6¾ inches in diameter, and the majority of the blooms have been over 5 inches. *W. D.* [The blooms represent very successful culture. They are both large and fragrant. We are sorry we cannot use the photograph. ED.]

EGYPTIAN BEET IN SCOTLAND.—A Scotsman's remarks on p. 502 of the last issue of the *Gardeners' Chronicle*, draws attention to the fact that "D. T. F.," on p. 378, has discovered that Egyptian Beet is never, or hardly ever, grown in Scotland. A limited acquaintance with gardeners and gardening north of the Tweed, is probably an excuse for ignorance of the value of Egyptian Beet in this northern clime. It does not pay to grow it in quantity for either public or private consumption! Edinburgh market growers know a good Beet, and one that pays them well. Egyptian has been tried, and found wanting in these essential qualities. *Beta Bona.*

WHITE AND YELLOW TURNIPS. — Patriotic Scots ayont the Tweed need not take "D. T. F." too seriously, and should allow him a reasonable length of time to renew his early acquaintance with Scottish horticulture. If "D. T. F." had looked into the Waverley Market about 9 o'clock last Saturday morning, he would have seen what market gardeners find most profitable for the supply of their customers, and he would have found white "Neeps" strongly in evidence. October, however, is not the season for white "Neeps" in Scotland, which is from May to September. In summer it is about as rare to see a yellow "Neep" as it is to see a white one in the winter. The Early Milan (extra early, if "D. T. F." likes!) Turnip has been grown for many years in every garden and market garden of any note north of the Tweed, and it forms the staple supply for the Edinburgh market in May and June. In private establishments, white-fleshed Turnips are in demand, and in most gardens of repute a supply of them must be maintained "all the year round." With the aid of Early Milan, it is an easy matter; but where yellow-fleshed Turnips are acceptable, they are quite as easy to grow, and quick growing, and must be disposed of when fit or they spoil. If sown too early it runs to seed; the most enduring form of white flesh Turnip is the Green Globe. On the other hand, the yellow or golden fleshed Turnips are all exceedingly hardy, solid in texture, almost globular in shape, will keep through the winter, and eat the next season as sweet as though they had just been lifted. The garden varieties of these Turnips are only refined stocks which, in the course of re-selection, have become smaller in size, more symmetrical in shape and delicate in the texture of their flesh, and constant experience of them from youth upwards leads the Scotch gardener to prefer them to the soft-hearted kinds of the south. As to the flavour of the one against the other, it is the general opinion that the white does not nearly approach the yellow. With respect to round Beet, the very name "Egyptian" is sufficient to frighten many of our northern gardeners from giving it a space, and whatever may be said in its favour on the point of earliness, there is no getting away from the fact that the "cooks" do not take to it. I asked one the other day why it was so, and her answer was, "that the colour boils out so easily, and its shape produces such



Fig. 96.—OLEARIA HAASTII: FLOWERS WHITE. (SEE P. 532.)

keep much better after they are lifted and stored in the late autumn. They keep firm, crisp, and sweet from November till May when properly stored. *Modern "Rokie."*

— I have only just seen "D. T. F.'s" note on p. 378, and with your permission should like, from my point of view, to throw a little light on the queries he raises. To go back to the early days of the Turnip, we find the white-fleshed variety brought over from Holland, and first cultivated in fields in the warm sandy soils of Norfolk; from here it ran through the country, and when tried even in the Lothians was found to be quite unsuitable to the rigours of the climate of Scotland. In name it became known as the Norfolk White Round, but White Globe is perhaps the best appellation to give it; at any rate the enlightened farmers of the North were not long before they effected a union between it and the Swede, which they then grew as their leading root crop, and the result was the stout-hearted yellow fleshed Turnip. The white Turnip is easily injured by frost, whilst in many varieties there is an indentation between the neck and the shoulder, causing the wet to lodge, and the bulb to rot when the rainfall is excessive. In rich soils it becomes monstrous in size, flabby and stringy in texture, and loses a proportionate quantity of the most nutritive elements of its composition. It is cumbrous pieces, that, when cut up they spoil the look of a salad." Early vegetables are not a necessity in many of the leading establishments in Scotland, which are, to all intents and purposes, shut up until late in the summer. The Red Globe Onion is probably preferred also on account of its hardy nature; it will stand any amount of wet, and its solid coat assists it to withstand to a great degree the ravages of vermin, and it will keep a twelvemonth if well-harvested. I was on Deeside recently (late in August) when I found Peas, Gooseberries, and Strawberries in full season, quite a month later than in the south. Vegetable seeds that we sow in the open in March and April they seem convenient to hold until May and June. In large places they defy the seasons, as we do in the south by sowing under protection; indeed, it is only under such conditions that many of our tender things are of service to them. *D. McD.*

GROS COLMAN AND GROS MAROC GRAPES.—I ought to know something about "Gros Colman" (as it was always called when first introduced, and as Mr. Barron still calls it), for I was, perhaps, the first to grow it in this country. In appearance it is very fine when well-coloured, and I have grown the berries to 4½ inches in circumference; but in quality it is sadly lacking, pulpy, coarse, and with a very peculiar, and to most people, unpleasant flavour. As some persons like the American Grapes, they may also approve of Gros Colman. The Vine itself has a very strange and disagreeable smell sometimes, when in full vigour and high temperature. Please refer to Mr. Barron's account of this Grape and of Gros Maroc. If that great authority can err, it is on the side of charity. It is much against my interest to speak thus of the Grape, for I have scores of the Vine, unluckily, and only a few of Gros Maroc. The slow public are beginning to find out the rogue, and I can scarcely sell it now in this neighbourhood. It requires months of hanging to become really ripe, and then unless the house is kept very dry and rather warm, an exudation through the skin takes place, and the berries rot. "Gros Maroc," though not quite so large, is almost as handsome, from the lovely blue bloom it carries; it ripens about two months earlier, and is really good. But, like every other fruit, it has its special drawback. The Vine is a shy bearer while young, and especially subject to red-spider. *Vinitor.*

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

October 13.—*Present:* Dr. Bonavia (in the Chair); Dr. Russell, Rev. W. Wilks, Dr Muller, Mr. Douglas, and Rev G. Henslow, Hon. Sec.

Vines Diseased.—The following communication had been received since the last meeting from Mr. Messenger, Woolverstone Gardens, Ipswich:—"I enclose a bunch of Black Alicante Grapes and two leaves, one of Black Alicante, the other of Gros Colman. I am desirous of knowing the cause of the discoloration of the stem, footstalk, and berry, and why the leaves are dying at one particular place; and further, what remedy I should apply?" The following report has been received: "The foliage, leafstalk, and also stalks and some of the berries appear to be infested with fungi, which I believe to be Peronospora viticola, which I have seen attack Vines in the same form as those received. The leaves first get whitish patches and then dry up, and the leafstalks are similarly affected. It would be advisable to thoroughly scrub or paint the interior of the house, limewash the walls, and remove the surface of the border to eradicate any germs. It might also be advisable to see that the border is sweet and properly drained."—S. T. W.

Potatos Diseased.—Samples were received from Mr. H. S Bartlet, F.R.H.S., of Severnburg, Shooters Hill, characterised by having spots within them. They proved to be a form of the ordinary Potato disease, Peronospora infestans.

Monstrous Structures. Mr. C Browne, of Hextable, Kent, forwarded a fasciated form of Campanula, probably the result of over nutrition; a three-podded French Bean, due to the union of three carpels out of the typical number five; and a double Apple, the result of synanthy, or the union of two flowers

Apple with Red Flesh.—Mr Henslow showed specimens of the red Apple, known as "Ten Commandments," described in *Hogg's Fruit Manual*, p. 228. The name is derived from the ten red spots caused by the fibro-vascular cords passing through the Apple, the flesh of which is more or less of a crimson hue throughout. It is a Herefordshire Apple, and according to Mr. Wright (to whom it had been submitted) is more elongated than usual. It was received from Zeals (a village on the borders of Wilts and Somerset), where there are two trees near each other, very old, and 9 feet in cumference at a height of 3 feet from the ground. Nothing is known of the history of these trees. The question was raised as to the form of the Apple being due to the locality where the tree grew, as Mr. Bailey has lately published a paper,* showing how different kinds of Apple trees, though only grafted, often assume the same form of fruit when growing in the same States of North America respectively. Mr. Wright informed Mr. Henslow that the importance of knowing the locality in England whence an unnamed Apple was received had been already felt by himself and Dr. Hogg.

Experiments with various Salts on the Colour of the Flowers of Pelargoniums.—The following reports were received:—

Dr. W. F. Russell's Experiments with White Pelargoniums.—"Ten white Pelargoniums were received from Messrs. Cannell & Sons. They were all strong healthy plants. Experiments commenced on June 20. All the plants were taken out of their pots, the soil gently shaken off, and then repotted. Two of the plants were repotted in ordinary good soil, the others in soil which had been thoroughly drenched with a solution of one of the following salts, all of them being of the same strength, viz., 13 grains to the pint:—Sulphate of iron, sulphate of copper, nitrate of cobalt, nitrate of nickel, acetate of chromium, sulphate of manganese, nitrate of zinc, and chloride of ammonium. They were kept in a conservatory, and were watered with the respective solutions, containing 6½ grains to the pint. It was found that the lime in the water used was precipitated by the sulphates, and so carried down some of the metal; consequently, on June 30, the sulphate of manganese was changed for the chloride, the sulphate of iron was changed for perchloride of iron, and the sulphate of

* *The Plant Individual in the Light of Evolution.* Address before the Biological Society of Washington, Jan. 12, 1895.—See *Journal of Horticulture*, Oct. 15, 1896.

copper was dissolved in distilled water. The plants were watered to the same extent that they would have been under ordinary conditions of growth. August 1.—All the plants are now in flower; all the flowers are quite white, and all the plants are quite healthy. September 1.—All the plants are quite healthy, and there is no visible difference between them October 1.—All the plants are quite healthy, and still there is no visible difference between them."

Rev. W. Wilks' Experiments with White Pelargoniums.—On June 24 ten plants of a white-blooming zonal Pelargonium were received. They were all treated exactly as described in Dr. Russell's report. After the plants were repotted, they were for four days placed under the stage of a close Fern-house, and then brought up on to the stage of a very light and airy greenhouse, where they have stood till this date, October 12. At the commencement plants 1, 3, 4, 5, 7, and 8 were somewhat stronger than 2, 6, 9, and 10; 9 and 10 being the two to which nothing was added, and which have been watered with ordinary water. Each plant has had about 20 pints of fluid. Results:—The plants (none of them) flagged at all from the repotting beyond losing one or two of the lower leaves. All have bloomed well throughout the whole season, and are still carrying fine trusses. No. 1 lost one limb from mildew, but this was probably the result of pure accident, and should not be attributed to the special treatment. It has since made new growth which is stronger and more vigorous, and the foliage distinctly larger than any of the others. No. 2, 8 are rather stronger, and the foliage darker than the remainder. No. 7 has every leaf showing all the veins and fibres in clear pale yellow; the leaves are also somewhat small, but otherwise they are crisp and look perfectly healthy. The colour of the flowers does not appear to have been in any case or in the smallest degree affected.

Rev. W. Wilks' Experiments with Apples.—Three young Cox's Orange Apple trees were chosen situated on one border, a distance of 8 yards separating each tree from the next. Tree A was dressed with 1 lb. of soot on April 1, May 1, June 1 and 15, July 1 and 15, and August 1 and 15. Tree C was, on the same dates, dressed with 2½ ozs. of sulphate of ammonia. The dressing was scattered on the ground within compass of the spread of the tree's branches, and the ground was then immediately raked over somewhat hardly to stir the surface. Tree B was undressed, but similarly raked on each occasion. The fruit was gathered on September 21, and on examination on October 12 it was found that the produce of tree C was very slightly the highest coloured, no difference whatever being apparent between the produce of A and B.

The general result of the action of salts used upon the white flowers was negative, but with chromium an effect was noticeable on the leaves, in that the fibro-vascular cords remained of a dark colour, the interstices being yellow-green. This was the case with Mr. Wilks' plant, and to a less extent with Mr. Henslow's. All the plants flowered well, and were perfectly healthy.

October 27.—Judged by the very large displays we have now become accustomed to see at the fortnightly meetings in the Drill Hall, Westminster, the one held on Tuesday last was much below the average. This was in a large measure attributable to the absence of hardy flowers, which latterly have been exhibited in numerous and large collections. There was a good display of Orchids, and several awards were made. Much interest attached to the exhibits of Chrysanthemums; but these were rather less numerous than might have been expected at such a date, in view of the circumstance that a lecture upon these plants by Mr. W. H. Lees was to be read on this occasion. Several novelties of excellence were before the committee, however, and to a few of these Awards of Merit were recommended. A group of winter-flowering Pelargoniums in bloom was shown from the Royal Gardens, Frogmore; and in a few instances there were collections of miscellaneous plants. The fruit display was by no means equal in extent to such exhibits at the last few meetings.

Floral Committee.

Present: W. Marshall, Esq. (Chairman), Jno. Fraser, H. B. May, H. Herbst, R. Dean, R. Owen, G. Stevens, J. Jennings, J. Hudson, J. F. McLeod, T. Peed, R. M. Hogg, W. Bain, J. D. Pawle, Geo. Nicholson, Rev. Geo. Engleheart, J. T. Bennett-Poë, C. E. Pearson, J. Walker, J. W. Barr, H. J. Jones, C. E. Shea, H. S. Leonard, and C. T. Druery.

Messrs. J. Peed & Sons, West Norwood, exhibited one of their characteristic groups of miscellaneous stove and greenhouse plants, consisting for the most part of Dracænas and Crotons, several Cypripediums, and a few plants in flower of Saintpaulia ionantha (Silver Flora Medal).

Another miscellaneous group of plants was the exhibit of Messrs. Jno. Laing & Sons, Forest Hill, London, S.E. This collection included many choice plants, including a finely-flowered specimen of Cypripedium Harrisianum, several plants of a cream-coloured single-flowered Begonia named Autumn Queen, Dracæna australis variegata, Cephalotus follicularis; and a few Caladiums were noticed (Silver Flora Medal).

A large group of Crotons was shown by Earl Percy, Syon House, Brentford (gr., Mr. Geo. Wythes), which included a considerable number of varieties in various sized plants (Silver-gilt Banksian Medal).

Several seedling Nerines were exhibited by Sir Trevor Lawrence, Bt., Burford, Dorking (gr., Mr. Bain). N. flexuosa major was recommended an Award of Merit. The flowers are lilac-pink, with darker coloured veins, and very effective. A variety named Meadow Bank, almost coral scarlet, and Cinnabarina, very bright in colour, were also admirable.

Another exhibit of seedling varieties of Nerines was made by H. J. Elwes, Esq., Colesbourne, Gloucester (gr., Mr. Lane). These represented various colours and shades, and were very pretty.

Mr. Anthony Waterer, Knap Hill Nursery, near Woking, exhibited plants, 6 or 8 feet high, of a scarlet leaved Oak, remarkable for keeping its brilliant leaves till mid-winter. It is apparently a form of Quercus rubra, not of coccinea; also plants of Picea pungens glauca and P. p. argentea (Colorado Blue Spruce), to show how much superior the latter variety is to the former; also a group of seedling varieties of Pernettya in full berry (Bronze Flora Medal).

A First class Certificate was recommended to Sarracenia Sanderæ, shown by Messrs. F. Sander & Co., St. Albans. This is a most elegant plant, towards the apex of the pitchers they are mottled with white, and the veining is of deep rich purple.

From Her Majesty's gardens at Frogmore Mr. O. Thomas exhibited a large group of zonal Pelargoniums in flower. There were numerous varieties, both single and double-flowering, and the group was one of the brightest exhibits in the hall (Silver Banksian Medal).

Chrysanthemums.—A. Pears, Esq., Green Bank, Isleworth (gr., Mr. W. Farr), exhibited a very commendable group of Chrysanthemums, in some instances the varieties being represented in excellent condition. The Chrysanthemums were not interspersed with any relief plants, but the group was faced with a few Palms and Adiantum Ferns (Silver Flora Medal).

Another group of Chrysanthemums was staged by Mr. W. Wells, Earlswood Nurseries, Redhill, Surrey. Most of the plants were in 5 or 6-inch pots, and carried one bloom only. Many of them were of the variety Australian Gold (Calvat), a capital Japanese variety of deep golden colour when the second crown or terminal buds are taken. As the blossom develops, the florets open in a twisted or whorled manner Award of Merit).

A similar award was granted to the variety Mrs. J. Lewis, a handsome white flower of the Japanese type; the florets are wide and pure white, excepting a slight tinge of pale lemon. This was well shown in Mr. Wells' group, also some plants of the variety Jno. Shrimpton. Mons. Chenon de Leche, a handsome Japanese reflexed variety, of rose and buff, also from Calvat, and figured in the *Gardeners' Chronicle*, Dec. 7, 1895, p. 683, was included in the group. The florets, although reflexed, assume a recurved position at the extremities, where they become spoon or scoop-shaped. Mr. Wells also showed a crimson star-shaped decorative variety named Trafalgar. The group was awarded a Silver Banksian Medal.

Mr. Wells exhibited cut blooms of Harry Johnson, light chestnut, incurved; Mons. E. Rosette, a long-petalled white Japanese; Lord Justice Lopes, pale lilac-coloured Japanese; and Mrs. D. Dewar, a white Japanese.

Among the cut blooms of Chrysanthemums two dozen from Mr. W. J. Godfrey, Exmouth Nurseries, Devon, were conspicuous. In this stand there were half-a-dozen excellent blooms of the variety Australian Gold, already noticed in the group from Mr. Wells; but Mr. Godfrey's blooms were of much deeper and more natural colour (Award of Merit). Mr. Godfrey also obtained an Award for the variety Pride of Exmouth, a large Japanese flower with white florets tinted with lilac, the centre being straw-coloured. Other good varieties in this collection were Belle Mauve, Emily Silsbury, La Garonne, Mons. Hoste, and Antoinette.

Messrs. H. Cannell & Sons, Swanley, Kent, exhibited two very fine blooms of the variety Mrs. J. M. Lewis, pure white, Japanese, large and very deep (Award of Merit). Among others of Messrs. Cannell's flowers were Mrs. Oporto Tait, a broad-floreted fancy Japanese with twisted florets, rich gold colour (Award of Merit); Ernest Cannell, an incurved flower of promising character; A. H. Wood, a yellow sport from Primrose League, and Pride of Exmouth.

From Mr. Robert Owen, Castle Hill Nurseries, Maidenhead, was shown incurved variety, Mr. Jas. Murray, rosy-lilac, inclined to bronzy tint in centre of flower (Award of Merit), and Prefet Cassagneau, a crimson decorative variety.

Mr. A. H. Rickwood, gr. to the Dowager Lady Freake, Fulwell Park, Twickenham, exhibited a dozen blooms of a singular variety, named Fulwell Park. The florets were pale lilac, curiously striped longitudinally with yellow.

An Award of Merit was recommended to Japanese Chrysanthemum Elsie Teichmann, exhibited by C. E. Shea, Esq., Foot's Cray, Kent. This is an undoubtedly fine acquisition; the florets are exceedingly broad, and they are of good length also. They appear to reflex, but are incurved at the tips. The flowers are very large, white, with slight lemon in the centre. It is a seedling raised by Mr. Shea, and a plant with four blooms upon it was shown.

Orchid Committee.

Present: Harry J. Veitch, Esq., in the Chair, and Messrs. J. O'Brien (Hon. Sec.), J. Gurney Fowler, De B. Crawshay, H. M. Pollett, H. Ballantine, J. Gabriel, H. Williams, H. J. Chapman, J. Jaques, E. Hill, W. Cobb, A. H. Smee, J. Douglas, T. W. Bond, Sydney Courtauld, and Dr. Maxwell T. Masters, F.R.S.

A gold medal was awarded Messrs. J. Veitch & Sons, Royal Exotic Nursery, King's Road, Chelsea, for a remarkably fine group which would be praiseworthy at any season of the year. Among the plants of hybrids staged specially remarkable were the new Cattleya × Elvina (Trianæi ♀, Schilleriana ♂), a dwarf plant bearing large flowers, the sepals and petals of which were of that light purple rendered familiar in Lælio-Cattleya × elegans Turneri, the petals having a narrow silvery margin. The distinctly three-lobed lip had a broadly-reniform front-lobe, of a bright light purple tint furnished with veins of a darker tint; the side lobes, which fold over the column, have their tips singularly erect like the ears of some kinds of animals, and coloured like the front lobe. The middle area was of a yellow colour and streaked with reddish brown (Award of Merit); Cypripedium × Reginæ (× Leeanum ♀, Fairieanum ♂), a very pretty hybrid, suggestive in its general features of C. × Arthurianum, but with the upper two-thirds of the dorsal sepal pure white, and decorated with a few lines of a purple tint (Award of Merit); and Cattleya × Patrocini (syn. hybrida) (guttata var. × Loddigesii). In the centre of the group stood fine varieties of Cattleya labiata, and at intervals there were placed panfuls of Cypripedium × œnanthum superbum, C. Spicerianum, C. × Leeanum superbum, C. × Arthurianum, C. insigne montanum, C. purpuratum, C. × tesselatum porphyreum, C. × Chas. Canham, and others. Arranged with them were Dendrobium Phalanopsis Schroderianum, Cattleya × Chloris, Lælio-Cattleya × Statteriana, L.-C. × Nysa, Lycaste costata, L. lanipes, &c.

The next largest group was that staged by Mr. H. J. Chapman, gr. to R. I. Measures, Esq., of Camberwell, and the specimens in it included both showy and botanically interesting species. The remarkable and pretty Cattleya labiata "R. I. Measures" was a centre of attraction, its fine snow-white flowers, with a distinctly defined pure pink veining on the front of the lip, removing it from the reproach often accorded albinos, with faint colouring (First-class Certificate). In the centre of the group was a large specimen of Cœlogyne fuliginosa, covered with its fringed, sooty-lipped flowers; and in the group were fine specimens of Cypripedium × Mrs. Chas. Canham (sixteen flowers), C. × Hy. Graves (Lawrenceanum × Marshallianum); a noble C. tonsum, C. × Allenianum superbum (Spicerianum × Curtisii); C. Schomburgkianum, C. × Milo; a few varieties of C. insigne, for which the collection is noted; two forms of Lælio-Cattleya × Schilleriana; some handsome Cattleya labiata, that named "superba" having a huge and richly-coloured lip; Masdevallia Lauchæana, M. × Measuresiana, M. × glaphyrantha; the singular Angræcum caudatum, Restrepia Falkenbergi (Botanical Certificate), and R. antennifera (Botanical Certificate). A Silver Flora Medal.

The honour of taking one of the two First-class Certificates awarded on this occasion fell to Messrs. Linden, Park Leopold, Brussels, for the very remarkable natural hybrid Cattleya × Le Czar (supposed to be a cross, C. labiata × C. granulosa). Its nearest affinity seemed to be Cattleya × Victoria Regina (illustrated in the *Gardeners' Chronicle*, June 25, 1892, p. 808), but in this the flowers are larger, the petals broader, and the isthmus of the lip so much longer as to give some indications of the influence of C. granulosa. It is certainly a grand Cattleya. The sepals were light lilac with a greenish tinge; the broad petals light lilac-rose with fine purple veining. The side lobes of the lip, which were folded over the column, were blush-white; the erected tips purple. The distinct isthmus connecting the posterior with the anterior portion of the lip was dark red with rich orange markings, and the broad front lobe bright crimson-purple with a delicate lavendar margin.

Thos. Statter, Esq., Stand Hall, Whitefield, Manchester, was awarded a Silver Flora Medal for a very pretty stand, composed principally of cut spikes of numerous varieties of Dendrobium Phalænopsis Schroderianum, and Cattleya aurea, among the latter being C. Dowiana aurea Johnsoni, in which the purple colour was almost suppressed in the fine golden-veined lip. With them were the handsome Lælio-Cattleya × Arnoldiana superba; L.-C. × Stanleyensis (L. Dayana × C. aurea) ? L.-C. × Ingrami; Cypripedium × Calloso-Fairieanum, C. × Memoria Moensii, &c.

F. Hardy, Esq., Tyntesfield, Ashton-on-Mersey (gr., Mr. T. Stafford), showed a splendid plant of the true Cattleya labiata autumnalis alba with three flowers on a spike; C. × Hardyana, Wrigley's var.; the pure white Pleione maculata alba; Cattleya × Massaiana, and several plants of Lælia pumila.

M. Georges Martin, Château de Bel Air, Olivet, France, showed a group of the handsome Cattleya × Mantinii (Bowringiana × Dowiana), of which the beautiful C. × Mantini nobilior was by far the best, and for it a Cultural Commendation was awarded. There were in M. Martin's group Lælio-Cattleya × Belairensis (C. Bowringiana ♀, L. autumnalis ♂), a most extraordinary hybrid which will doubtless greatly improve; Lælio-Cattleya × Behrensiana and L.-C. × B. inversa and Cypripedium × Boucardii (superbiens ♀, barbatum ♂). A Silver Banksian Medal was awarded the exhibitor.

H. J. Elwes, Esq., Colesborne, Andoversford, exhibited a very interesting group, in the centre of which were a nice plant of Arundina chinensis, Habenaria Suzannæ, and the singular-looking H. decipiens. Around them were Dendrobium Aphrodite, Saccolabium bigibbum, Acampe papillosa, Pleione Wallichiana, P. lagenaria, Dendrobium macrostachyum, Liparis species, and a very curious Cirrhopetalum with long, solitary flower, with purple fringe to the upper sepal and petals (Bronze Banksian Medal).

A Cultural Commendation was given to Miss D. Smith, King's Ride, Ascot (gr., Mr. W. Lane), for a grand specimen of Cattleya Bowringiana.

Messrs. F. Sander & Co., St. Albans, staged a group in which were Phaius Ashworthianus (Mannii × maculatus), with yellow flowers and yellow-spotted leaves; Angræcum Humblotii, Cattleya × Johnsoniana superba, Dendrobium Johnsoniæ, D. Phalænopsis Schroderianum, D. Statterianum, Oncidium tigrinum, O. varicosum, many fine forms of

Cattleya labiata, among which were C. l. The Bride, a white variety with lilac lip, and C. l. The Pearl, also a nearly white form.

Messrs. B. S. Williams & Son, Victoria and Paradise Nurseries, Upper Holloway, had a group rich in forms of Cattleya labiata, of which C labiata versicolor was a specially remarkable form. Also were included good examples of Cypripedium × Arthurianum, C. insigne Wallacei, C. i. punctatum violaceum, C. × Pitcherianum, Williams' var., Oncidium ornithorhynchum album, O. Forbesii, &c.

Messrs. Hugh Low & Co., Clapton, had a pretty group, in the centre of which was a splendid example of the Swan Orchid (Cycnoches chlorochilon), also very fine varieties of Cattleya labiata, and a splendid form of Cypripedium × Memoria Moensii. In the group also were Oncidium ornithorhynchum album, some good Odontoglossum grande, Cattleya aurea, Cypripedium × Arthurianum, and other Cypripediums; Masdevallia muscosa, Bulbophyllum Dearei, Dendrobium enfieldiense, a remarkable flower, resembling D. Leeanum, but with a longer and narrower lip.

H. Shaw, Esq., Heathfield, Birch Vale, Derbyshire (gr., Mr. J. Cliffe), sent Cattleya maxima Heathfield variety. C. L. N. Ingram, Esq., Elstead House, Godalming (gr., Mr. T. W. Bond), sent Lælio-Cattleya × callistoglossa Ingramii, very rich in colour, and L.-C. × Gazelle splendens (L. × elegans × C. tricolor).

Sir Wm. Marriott, The Down House, Blandford (gr., Mr. Thos. Denny), sent Cattleya × La Belle (Warscewiczii × Harrisoniæ), a very large light rose flower, with purple front to the lip; and Cypripedium × Marriottianum (Spicerianum × niveum).

Walter C. Clark, Esq., Sefton Park, Liverpool, showed Cypripedium × (Argus Moensii × vexillarium), a very handsome hybrid with the rich dark spotting of C. Argus. S. G. Lutwyche, Esq., Beckenham (gr., Mr. Paterson), showed some good Cypripedium, &c. Messrs. John Laing & Son, Forest Hill, had a good group of showy Orchids and other plants.

Fruit Committee.

Present: H. Balderson, Esq. (Chairman), and Messrs. Henry G. Pearson, Jas. H. Veitch, Jos. Cheal, A. F. Barron, J. Wright, Alex. Dean, C. Herrin, J. W. Bates, Geo. Woodward, F. Q. Lane, Jas. Smith, J. Willard, Robt. Fife, Geo. Wythes, and W. Farr.

The objects brought before the committee were few and of no great interest. Mr. Crasp, gr. to F. L. S. Foljambe, Esq., Osberton, Notts, showed a collection of Melons (twenty-four), apparently Hero of Lockinge, well netted, and also weighty fruits for their size; a Silver Banksian Medal was awarded. He also showed a piece of stem of Vanilla aromatica with pods upon it. Mr. Crasp showed nice-looking bunches of Golden Queen Grape, a thick skinned variety, with, as Mr. Barron says, "a squashy pulp," and not much flavour. The fruit had an excellent appearance, and it keeps well when well ripened. A Cultural Commendation was accorded. Several Melons from various exhibitors were shown, but no award was made. Seedling Apples were likewise shown with a like result.

A seedling Grape was shown by Mr. C. Stubbington, Brookside, Cambridge. A red Cabbage of Drumhead form, and named Black Short-stem, was also shown, together with two poor varieties of Celery, one being called the self-blanching, the other was like the Plume variety, but unlike that, it was furnished with a small tuberous root like Celeriac.

In the good-flavour competition, Mr. G. Woodward, gr., Barham Court, was 1st in Pears with Doyenné du Comice, gathered from a tree on the Quince, growing against a west wall; and Mr. G. Wythes, gr., Sion House, was 2nd with the same variety.

In Apples, Mr. Woodward was 1st with Cox's Orange Pippin, large, high-coloured fruits, from a bush worked on the Paradise stock; and Mr. C. Herrin, gr., Dropmore, was 2nd with Ribston Pippin, high-coloured, nice samples.

Lecture on Chrysanthemums.

The lecture read at the above meeting was one by Mr. W. H. Lees, of Trent Park Gardens, Barnet, the subject being Chrysanthemums. It was read by Mr. Weathers, assist.-secretary, and the chair was taken by C. E. Shea, Esq., who, in a few introductory remarks, referred to the exceptional success that had attended the efforts of Mr. Lees as an exhibitor.

At the commencement of the paper, which referred mainly to the culture of plants for the production of specimen blooms, Mr. Lees remarked upon the great advance that had been made in regard to the flower since 1890, when the Chrysanthemum Conference was held by the Royal Horticultural Society. The best Japanese flower of that year was not included in the first 100 Japanese varieties in the audit made by Mr. Shea last season, and in the first 188 varieties there were only three which were known prior to 1890. In the raising of varieties the Continent, especially France, had taken the lead, and the first raiser in France was M. E. Calvat, the raiser of Madame Carnot, Australian Gold, and others. Last season more varieties were raised in England than heretofore, and despite an unfavourable climate, it appeared that we should rival France in this work.

The Chinese or incurved section was probably a little on the wane, owing, the lecturer thought, to frequent ill-success in the culture of the plants, which most often was the result of "taking" too early a bud, or of growing the plants too strongly, in which case the buds opened indifferently. Single-flowered varieties were deservedly more popular recently, and next to Japanese, they were the most useful for purposes of decoration. The old reflexed type, such as Christine, was being driven out by the various types of Japanese. Anemone-flowered kinds were pretty, and worthy of retention. The recent additions to the early border varieties were improved in habit, and in the colours of the flowers.

Novelties in most sections, indeed, were so numerous from year to year, that the question a grower had to decide who wished to keep up to date, and to limit his collection to reasonable proportions, was, "What not to grow." Greater discrimination was urged upon the National Chrysanthemum Society in the matter of granting First-class Certificates, and none but those that possessed undoubted superiority over existing varieties should be so distinguished. Last season there were thirty-six such certificates awarded.

Propagation should be commenced about the beginning of December, and it was important that a selection should be made of strong, sturdy cuttings. They should be planted in light sandy soil, and placed near to the roof-glass in a temperature between 40° and 50°. In a month or six weeks roots will have formed, and they will require to be potted singly in 3½-inch pots, using a compost of equal parts of loam, leaf-soil, and coarse sand. They should then be placed on a shelf in a cool greenhouse, and both a close atmosphere and drought should be avoided. From this stage the object would be to induce sturdy, robust, and uninterrupted growth. They must be kept secure from frost, but not subjected to much warmth. When the balls have become slightly matted with roots, the plants will require to be moved into larger pots, using a compost of two-thirds loam and one-third leaf-soil, and decayed horse manure, with sufficient sand to ensure porosity. The potting should be done firmly, especially if the loam be light in texture; and if the soil is moderately moist when used, no water should be given for a couple of days or so after the operation.

Stopping the shoots is practised from April onwards, at suitable dates, for the fixing of the flowering season in certain varieties that under natural conditions produced buds at undesirable dates. Many sorts required individual treatment. Usually, the crown bud, in order to produce a fine flower, should be formed between August 10 and August 25. Incurved varieties of the Queen of England type, if grown naturally, were apt to show the first bud too early. Some varieties become very coarse if the bud be formed early in the month of August, as for instance, Etoile de Lyon if the bud shows before Aug. 12. The flower of the same variety, upon a bud appearing on Aug. 25, would be of a better colour, and much more perfect. About the middle of May the plants should be ready for the final potting, and the soil used on this occasion should contain more manure. It may consist of good and heavy loam, three parts, leaf-soil, horse manure, and a small quantity of broken bones, in addition to a portion of wood ashes to keep the whole sweet and porous. It is best not to use soot in the soil, but as a liquid solution later on. For most of the varieties, pots 10 inches in diameter are best suited. Make the soil evenly firm throughout, and place the ball of the plant in such a position in the pot that it will be covered with half-an-inch of new material. Leave 1½ inch space at the surface for receiving water, and a slight top-dressing. The plants may afterwards be placed in rows 5 feet apart, and the plants 2 feet asunder from each other in the rows, where they will remain during the summer. Syringing may be done with advantage after bright days until the middle of August, when it will be less necessary on account of the heavier dews at night. Feeding should be commenced about the third week in July, using a weak solution of cow-manure and soot on every third day. The kind of manure should be changed each week. If any of the excellent artificial manures be applied, they should be given frequently but weak. Sulphate of ammonia was rarely necessary, except perhaps to stimulate some backward variety or plant. Moderate feeding should be practised until the flowers are half expanded. Some varieties need little, but Boule d'Or would come nearly single if not treated liberally, and has to be built up with abundant feeding. On the other hand, Avalanche forms its bud early in August, and becomes very coarse if over-fed. Incurved varieties generally require less manure than Japanese sorts, but when the florets have commenced to open, they may be given liquid manure at each time of watering. The plants of all kinds may be much benefited by a slight top dressing with a rich compost early in August, which will encourage the formation of new roots. Immediately the plants are housed, they should be given abundant air for about a week. When the flowers begin to open, a little warmth in the hot-water apparatus may be required to keep a buoyant atmosphere. The best temperature to keep at this time is 53°. Give a little top ventilation during the nights when the weather renders such possible. The plants will now need less water at the root, the blooms should be shaded from bright sun, and when they are half developed the slight shading may be made permanent.

Insects.—A few remarks were then made upon the insects which are troublesome to Chrysanthemums, and Thrips were said to be the worst of all. Concealed in the young growing points of shoots they inflicted injury before it became noticed. Tobacco-powder should be dusted into the points regularly, or they might be charged frequently with an insecticide during the whole season until taken inside.

Diseases.—Under this name the damping of the blossoms was described, and declared to be due to over-feeding, in conjunction with much restricted growth. Rarely does it occur in the case of bush plants or those grown for decorative purposes. When it has asserted itself, it is most difficult of cure, and Mr. Lees has tried rubbing off some of the feeding-roots, and he has half-broken the stem through. If the stem at such a time be cut, it will be found to be hollow, and the pith discoloured. Colonel Smith and Eda Prass are varieties exceptionally subject to this malady. All varieties so liable should be given less manure. A few words upon mildew and spot on the leaves completed the lecture.

DEVON AND EXETER GARDENERS' ASSOCIATION.

October 21.—The subject down for discussion at the last meeting of this association, held on the above date, was "Violas for Bedding Purposes, with special reference to their adaptability for association with other Plants." The paper was written by Mr. J. W. Moorman, superintendent of Victoria Park, London (at one time in the gardens at Poltimore Park, near Exeter), who dealt with the subject in an able manner. The varieties of Violas, Mr. Moorman said, indigenous to the British Isles, were only six in number, V. lutea being the parent of the present race of bedding Violas, while V. tricolor may be said to be the parent of the Pansies of to-day. Though the Viola is a great favourite in the cooler climate of North Britain, such gardens as Trentham, Cliveden, and Belvoir have shown that it can be grown to perfection in the south. Claiming for the Viola undeniable beauty, fragrance, brightness, and diversity of colour, it was also an accommodating and a homely plant, growing as happily under the care of the amateur as under the experience and skill of the professional gardener. To be successful in their cultivation, four grand principles must be observed, namely:—(1) Obtain the best and freest-blooming sorts (not necessarily the newest ones); (2) A good, rich, deeply-dug soil; (3) Always plant out young stock raised by annual propagation; (4) Never plant Violas on ground lately occupied by Violas or Pansies alone, unless a good quantity of fresh soil be added to the staple; but it is better to plant in new quarters altogether. As to varieties, the following are good and reliable:—Whites: Countess of Hopetoun and Countess of Wharncliffe; creamy-white: Sylvia and Lemon Queen; Primrose or Sulphur: Ardwell Gem and Luteola; deep yellow: Bullion and Lord Elcho; dark-blue or violet: Archie Grant, Max Kolb, True Blue, and Holyrood; Lavender: Rosea Pallida and Duchess of Sutherland; purple: J. B. Riding and Dorothy Tennant; rose: William Niel and Rose Queen; edged or bordered varieties: Goldfinder, Duchess of Fife, and Border Witch; fancies: Countess of Kintore, The Mearns, Bethune, and Mrs. Bellamy. These twenty-five are good, and all possess distinctive charms. The essential points in a good Viola are: a healthy constitution, a free-flowering habit, good substance in the petals, and long, stout, flower-stalks.

Excepting the protection of a cold frame in severe frost, and shading from a burning sun, no artificial protection is required for autumn-struck cuttings. For an early summer display, cuttings should be taken towards the end of July or early in August, and when rooted they should be placed in their permanent quarters before winter sets in. In less-favoured counties than Devon, that might not be possible; and in that case, they must be given protection during winter, and planted out in early spring. The best cuttings are those springing from near the base or crown of the plant. For effect in single rows the plants should be 9 inches apart; double rows should be a foot apart from plant to plant, and the plants should dovetail towards each other. Abundance of water should be given in dry weather. In combination with other subjects, yellow Marguerites, blue Cornflowers, and white Violas go well together. Duchess of Sutherland Viola and silver variegated Pelargoniums harmonise well, and so do William Niel, Queen of Queens, and bronzed-leaved Pelargoniums. Tuberous-rooted Begonias, dotted with Violas, and edged with Iresine Lindeni, combine prettily. Abutilons and Fuchsias, carpeted with Violas, have a pleasing effect. Pink Ivy-leaved Pelargoniums, interspersed with Violas, and edged with Iresine or Centaurea, are very effective; and so are many more similar combinations.

To illustrate the paper, many leading types of Violas, contributed by Mr. Henry Cannell, of Swanley, and others, were exhibited, and plates from the Floricultural Cabinet, showing the earlier forms of Viola.

Mr. Hope showed a mounted specimen of Viola lutea, gathered by him near Ben Lomond in 1881, V. lutea being referred to in the paper read as the parent of all modern varieties.

Mr. Moorman not being able to be present, Mr. Wm. Andrews, gr. to W. Danby, Esq., read the paper for him. An excellent discussion, and a hearty vote of thanks to Mr. Moorman followed.

WATFORD CHRYSANTHEMUM.

October 27.—The eleventh annual show of this society was held at the Clarendon Hall, Watford, on the above dates. Owing to the show being held earlier than in former years, so as to avoid clashing with the National Society's exhibition, the entries for cut blooms did not come up to the usual standard, but notwithstanding this defect, the meeting was a very successful one.

In the open class for groups of miscellaneous plants, Mr. W. K. d'Arcy (gr., Mr. Tidy), came out winner of the 1st prize, Lord Esher (gr., Mr. Brown) being 2nd; whilst for Chrysanthemum group on 50 feet space the indefatigable secretary, Mr. C. R. Humbert (gr., Mr. Harmer), took premier honours. This gentleman, with the same group,

obtained the Silver Cup, value 5 guineas, for the best group in the show, and also received the National Chrysanthemum Society's Bronze Medal for best Chrysanthemums.

The awards in the members' class for Chrysanthemum groups were won by Mr. H. J. Jourdain, C.M.G. (gr., Mr. Wilson); and Lord Essex (gr., Mr. Deane). The former also took a Silver Cup for best group in this class.

In division 3, for members not employing more than three gardeners, Mr. C. G. Mott and Mr. A. J. Jourdain, C.M.G., took 1st and 2nd respectively; and the prize to members who only employed one gardener, went to the Rev. A. Wilson, Paris. Some very fine miscellaneous groups were shown by Lord Clarendon and Mrs. Moon. Lord Aldenham (gr., E. Beckett) was one of the most successful competitors in the show. He obtained 1st prize for twenty-four incurved varieties of cut bloom in the open classes, and also for twenty-four Japanese varieties in the same division. He also carried off the prize for the best Japanese bloom in the show, with a fine Oceana, as well as 1st honours for six incurved blooms. In the latter division Major Collis Brown (gr., Mr. Ashdown) came 2nd; Mr. T. F. Blackwell (gr., Mr. Dinsmore) taking a similar award for twenty-four Japanese varieties, and also 1st for twelve incurved varieties. In this class, Mr. V. M. Martin (gr., Mr. Wooster) won 2nd place, as well as 2nd for twelve Japanese; whilst Hon. A. H. Hibbert (gr., Mr. Cox) was leader. A like prize fell to him for six Japanese (open class), and the Rev. Burchell Herne (gr., Mr. Fowler) obtained 1st for six white Japanese blooms. The best incurved bloom was won by Mr. R. T. Prowse (gr., Mr. Bottom) with a Madame Darrier. The members' prizes for blooms were secured chiefly by Mr. T. F. Blackwell, Mr. H. Schlesinger, Mr. H. J. Lubbock, Hon. A. H. Hibbert, Mr. V. M. Martin, Mr. W. F. D. Schreiber, Rev. H. F. H. Burchell Herne, Mr. C. G. Mott, and Mr. F. Taylor.

Messrs. Scrivener & Co., as on the last occasion, carried everything before them in the shape of 1st prizes for bouquets, wreaths and crosses, with an assortment superbly arranged for effect, the bouquet of Orchids being specially commented upon by the judges. Mr. H. Newman took 2nd prize for wreaths and crosses. The special trophy for bouquets of Chrysanthemums was divided between Messrs. Scrivener and Miss Foden.

Lord Aldenham was 1st for collection of vegetables (open), Mr. R. Henty (gr., Brown) gaining No. 2 prize. Like awards were secured by Mr. T. F. Halsey, M.P. (gr., Folkes) and Lord Aldenham; whilst Mr. Henty won special award offered by Messrs. Carter & Co. for vegetables grown from their seed, with Mr. T. F. Halsey and Lord Aldenham following him. Other winners for vegetables were Mr. A. Rowlands and Revs. F. H. Hodgson and H. F. B. Burchell Herne. The premier honours for Apples were carried off by Lord Aldenham, Mr. A. Rowlands, Dowager Duchess of Bedford, Mr. W. F. D. Schreiber, Mr. D. Hill, and Mr. R. T. Prowse.

The members' prizes for twelve table Primulas fell to the lot of Lord Aldenham (gr., E. Beckett), and Lord Esher (gr., Brown), whilst similar honours were awarded to Mr. W. F. D. Schrieber (gr., Davis), S. T. Holland (gr., Richardson), and Rev. H. F. H. Burchell Herne (gr., Fowler). For six Cyclamen pots, Lord Aldenham turned out 1st, with F. May (gr., Burriss) 2nd.

For Pears, Lord Aldenham, Mr. Moon, Mr. J. D. Thomas, Mrs. Humbert, Mr. Rowlands, and Mr. G. Doult were announced leading prizetakers. The awards for the best collection of fruit were obtained by Lord Aldenham and Mr. J. F. Halsey.

In the division open for ladies only, Miss K. Mead received 1st for single stand of cut flowers and foliage, with Miss Belgrave, 2nd. Miss M. D. Smith was successful in carrying off 1st for six buttonhole bouquets (gents), and also three sprays of flowers (ladies); whilst Miss E. J. Belgrave was adjudged 2nd in both classes. Miss K. Mead, Mrs. Brinkman, and Miss J. H. Smith were the winners of the awards for buttonhole bouquets of Violets.

THE BANFFSHIRE FIELD CLUB.

Annual Meeting.

October 23.—The annual meeting of the members of this club was held in the Town and County Club, Banff, on the above date There was a good attendance, and Rev Mr. Anderson, Whitehills, the president, occupied the chair.

The president proceeded to give his annual address. At the commencement, he reviewed the work of the society done during the past year. In this connection he remarked first on the able papers contributed during the year by Mr. Buie, Portsoy, Dr. Alexander Brown, and Mr. William Cramond, LL.D. He then gave an address on "Meteorology with regard to the Soil and Plant Life." In the course of a long and exhaustive paper, Mr. Anderson referred to the meteorological observations which have been taken at Gordon Castle (the Duke of Richmond and Gordon's Scottish seat) since the last century, as one of the most valuable and long continued that they had. Mr. Anderson, in conclusion, favoured the club with statistics, compiled by himself, concerning the accumulated temperatures in the "growing" six months (April to September), with regard to the rainfall, growth, &c., which were much appreciated.

TRADE NOTICE.—Mr. C. Hicks has left Messrs. Shuttleworth, Ltd., and Mr. C. R. Shilling has been appointed Managing Director.

PLANT NOTE.

NERINE × O'BRIENII (PUDICA × PLANTII).

This is one of the most variable in colour of any of the hybrid Nerines, the different specimens varying in colour from light carmine to light red, pale lilac, and in some of the forms to as nearly blue as Nerines have ever yet come. The flowers of all the forms have a glistening crystalline appearance when seen in clear light. The nearly blue-coloured variety bearing a fine head of bloom is sent by Sir Charles W. Strickland, Bart., Hildenley, Matton, Yorkshire, who also sends Nerine × Novelty, a deep pink-coloured variety, which is very attractive and free-flowering.

With regard to Nerine × O'Brienii, it should be said that varieties of this hybrid by some mischance have got into gardens, and even into the collection at Kew Gardens, under the names N. humilis carminata, N. humilis elegans, N. humilis cœrulea or cœrulescens, &c. The specific name humilis, of course, does not apply, for the plant is a hybrid as indicated above. *J. O'B.*

LAW NOTES.

EXTRAORDINARY ORCHID DISPUTE.

In the City of London Court on Monday, before Mr. Commissioner Kerr, the case of Rappart *v.* Peat and Dillon was tried, raising a question of importance to Orchid growers and others. The plaintiff, Mr. David B. Rappart, The Promenade, Liscard, Cheshire, sought to recover against the defendants, Mr. W. B. Peat and Mr. Malcolm Dillon, executors of the late Mr. G. D. Owen, 24, Grosvenor Road, Newcastle-on-Tyne, the return of the sum of £17 6*s.* 6*d.*, which he had paid to them for certain Orchids.

Mr. Piesse, plaintiff's counsel, said that plaintiff attended the sale of the Selwood collection of Orchids which was held at Selwood, Rotherham, Yorks, on April 24, 25, and 26, 1895, when the late Mr. Owen's collection was disposed of by auction, Messrs. Protheroe & Morris being the auctioneers. The plaintiff's case, shortly, was that he there purchased Orchids which were not of the rarity represented, and he consequently asked for his money to be returned. There was no question of feeling in these proceedings, the plaintiff considering only that a mistake had been made.

The plaintiff was called, and said he purchased an Odontoglossum elegans, four bulbs, with one growth, for five guineas. He also bought for eight-and-a-half guineas a Dendrobium splendidissimum grandiflorum, and a Cattleya Skinneri alba, with seven bulbs, for which latter he paid eight-and-a-half guineas. At the time he bought the plants they were not in flower, and it was impossible to tell what varieties they were other than from the descriptions contained in the catalogue, on the faith of which he purchased. In April, when the Odontoglossum flowered, he found that it was O. Halli, and was worth, instead of five guineas, about 2*s.* 6*d.* The Dendrobium turned out to be D. Ainsworthii, and was worth about 2*s.* or 3*s.* The Cattleya Skinneri alba turned out to be quite an ordinary variety, and not an alba at all. The petals were of a light rose colour. In cross-examination he said he could not say he had a very great knowledge of Orchids. He had only been collecting them during the past eighteen months. He had about 1,000.

Mr. Commissioner Kerr (surprised): What do you do with them all?

The Plaintiff: It is a hobby.

Mr. Commissioner Kerr: Oh!

The plaintiff further said that he was quite sure the plants had not got mixed up while in his houses. He produced the plants in court for the inspection of the learned judge.

Mr. Commissioner Kerr: I hope the legal atmosphere will not kill them or even damage them.

The plaintiff in further evidence said that the Dendrobium came from the Quorn House collection where Mr. Owen purchased it. After he had bought it from the defendants, Mr. Protheroe, who was staying at the same hotel as he did, told him that he was afraid it was not the true variety. At the sale the plant was exhibited.

Mr. Edwin Pollock, defendants' counsel, said they were quite satisfied that the plants which they sold to the plaintiff were true to their names, and that the plaintiff had mixed them up in some way or other.

The plaintiff said that he did not complain of any error of description. What he said was, that he had not got the plants which he bought.

Mr. Commissioner Kerr said there was no suggestion of mala fides. He thought the matter might be referred to some one who could act with impartiality, and in whom the parties had confidence.

Mr. J. Baggallay, the representative of Messrs. Charlesworth, Bradford, Orchid growers and importers, said that in April he happened to call on the plaintiff on business, when he saw the Odontoglossum. It was certainly not an elegans, but a very poor variety [of Halli].

Mr. James McNab, traveller for Messrs. Sander & Co., St. Albans, said he also called and saw the Cattleya Skinneri alba, and it was not an alba at all. The petals were slightly flushed with rose. His firm sold the plant (which was supposed to have been bought by the plaintiff) to Mr. Owen, and they paid thirty-five guineas for it. That could not have been the one now in question. They also sold Mr. Owen for fifteen guineas the Odontoglossum elegans. They were then both in flower, and there was no mistaking them for the plants now produced.

Mr. James O'Brien, Hon. Sec. of the Orchid Committee of the Royal Horticultural Society, gave evidence in support of the plaintiff's case.

For the defendants, evidence was given to show that the defendants had, in fact, sold genuine plants to the plaintiff.

Mr. Commissioner Kerr said the case was a very difficult one to decide. He would take time to consider his decision.

FRANCE.

NANCY.

I will to-day give you some notes taken at the establishment of MM. V. Lemoine et Fils, Nancy, which may interest your readers. To begin with, I was attracted by a collection of Delphiniums, almost all raised by the firm. All colours, from pale mauve to purplish-violet; indigo, navy and turquoise-blue are there; and all forms, from semi-double flowers, bilaterally symmetrical, with variously-coloured markings, to those with an open and spreading cup quite imbricated. Among the old varieties we noticed the following, which, for their beauty, should be in all collections: Ranunculiflorum, cobalt-indigo; Louis Thibaut, analogous in form, bronze-lilac; Watteau, clear-lilac; Monument, very large semi-double flowers, clear navy-blue; Etoile du Nord, Prussian-blue; Froufrou, large pale-blue pompons. Among newer varieties are:—Jules Sandeau, torquoise; Michelet, indigo; Emeraude, clear-blue; Sceptre d'Azur, very large cobalt flowers; Sirius, ultramarine; Aziyadé, sky-blue; Falguière, sky and rosy-white; Dumaine, torquoise and white; Roumanille, dark violet; José Maria de Heredia, porcelain-blue; and other forms. There were also some seedlings, distinguished only by numbers, and not in sufficient quantity to be put in commerce for some years.

Among the finest varieties of Potentilla here seen were William Rollinson, Indian-yellow; rosæflora plena, small, and clear rose; Eldorado, purple, bordered with yellow; Californe, golden-yellow; Drapeau, yellow, streaked with purple; Capella, velvety-chestnut; Drap d'Or, orange; Caméléon, cinnamon, bordered with yellow; Mont d'Or, deep yellow; rutilant, blackish-purple.

Considerable attention is paid to Ceanothus. It is found well to cover the base of these plants with dry leaves before winter in our rigorous climate. I may mention Ether, clear ultramarine; M. Verlot, greyish-rose; Panthéon, carmine-rose, a variety with double white flowers; Cérès, rosy-mauve; Leviathan, iron

grey; Othello, bluish-lilac; Brilliant, purplish-lilac; also two unnamed seedlings, one with fine dark violet spikes, the other the darkest blue known.

Some specimens of Gladiolus Lemoinei and Nanceianus were in bloom when I was there. Among them was one usually blooming at the end of June, when it is valuable. It is dwarf, the flowers well-shaped, of medium size, pure yellow with black spots. It is named C. luteus, and can be grown as is C. Colvillei albus.

Some time ago, MM. Lemoine endeavoured to cross Fuchsia Riccartoni with large-flowered single and double varieties, so as to obtain plants which would stand the winter in the open ground. They have succeeded, and the following are now in the market: Drame, Elysée, Télégraphe, Volontaire, Enfant prodigue, Profusion, Espérance, and Nestor. These do well in the open ground if protected with leaves. The sepals are generally red; the single or double corolla is, in most, violet or bluish; the sizes of the blooms are not yet equal to those usually seen, the number of them is, however, considerable.

Another newer collection is that of hybrid Fuchsia myrtifolia. The firm has four or five varieties with elegant foliage, the flowers in quantities, and showing all the required characteristics of market specimens. These plants, collected in the autumn in a cool house, flower there during the greater part of the winter.

Another plant, which after the summer-blooming yields, under the same conditions, quantities of flowers, is Fuchsia Gerbe de Corail (F. venusta × F. boliviana). All the upper branches bear, in the axils of the leaves, long flowers with a fine coral tube, lobes of the same tint, and a large coral-coloured corolla. The blooms are so numerous, that they appear like one pyramidal inflorescence; the flowering lasts from early in the season in a cool or temperate-house. Another plant of the same origin, Corne d'Abondance, is also cultivated.

Large-flowered Fuchsias are largely grown by MM. Lemoine. Among the finest varieties are Countess of Aberdeen, a curious plant, sepals and petals slightly rosy-white; Christophe Colomb, very large flower, double, tender rose, the cup scarlet; Pasteur, corolla full, pure white; Madame Bruant, corolla bluish-mauve, full; Capitaine Bruger, corolla full, blue-violet; Marcel Mormier, corolla full, salmony-white; Princess May, cup flesh-coloured, white, corolla scarlet; Francis Magnard, corolla double, violet, mixed with rose and red; Madame Carnot, large full corolla, white, veined carmine; President Burdeau, flowers full, pure mauve; Alfred Rembaud, corolla full, royal purple; La Fayette, long, double, prune-coloured corolla.

LILLE.

On the occasion of a visit to M. Em. Mulnard's horticultural establishment, I noticed good specimens of Phyllanthus nivosus and Cibotium Schiedei, much grown by M. Mulnard; Poinsettia pulcherrima grown because of its length of stem (nearly 6 feet), which makes it valuable for dressing tall vases when mixed with Chrysanthemums—sulphate of ammonia is used for them. Euphorbia jacquiniflora is also valued as a cut flower; Myrsiphyllum asparagoides (Medeola asparagoides), Lomaria neo-caledonica and L. gibba, Solanum nicotianum, fol. var., always in request, especially in Paris. Also Cyperus gracilis, Hedychium Gardnerianum, grown in small pots, watered twice or thrice daily, and given a little heat; quantities of Orchids, for the flowers of which there is, in Lille, always a great demand.

In the open ground I remarked Griselinia macrophylla grafted on G. littoralis, in fine plants with large shining leaves; Ceanothus Marie Simon, the hardiest Ceanothus (in the Lille Botanic Garden this variety is never killed by frost); Pyrethrum uliginosum, with large white flowers like those of Anthemis. Japanese Anemones, Whirlwind, with large white semi-double blooms, plant fairly strong, of good habit; and Lady Ardilaun, a sturdy variety, flowers and stems longer than those of alba. Boltonia latisquama flowering abundantly; Geum coccineum, flor. semi-pl.; Cytisus Schipkænsis, a dwarf species from the Balkans, sending up high tufts from a stock bearing pretty white blooms—a useful plant for the rockery; Scabiosa caucasica, with white and with blue flowers; Aralia (Fatsia) papyrifera, a valuable ornamental plant, cuttings made in February yielded fine specimens with large leaves; Dahlia Madame Mulnard, flowers like a double Cactus, golden-yellow streaked with carmine-red; a pretty collection of open-air Ferns, including Cyrtomium (Aspidium) falcatum, which lives through the winter indoors even with no fire; and seedling single Dahlias. I also saw Antirrhinum majus from cuttings made in September in a cold frame, where they passed the winter; in spring they were repotted in a hot-bed, and afterwards set out in the open ground, where they flower early and abundantly. *Ch. De Bosschère.*



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (−) the Mean for the week ending October 24.	Accumulated. Above 42° for the Week.	Below 42° for the Week.	Above 42°, difference from Mean since December 29, 1895.	Below 42°, difference from Mean since December 29, 1895.	Rainfall. More (+) or less (−) than Mean for the Week.	No. of Rainy Days since Dec. 29, 1895.	Total Fall since Jan. 1, 1896.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Dec. 29, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	6 −	7	27	+ 188	− 283	1 +	202	46·0	22	24
1	6 −	8	33	+ 131	− 201	7 +	169	23·3	21	30
2	6 −	12	26	+ 210	− 209	5 +	159	18·7	33	29
3	6 −	17	30	+ 175	− 215	4 +	150	20·5	29	35
4	7 −	14	33	+ 169	− 235	1 −	147	19·8	36	32
5	6 −	29	16	+ 266	− 236	1 +	136	26·0	38	37
6	6 −	14	27	+ 224	− 200	5 −	178	37·1	26	32
7	6 −	14	23	+ 305	− 243	1 −	163	28·8	26	32
8	7 −	30	18	+ 351	− 198	1 −	146	24·9	33	41
9	5 −	14	22	+ 224	− 205	1 +	187	33·1	28	28
10	7 −	16	26	+ 316	− 185	1 −	160	29·1	25	33
*	5 −	38	0	+ 476	− 109	5 +	158	22·6	33	46

The districts indicated by number in the first column are the following:—

0, Scotland N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending October 24, is furnished from the Meteorological Office:—

"The *weather* during this period was brighter and less rainy than of late over England, but very unsettled, with a good deal of rain over Ireland and Scotland. Sleet showers were experienced from time to time at many of the northern stations, and thunder and lightning occurred in the south and south-east.

"The *temperature* was much below the mean, the deficit ranging from 5° in 'Ireland, N.' and the 'Channel Islands,' to 7° in the 'Midland Counties,' 'England, S.W.,' and 'Ireland, S.' The highest of the maxima were recorded, as a rule, on the 24th, and ranged from 56° in 'England, S.' and the 'Channel Islands,' to 50° in 'Scotland, E.' and 'England, N.W.' The lowest of the minima, which were registered on rather irregular dates, ranged from 18° in 'Scotland, E.,' 21° in 'Scotland, W.,' and 22° in 'England, S.W.,' to 31° in 'England, S.,' and to 40° in the 'Channel Islands.'

"The *rainfall* was less than the mean in the 'Midland Counties,' 'England, N.W. and S.W.,' 'Scotland, W.,' and 'Ireland, S.,' but more in all other districts.

"The *bright sunshine* did not differ very materially from the mean, being in excess in most parts of England, and rather below or just equal to the normal in the western and northern districts."

MARKETS.

COVENT GARDEN, OCTOBER 29.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. Ed.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Adiantum, per doz.	4 0	12 0	Ericas, p. doz.	10 0	12 0
Aspidistras, per doz.	12 0	30 0	— hyemalis, per doz.	12 0	15 0
— specimen, each	5 0	15 0	Ferns, small, doz.	1 0	2 0
Chrysanthemums, per doz.	6 0	12 0	— various, doz.	5 0	12 0
— specimen plants, each	1 6	2 6	Ficus elastica, each	1 0	7 6
Chrysanthemums, per plant	1 6	2 6	Foliage plants, per doz.	12 0	36 0
Coleus, per doz.	2 0	4 0	Marguerites, p. doz.	6 0	10 0
Dracænas, each	1 0	7 6	Palms, various, ea.	2 0	10 0
— various, p. doz.	12 0	24 0	— specimens, ea.	10 6	84 0
Evergreen Shrubs, in variety, doz.	6 0	0 24	Pelargoniums, Scarlets, p. doz.	2 0	4 0
			Solanums, p. doz.	12 0	15 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Anemone, doz. bun.	1 6	2 6	Orchids:—		
Arums, p. 12 blooms	4 0	6 0	Cattleya, 12 blms.	6 0	12 0
Bouvardias, per bn.	6 0	9 0	Odontoglossum crispum, 12 bm.	2 0	6 0
Carnations, 12 blms.	1 0	2 6	Pelargoniums, scarlet, per 12 bun.	3 0	6 0
Chrysanthemums, doz. bun.	3 0	6 0	— per 12 sprays	0 4	0 6
— doz. blooms	1 0	4 0	Pyrethrums, 12 bun.	2 0	4 0
Eucharis, per dozen	2 6	4 0	Roses (French), per doz. blooms	1 0	2 0
Gardenias, per doz.	1 0	3 0	— Tea, per doz.	0 9	1 6
Gladiolus, coloured, per doz. sprays	1 0	2 0	— yellow (Maréchal), per doz.	4 0	7 0
Lilac, wh. (French), per bunch	3 6	5 0	— red, per dozen	0 6	1 0
Lilium Harrisi, per doz. blooms	4 0	8 0	— red, doz. bun.	2 0	18 0
— lancifolium, doz. blooms	2 0	3 0	— Gloire, doz. bn.	4 0	6 0
Lily of the Valley, dozen sprays	0 9	2 0	— Safrano, p. doz.	1 0	2 0
Maidenhair Fern, per 12 bunches	4 0	8 0	Stephanotis, per 12 sprays	3 0	4 0
Marguerites, per 12 bunches	1 0	2 0	Tuberoses, 12 blms.	0 3	0 6
Mignonette, per doz. bunches	2 0	4 0	Violets (Fr.) Parme, per bunch	2 6	4 0
Mimosa (French), per bunch	1 0	1 6	— — Czar, per bunch	2 0	3 0
			— — doz. bun.	1 6	—
			— (Eng.), per doz. bun.	1 6	2 6

ORCHID-BLOOM in variety.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples, cooking, in variety, per sieve	2 0	3 0	Grapes, Muscat, 2nd qual., p. lb.	1 0	1 6
— dessert, in variety, per ½-sieve	2 6	4 0	— Channel Islands, per lb.	0 9	1 0
Grapes, Alicante, 1st quality, per lb.	1 0	1 3	— Gros Maroc, per lb.	1 0	1 8
— Alicante, 2nd quality, per lb.	0 6	0 8	Medlars, per ½-sieve	2 6	3 0
— Gros Colmar, per lb.	1 3	1 6	Melons, each	2 0	2 6
— Gros Colmar, 2nd qual., per lb.	1 0	—	Nuts, Cob, per 100 lb.	25 0	27 6
— Muscats, English, 1st quality per lb.	2 0	2 6	Pears, Doyenné du Comice, per ½-sieve	7 0	8 0
			— Duchess, per ½-sieve	4 0	4 6
			Pine-apples, St. Michael, each	5 0	6 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Cauliflowers, p. tally of 5 doz.	5 0	7 6	Tomatos, home-grown, smooth, per doz. lb.	3 6	4 0
Cucumbers, home-grown, per dz.	2 0	3 0	selected	4 6	5 0
Mushrooms, (Indoor) per lb.	1 0	1 6	— ordinary kinds, do.	2 0	2 6

POTATOS.

Prices still firm as follows: Beauty of Hebron, 80*s.* to 85*s.*; Dunbar Main Crops, 95*s.* to 105*s.*; do. Bruce, 80*s.* to 85*s.*; Best Lincoln Main Crops, 80*s.* to 85*s.*; Blacklands, 50*s.* Less disease visible since last report. *J. B. Thomas.*

SEEDS.

LONDON: *October 28.*—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., describe to-day's seed market as rather bare alike of buyers and of business. Clover-seeds this week show no striking feature, either of interest or novelty; however, values all round keep steady. There is rather more doing in Winter Tares. Rye is inquired for. Blue Boiling Peas are in improved request at full prices. Some fine new Dutch Haricot Beans just landed meet a ready sale. New White Runners are also in good demand. Some choice Egyptian split Lentils attract attention. White and Brown Mustard are steady. In Rape-seed the tendency continues upwards

FRUIT AND VEGETABLES.

LIVERPOOL: *October 28.*—St. John's market: Cucumbers, 6*d.* to 8*d.* per dozen; Grapes, English, 1*s.* to 2*s.* 6*d.* per pound; do., foreign, 6*d.* to 8*d.* do.; Pines, English, 4*s.* to 6*s.*

each; Mushrooms, 1s. per pound. Birkenhead:—Potatos, 6d. to 8d. per peck; Grapes, English, 1s. 6d. to 2s. 6d. per pound; do., foreign, 4d. to 6d. do.; Pines, English, 4s. to 8s. each. North Hay:—Turnips, 19s. to 20s. per ton; Potatos, Giants, 1s. 9d. to 2s. per cwt.; do., Main Crop, 2s. 3d. to 3s. 6d. do.; do., Sutton's Abundance, 1s. 9d. to 2s. 3d. do.; do., Bruce, 2s. to 2s. 6d. do.; Graftons, 1s. 9d. to 2s. do.; Turnips, 6d. to 8d. per dozen bunches; Swedes, 1s. 4d. to 1s. 6d. per cwt.; Carrots, 2s. 9d. to 3s. do.; Onions, English, 5s. to 5s. 6d. do.; do., foreign, 2s. 6d. to 3s. do.; Parsley, 4d. to 6d. per dozen bunches; Cauliflowers, 10d. to 2s. per dozen; Cabbages, 6d. to 10d. do.; Celery, 10d. to 1s. 9d. do.

GLASGOW: *October* 28.—The following are the averages of the prices current at market during the past week:—Pears, 2s. to 3s. per case; Apples, 4d. to 8d. per lb.; Tomatos, Guernsey, 4d. to 5d. do.; do., Scotch, 7d. to 9d. do.; Plums, 3½d. to 4d. do.; Grapes, home, 2s. do.; Turnips, white, 2s. 6d. per dozen bunches; Swedes, 1s. to 1s. 3d. per cwt.; Savoys, 10d. to 1s. 3d. per dozen; Cabbages, 8d. to 9d. do.; do., late, 1s. to 1s. 6d. do.; do., Red, 2s. 6d. to 3s. do.; Cauliflowers, English, 2s. to 2s. 6d. do.; do., bunch, 6d. to to 1s.; do., Dublin, 2s. to 2s. 6d. do.; Parsnips, 4s. 6d. per cwt.; Herbs, 1d. to 2d. per bunch; Leeks, 1s. to 2s. 6d. per dozen bunches; Mint, green, 6d. per bunch; Onions, Dutch, 3s. to 3s. 6d. per bag; do., Portugal, 10d. per stone; do., Globe, 3s. to 3s. 6d. per cwt.; Parsley, 5s. to 6s. do.; Greens, 4d. per bunch; Celery, table, 2s. to 2s. 6d. do.; do., common, 9d. to 1s. do.; Potatos, best, 8d. per stone; Carrots, 3s. to 4s. cwt.; Artichokes, 12s. to 16s. cwt.; Peas, 1s. 9d. to 2s. 6d. per stone; Cucumbers, 4s. to 4s. 6d. per dozen; Lettuces, 6d. to 9d. per dozen bunches; do., Cos, 9d. do.; Radishes, 9d. to 1s. do.; Horseradish, 2s. per bunch; Beans, Broad, 1s. per stone; do., French, 6s. 6d. per sieve; Scarlet Runners, 1s. 6d. per stone; Mushrooms, 1s. to 1s. 3d. per lb.; Rhubarb, 2s. per cwt.; Beetroots, 7d. per dozen; do., new, 3s. to 4s. per dozen bunches; Cress, 3d. per basket; Brussels Sprouts, 1s. 6d. to 1s. 9d. per stone.

ENQUIRY.

"He that questioneth much shall learn much."—BACON.

CYCLAMEN-BUDS NOT OPENING.—*C. B. W.* writes:—"I have a quantity of plants of white Cyclamen persicum, Butterfly, of a good strain, from Sutton of Reading, which are good plants, well set with buds, but these remain buds, and do not expand. Can you advise me as to the proper treatment? The plants are in a light, low house, kept at a temperature of 64°, and about 56° at night. Air is admitted during the day-time freely; the plants are standing on inverted pots on a cinder-bed, and are healthy, with large clean leaves; watering also has been carefully attended to. I shall be very glad if you will show me what I ought to have done, or not to have done, to produce the wealth of blossom which I am sure the plants are capable of bearing. The variety is White Butterfly. [Can any of our readers who are cultivators of Cyclamens suggest a remedy? ED.]

Answers to Correspondents

APPLES IN STORE: *C. I.* There is no necessity for you to wipe the fruits, for when afforded air freely for a month after storing, the moisture that exudes from them will be dissipated. If a fruit-room is so constructed that sufficient ventilation cannot be afforded, then it may be advisable to wipe the fruits dry; and it will be well to place vessels filled with unslaked chalk-lime in the room.

CHRYSANTHEMUMS: *T. A.* The material sent is too meagre; kindly send a plant or two with roots and soil entire.

CUCUMBER LEAVES BLISTERED AND DEFORMED: *J. B.* No fungus discovered on the leaves sent. The same are thin and deficient in substance, and we are inclined to think your methods of culture are at fault. Obtain advice from some good gardener in the neighbourhood.

MARKET GARDENING: *G. R.* Whether you would eventually succeed in getting a decent living if you engaged in Market Gardening depends on many things. We all know the stock story told of many self-made men, who usually, so the story runs, come into a place with their sole belongings secured in a pocket-handkerchief, or their last half-crown in their pockets. With some energetic or simply lucky fellows the sum of money that you possess would be so well managed as soon to lead to a competency being obtained from trade. We cannot undertake to further advise you.

NAMES OF FRUITS.

*** *The applications to name flowers, and especially fruits, are so numerous at this season, as seriously to hamper us in the exercise of our editorial duties. They entail an expenditure of time, labour, and money, of which our readers have little idea. We are most desirous to oblige our correspondents as far as we can, but we must request that they will observe the rule that* **not more than six varieties** *be sent at any one time. The specimens should be good ones, just approaching ripeness, and they should be properly numbered, and carefully packed. We do not undertake to send answers through the post. Delay in any case is unavoidable.*

Mells. 1, Catillac—a stewing Pear; 2, Duchesse d'Angoulême; 3, Pear ripe, Doyenné du Comice. —*W. D.* 1, Gravenstein; 2, not known; a local variety, probably.—*A. J. B.* 1, Vicar of Winkfield; 2, Hacon's Incomparable; 3, Beurré Diel; 4, Cox's Pomona; 5, Court of Wick; 6, Rosemary Russet.—*J. Hawkes.* 1, Swan's-egg; 2, rotten; 3, Court of Wick; 4, Beachamwell; 5, Reinette du Canada; 6, Hoary Morning; 7, Cox's Orange Pippin.—*P. R.* Pear not quite sure; the skin greatly bruised and rubbed. It is not Beurré Charneuse; might be Emille d'Héyst —*The Major.* 1, Shobden Court; 2, Marie Louise; 3, Nouveau Poiteau; 4, Beurré Superfin, 5, Easter Beurré; 6, Maréchal de la Cour.—*D. R.* 1, Beurré de Capiaumont, greatly decayed; 2, Emille d'Heyst; 3, Napoléon; 4, Beurré Diel; 5, Marie Louise d'Uccle.—*J. T. H.* 1, The Queen; 2, Bess Pool; 3, Pine Golden Pippin; 4, Wareham Russet; 5, Minchull Crab; 6, small Emperor Alexander —*H. W.* 8, Beurré Bachelier; 9, Beurré Sterckmans; 11, Napoléon; 12, Maréchal de la Cour; 13, Easter Beurré; 17, Winter Nelis (?).—*J. W.* Pears: 1, Marie Louise d'Uccle; 5, Bergamote d'Esperen; 6, Vicar of Winkfield; 8, Duchesse d'Angoulême; 9, Hacon's Incomparable. Apples: 1, Gloria Mundi; 2, King of the Pippins; 3, Minchull Crab.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to be so good as to consult the following number.*—*J. C. S.* 1, Cratægus punctata; 2, Pyrus spectabilis; 3, Cratægus Azarolus; 4, Pyrus lobata. (No. 4 is also known as Mespilus grandiflora, and is thought to be a hybrid between a Cratægus and the Medlar).—*A. H.* Without seeing your trees it is impossible to be certain of the identity of the specimens you send. 1, We suppose is Cedrus atlantica; and 2, is probably C. Deodara. *F. Potter.* Phaseolus Caracalla.—*G. H.* Geranium sanguineum, Geranium rotundifolium (probably).—*D. W.* Ophiopogon japonicus, and Lastrea serra.—*W. M.* Crassula hybrida.—*A. B. S. H.* Pinus excelsa, Ligustrum ovalifolium.—*J. B. J.* 1, Aster novæ boracensis; 2, Dactylis glomerata variegata; 3, Begonia next week; 4, Aralia Veitchii; 5, missing; 6, Maxillaria picta. *Correspondent.* Cratægus coccinea.

NOVELTIES IN BOUQUETS: *Constant Reader.* The so-called shower bouquet, may be likened to corn falling out of one side of a large, wide-mouthed jug. Ribbons of any desired colour are fastened round the handle of the bouquet-holder, and sometimes bows of narrow ribbon are mixed with the flowers. A special kind of wire bouquet-holder is sold by florists, by means of which they are elevated above the table, &c., on which they are placed. Any kinds of choice flowers in season are used in these bouquets; and those of pendulous habit or which can be mounted in drooping fashion may be employed.

PEAR: *T. T.* Your specimen of Pear, Pitmaston Duchess, weighing 29½ oz., is of an unusual weight, and it has only been exceeded by fruits of Uvedale's St. Germain and Catillac, grown in Jersey.

PRUNING FRUIT TREES: *J. F.* To afford a full answer to this question would trespass greatly on our space, and we therefore can do no more than give a few rules of general application. In the case of Apples, when young, that is, in the first and second year after planting, or when signs are observed which point to the trees being quite re-established, the main branches, which may number four or six, should be cut hard back, say to within four or six inches of the point of divergence from the stem. Some do this when planting, and it may answer for trees that have suffered much loss of roots on being dug up; but we think that it is better to wait one year or even two before pruning back, the new shoots made by the tree after hard pruning being of greater strength. Having got a good break the year of pruning, and thinned out all the weak, therefore useless wood, the leading branches may be shortened, at the winter pruning, to within 1 to 1½ foot of the point from which they sprung. With this second pruning the trees, if they are standards, will have the foundation laid of perfect crowns, and they should be allowed to go away without any further stopping of the main branches, except in the case of those varieties which are naturally of a weak or pendulous habit, which may need to have all the main branches shortened by a foot or so every year till the growth of the branches is reduced by heavy cropping. Nothing further will be required afterwards than to keep the middle part of the crown clear of spray, and to remove interlacing branches. Fruit spurs will form all along the main branches, these latter will in time throw out lateral fruiting shoots, but they themselves will cease in great measure in the course of years to carry fruit spurs. Standard Pears require much the same kind of treatment, having regard to the habits of the varieties to form long or short fruit-spurs, the former being usually associated with long-jointed, relatively slender shoots, or a pendulous mode of growth. Cherries should be once or twice severely pruned so as to form a proper number of main branches; the after pruning required to keep the trees from becoming entangled masses of shoots when young being more satisfactorily done by finger-and-thumb pinching when the shoots are young and quite tender; much pruning of the Cherry with the knife tending to produce gumming—a fatal malady in the sweet varieties. The Morello and Belle Magnifique, a light red-coloured variety of Morello, will on the contrary endure a good deal of pruning with the knife or *sécateur* in the winter and early autumn without injury. For espalier and wall trees a modification of these rules is necessary, and more severe pruning and disbudding are required to obtain the shoots that will form the framework of the trees in the right places; in restraining the undue growth and production of breast wood by timely disbudding, in stopping this at suitable points so as to obtain fruit-spurs, and in shortening the leading shoots at the autumn or winter pruning at half or one-third of their length, the former when the shoots are weak, so that dormant buds will break and furnish further fruiting-spurs, or shoots which can be turned into such.

STRAWBERRY PLANTS DECAYING: *A. J. Botley.* The plant sent is suffering from an incurable complaint, that of old age. Better plough them in, and plant anew on fresh land.

TOMATO: *H. E. T.* The Tomato leaves are not really diseased, there is no fungus present, but every appearance of the leaves having suffered from a sudden chill. *M. C. C.*

TOP DRESSING VINE BORDERS: *T. F.* This may be done at the dormant season if the dressing consists of soil and manure, the inert soil being removed down to the roots. Manurial dressings are more properly applied during the active season. If your Vines are apparently in a bad condition, lift and replant them; see *Gardeners' Chronicle*, p. 501, last week's issue.

VINES: *R. M.* We have carefully examined the leaves sent and the roots also, but fail to find the least evidence of attack from insects or disease We believe you must look for the cause of the premature discoloration of the foliage to the circumstances attending the culture given the Vines. No evidence of the first cause is afforded by the specimens, but there is presumably some constituent in the soil present in undue quantity, as is the case when overfeeding has been practised.

COMMUNICATIONS RECEIVED.—J. G.—A. W.—H. H. A.—M. H. C. W. D.—W. W. J. E. Radclyffe. J. McL E. G. L. (next week).—T. L., Winchester.—W. E. B., Granada. W. K.—Constant Reader. G. F. W. B.—W. A. C.—H. W. —C. P. & Co.—R. Cock.—W. E. B., Grenada.—T. M. Paulinia (we always like the proper name and address to accompany communications).—T. H.—F. F.—A. C. F.—R. D.—F. L. W.—W. J. G.—A. K., Alloa.—J. C.—H. M.—J. McIntyre.—M. C.—E. J.—J. —D. C. P.—A. J. L.—C. de Bosschère.—W. H. A.—G. D.—T. H. F.—J. J. W.—J. B.—A. F. B.—A. P.—F. E. T.—E. J. L.—D. McD.—W. H. D.

PHOTOGRAPHS, SPECIMENS, &c., RECEIVED WITH THANKS.—C. E. S.—J. G., Canford.—D. M.—E. A. T.—V. Lemoine et Fils.—A. S.

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

Increased to the extent of more than 90 per cent., and that it continues to increase weekly

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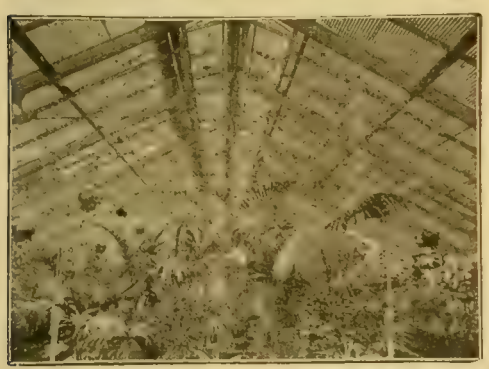
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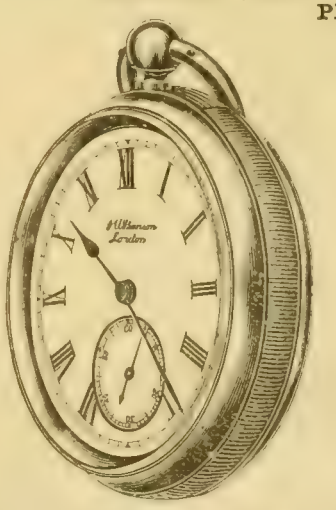
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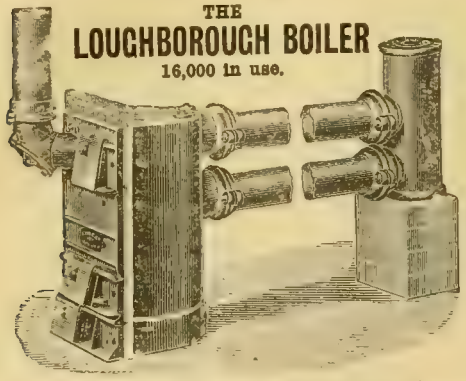
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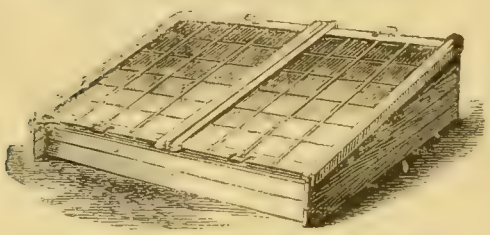


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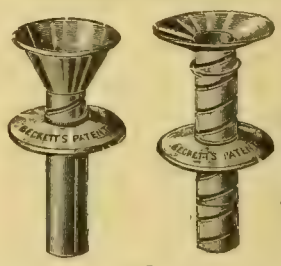
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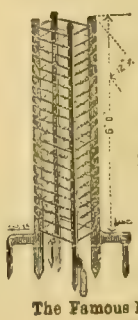
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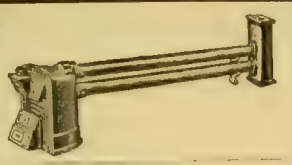
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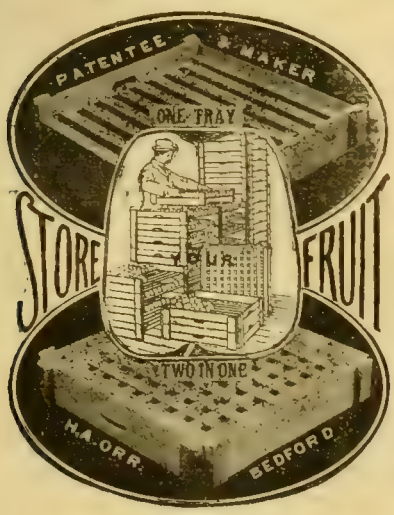
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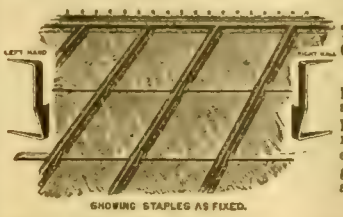


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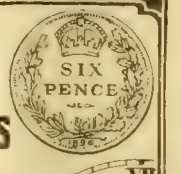
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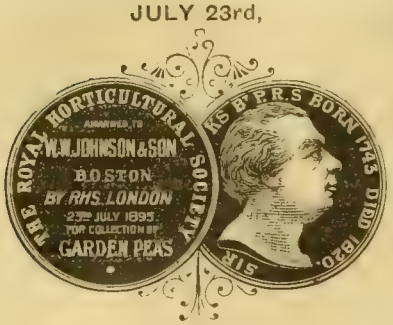
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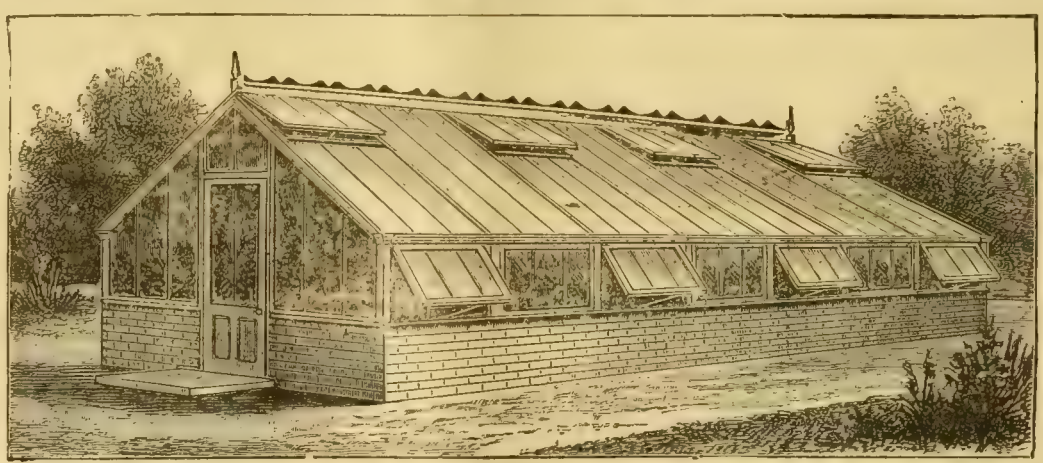
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The Gardeners' Chronicle

ESTABLISHED 1841. No. 2915.

No. 515.—Vol. XX. { Third Series. } SATURDAY, NOVEMBER 7, 1896. [Regt. as a Newspaper. { PRICE 3d. Post-free, 3½d.

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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

PELARGONIUMS and CHRYSANTHEMUMS.—Just now our display of these is said to be much the best we have ever had. We should feel a real pleasure in showing all interested: our many seedlings of both that we have been working for so many years to attain perfection, are a great move onwards. To all those not able to journey, a Catalogue shall be sent, post free.
H. CANNELL AND SONS, Swanley, Kent.

New Catalogue. Free.

LILIES, CALOCHORTI, BRODIÆA.—These beautiful bulbous plants specially described, also many other rarities. Over fifty awards during the last two years for novelties and collections of hardy flowers.
R. WALLACE AND CO., Kilnfield Gardens, Colchester.

For Present Sowing.

SUTTON'S PRIZE CYCLAMEN, Mixed, per packet, 5s. and 2s. 6d., post-free. November is the best time to sow Cyclamen Seed. The *Gardening World* February 24, 1894, says:—"While some cultivators grow their Cyclamens for spring flowering, Messrs. Sutton & Sons make a point of having a display in the autumn which will last through the winter. The seeds were sown in November, 1892, and came into bloom in about eleven months. They have been flowering freely ever since, and will continue in presentable and handsome condition till six months have elapsed."

SUTTON'S SEEDS GENUINE ONLY DIRECT FROM SUTTON AND SONS, THE QUEEN'S SEEDSMEN, READING.

NOW is the TIME to PLANT PEONIES and DELPHINIUMS.
Catalogue of KELWAY AND SON, Langport, Somerset.

LANDSCAPE GARDENING.—W. INNES STUCKEY, Landscape Gardener, 46, Dyne Road, Brondesbury, N.W. Thirteen years with Mr. H. E. Milner.

ORCHIDS.—B. S. WILLIAMS & SON have an immense stock of clean, healthy plants at low prices. An inspection invited. Illustrated Catalogue post free. Victoria and Paradise Nurseries, Upper Holloway, London, N.

BULBS for BEDDING-OUT PURPOSES.—Hyacinths, Tulips, Crocuses, Snowdrops, Scillas, Aconites, &c.: all of best qualities, at most moderate prices. Complete Collections of Bulbs from 10s. 6d. upwards. Delivered free by rail or parcel-post.—DICKSONS, Bulb Growers, CHESTER.

CALVAT'S "AUSTRALIAN GOLD," and nearly 1000 other best CHRYSANTHEMUMS.—Fully described in my new Catalogue, post free. Wells' Book on "Mums," 1s. 2d. Special Terms to Trade Growers.
From W. WELLS, Earlswood Nurseries, Redhill, Surrey.

BEGONIAS A SPECIALTY. — LAINGS' Gold Medal Collection of Single and Double Varieties is still the premier. Orders now being booked for dry tubers. Catalogues free. Telephone 9660.
JOHN LAING AND SONS, Forest Hill Nurseries, London, S.E.

ASPARAGUS for Forcing.—Five years old, splendid roots, 12s. 6d. per 100; extra fine, 6 years old, 15s. per 100. On rail, cash with order. My Asparagus always makes top price at Covent Garden.
J. J. CLARK, Market Gardener, Goldstone, Brighton.

E. J. BATCHELOR has to offer the following PEACHES from a Peach-house 9 feet by 9 feet:—Barrington, Gros Mignonne, Royal George, Magdala, Prince of Wales, Goshawk, Bellegarde, and Red Magdalen. Also dwarf H. P. ROSES in the leading varieties, principally on Briar Cuttings, per 100 or 1000. Price and list on application to—
Harlow Heath Nurseries, Harrogate.

AZALEA INDICA.—Fine plants, well set with bloom, in 5-inch pots, 2s. each, 21s. per dozen.
AZALEA MOLLIS, full of flower-buds, 12s. and 18s. per dozen.
ERICA HYEMALIS, fine for winter-blooming, in 5-inch pots, 18s. per dozen.
PALMS in variety, good plants in 5-inch pots, 21s. per dozen.
GARAWAY AND CO., Durdham Down Nurseries, Clifton, Bristol.

CARNATIONS.—JAMES DOUGLAS begs to announce that his CATALOGUE for Autumn, 1896, and Spring, 1897, is now ready. It contains descriptions of the New Border and New Malmaison Carnations, with Cultural Directions. SEEDLING CARNATIONS, best strains, 3s. 6d. per dozen; 25s. per 100. Best CARNATION SEED, 1s. 6d. and 2s. 6d. per packet. Catalogue post-free.
Edenside, Great Bookham, Surrey.

KENT, THE GARDEN OF ENGLAND.—GEORGE BUNYARD & CO., Merchant Nurserymen, Pomologists, &c., beg to say the following Catalogues will be sent post free:—ILLUSTRATED FRUIT AND ROSE LIST, six stamps; General Catalogue OF ROSES, free; GENERAL NURSERY CATALOGUE, free; HERBACEOUS PLANT LIST, free; STRAWBERRY LIST (CULTURAL) free; BORDER CARNATION LIST, free; MARKET GROWERS' FRUIT LIST, free.—The Royal Nurseries, Maidstone.

MAGNIFICENT CARNATION. — New Yellow Self Carnation, Queen of the Yellows. The finest and most perfect yellow Carnation ever raised; flowers 3 inches in diameter; strong plants, 5s. each. Malmaison Carnations in best varieties. Bedding and Tree Carnations.
B. S. WILLIAMS & SON, Victoria and Paradise Nurseries, Upper Holloway, London, N.

Plant in November.

BARR'S OLD ENGLISH TULIPS, to which were awarded the Gold Medal of the Royal National Tulip Society at the Temple Show, London, May, 1896.
This is a revival of an Old English taste. Plant now.
50 in 50 fine sorts of Old English Tulips ... 50s. 63s. and 84s.
25 ,, 25 ,, ,, ,, ... 21s. 30s. ,, 50s.
12 ,, 12 ,, ,, ,, ... 7/6 12/6 ,, 21s.
BARR'S CHOICE MIXTURE, from the Largest Collection of Old English Tulips in existence, per 100, 15s.; p. doz., 2s. 3d.
BARR & SONS, 12, King Street, Covent Garden, London.

DANGEROUS TREES Lopped, Topped, and taken down by experienced Men; distance no object — Apply to J. CARNE, Steam Saw Mills, Tooting, Surrey, S.W.

MR. JOHN CARDER begs to inform his friends, connoisseurs and buyers of Odontoglossum crispum, that he CEASED to CONSIGN his COLLECTIONS of ORCHIDS to Mr. AIMÉ VANDEN BOGAERDE in August last.

TULIPS.—TULIPS.—TULIPS.
LATE and RARE SINGLE GARDEN SORTS.
Some very rare and scarce.
Write,—HARTLAND, Seedsman, Cork, Ireland.

CHRYSANTHEMUMS from SCOTLAND. Our collection consists of 552 varieties, the very best in cultivation, all moderate in price. Descriptive priced lists free on application.
DOBBIE AND CO., FLORISTS TO THE QUEEN, ROTHESAY.

FRUITING PEACH and NECTARINE TREES.—Dwarf, Half-Standard, and Standard-trained Trees, all best varieties, large quantity to select from.
Size and price on application to WILLIAM WHITELEY, The Nurseries, Hillingdon Heath, Uxbridge.

BATH'S CARNATIONS.—My NEW CATALOGUE for 1896, with Cultural Notes, is now ready, Post Free on application. My collection of Carnations and Picotees is one of the largest and best in the kingdom, and contains all the choicest new varieties. Orders should be booked at once to avoid disappointment.
R. H. BATH, Wisbech.

To those Re-planting Bearing Peach-trees.

WICETON has some very fine, young, dwarf-trained and half-standard well-balanced, fibrously-rooted bearing Trees, to offer "from South Walls." Price on application.—GRANARD NURSERY, PUTNEY.

HOLLIES, Green English, from 1 to 3 feet. Well-rooted, perfect plants; will move any distance. Samples and price from—
FRED. PERKINS, Regent Street, Leamington Spa.

COVERT, at per 1000; Broom, common, 2-yr. seedlings, 4s. 6d.; 1½ to 2 feet, 16s.; 2 to 3 feet, 20s. Gorse or Furze 2-yr. seedlings, 5s.; do., 1 to 1½ foot, 15s.
SAMUEL SMITH, Slagshills Nursery, near Matlock.

Strawberries at Reduced Prices.

GEORGE BUNYARD AND CO. beg to say they are now offering the best sorts, in fine plants, at reduced rates. CATALOGUES free.
Royal Nurseries, Maidstone.

20,000 CLEMATIS, IVIES, and other Climbers, in pots. All the best kinds of above and many other rare Climbers are described in our New Catalogue, post free.—CLIBRAN'S Nursery, Altrincham; also at Manchester, Bangor, and Llandudno Junction.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings. Patentees of the Duplex Upright Tubular Boilers.—King's Road, Chelsea, S.W. Telegraph Address "Hortulanus, London," Telephone, No. 5728

SALES BY AUCTION.

West Farleigh, Kent.

About 1¼ miles from Wateringbury and East Farleigh Railway Stations on the S. E. R.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION on the Premises, Parsonage Farm, West Farleigh, Kent, on TUESDAY NEXT, Nov. 10, at 12 o'Clock punctually, by order of Mr. T. W. Startup, who is desirous of thinning his plantation, about

1000 CHOICE APPLE TREES,

of the finest bush growth on the English Paradise Stocks, all carefully prepared for transplanting, and in good bearing condition.

Also STANDARD and DWARF PLUMS and DAMSONS, GOOSEBERRY and CURRANT BUSHES, well grown, and including the best market kinds.

May be viewed any day prior to Sale. Catalogues had on the Premises; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

NOTE.—Most of the above Stock was purchased of Messrs. George Bunyard & Company in 1892 and 1893, and has already borne good crops of the finest quality of fruit, specimens of which have taken First and Second prizes at the Royal Horticultural Society and the principal Kent Shows.

Lower Edmonton.

CLEARANCE SALE of 17 GREENHOUSES, FERNS, BEDDING PLANTS, HORSE, VANS, UTENSILS, &c; also the Lease of the Property. By order of Messrs. Young & Son, who are relinquishing the Business.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, The Town Road Nursery, Town Road, Lower Edmonton, five minutes' walk from Lower Edmonton Railway Station, on THURSDAY, November 26, at 12 o'Clock precisely,

30,000 FERNS,

in great variety, and well-grown plants.
7000 BEDDING GERANIUMS, and other Plants.
1500 PELARGONIUMS. 1000 GENISTAS.

Capital Horse, two Vans, Harness, Chaff cutting Machine, Glazed Lights, Pots, Barrows, Tools, New Boxes, Peat, and other items. Also the erection of 17 Greenhouses and 2 Pits. Thousands of feet of Hot-water Piping, Boilers, &c.

Also the LEASE of the PROPERTY, consisting of Brick built Dwelling-house, Stabling, and Van-shed, held for 17 years unexpired, at £40 per annum.

May be viewed any day prior to the Sale. Catalogues may be had on the Premises; at the Golden Lion Hotel, Lower Edmonton; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

N.B.—The Lease of the Property and the 17 Greenhouses will first be offered in one lot, and if not thus sold, then the Lease only will be put up, and the Glass Erections sold piecemeal, as described in Catalogue.

Wednesday, Nov. 18.

GREAT CLEARANCE SALE OF
150,000 FRUIT TREES

will take place at Perry Hill Cliffe, near Rochester, on WEDNESDAY, November 18, by order of Mr. W. Home; 75,000 Standard, Half-standard, and Maiden Apples, Pears, Plums, and Cherries; 4,000 3-yr. Apples in 80 varieties on English Paradise; 40,000 strong 2-yr. Gooseberries; 40,000 Black and Red Currant; 50,000 Raspberries; 10,000 Strawberries; 30,000 Asparagus, &c.

Catalogues of Messrs. PROTHEROE AND MORRIS, Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Friday Next.

By order of Messrs. W. L. LEWIS & Co.
A Magnificent Importation of

2000 CATTLEYA ACLANDIÆ

just to hand ex. *Magdalena*. We have no hesitation in saying this is the finest importation of this species ever sent to Europe. There is a number of distinct pieces amongst them, and doubtless many of the extraordinary blooms of unique colouring mentioned by our collector (for translation of whose letter see Catalogue) will be found. They are from a new locality on the confines of the Estado da Bahia de todos os Santos. Every plant received is offered, and the sale is lotted to suit all buyers.

MESSRS. PROTHEROE AND MORRIS will sell the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, November 13, at half-past 12 o'clock.

On view morning of Sale, and Catalogues had.

Friday Next.

ARUNDINA BAMBUSIFOLIA, VANDA CŒRULEA, CYPRIPEDIUM SPICERIANUM.

MESSRS. PROTHEROE AND MORRIS have received instructions from Mr. J. W. Moore, Eldon Place Nursery, Bradford, to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, Nov. 13, at half-past 12 o'Clock, an exceptionally fine consignment of VANDA CŒRULEA, just arrived. They are probably the finest conditioned plants ever imported into Europe, furnished with healthy green leaves and good roots, many of them pushing flower-spikes. Special attention is drawn to a few specimen plants of huge size, which will create a sensation when in flower.

The Sale will also include two plants of the rare and beautiful CYP. BELLATULUM ALBUM, ARUNDINA BAMBUSIFOLIA, CYP. SPICERIANUM, and DENDROBIUM INFUNDIBULUM. Also three plants in flower of CATTLEYA MANTINI NOBILIOR HYBRID, BOWRINGIANA × AUREA, exhibited at the Drill Hall (another property).

On view morning of Sale, and Catalogues had.

Perry Barr, Birmingham.

HIGHLY IMPORTANT TO THE TRADE, MARKET GROWERS, and GENTLEMEN.
By order of Mr. A. Van den Bogaerde.

MESSRS. PROTHEROE AND MORRIS have received instructions to SELL by AUCTION, on the Premises, Perry Lodge, Perry Barr, Birmingham, on TUESDAY and WEDNESDAY, November 17 and 18, at half-past 12 o'Clock, an enormous quantity of IMPORTED and ESTABLISHED ORCHIDS,

IN ALL ABOUT 22,000 PLANTS,

Comprising

2,200	semi-established	ODONTOGLOSSUM ALEXANDRÆ, unflowered
1,650	,, ,,	CATTLEYA TRIANÆ, unflowered
250		CATTLEYA SKINNERI
100		ONCIDIUM KRAMERI
1,000		CATTLEYA LABIATA
120	,,	GASKELLIANA
100	,,	CITRINA
120	,,	MOSSIÆ

Also

15,000 ODONTOGLOSSUM ALEXANDRÆ, imported masses, just received in the grandest condition, and other ORCHIDS.

May be viewed day prior and mornings of Sale. Catalogues may be had on the Premises, and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

TUESDAY, NOVEMBER 17, 1896.

ENORMOUS SALE OF JAPANESE LILIES.

The Contents of 1180 Cases,

COMPRISING:—

46,792	LILIUM AURATUM.	
7,782	,,	SPECIOSUM ALBUM.
1,320	,,	,, RUBRUM.
2,630	,,	,, MELPOMENE.
47,740	,,	LONGIFLORUM, in cases as received.
20,600	,,	,, GIGANTEUM.
924	,,	BROWNI.
2,400	CHINESE SACRED LILIES.	

86 CASES of LILIUM HARRISII, direct from Bermuda,

CONTAINING:—

750	BULBS	7 to 9 inches.
11,400	,, ...	9 to 11 ,,
700	,, ...	11 to 14 ,,

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY, November 17, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

DUTCH BULBS.

SALES EVERY DAY (Saturdays excepted).

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., EVERY DAY (excepting Saturdays), at 12 o'Clock, large consignments of NAMED HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other BULBS from Holland, received direct for Unreserved Sale. Lotted to suit the Trade and Private Buyers; together with white ROMAN HYACINTHS, paper-white NARCISSUS, SNOWDROPS, special TULIPS, &c.

On view morning of Sale, and Catalogues had.

N.B.—There will be NO SALE on MONDAY NEXT, Nov. 9, in consequence of the Lord Mayor's Show.

MONDAY, TUESDAY, WEDNESDAY, THURSDAY, and SATURDAY NEXT.

DUTCH BULBS—DUTCH BULBS

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., as above, at half-past 12 o'Clock precisely each day—

GRAND IMPORTATIONS OF DUTCH BULBS

FROM LEADING GROWERS,

in the finest possible order, and specially lotted to suit both large and small buyers.

On view mornings of Sale, and Catalogues had.

Thursday, Nov. 19.

A Grand Importation of ORCHIDS, received direct, without the least Reserve, comprising—

1850		CYPRIPEDIUM STONEI, from a new district
200	,,	GRANDIFLORUM
150	,,	MASTERSIANUM
100		PHALÆNOPSIS GRANDIFLORA
200		ANECTOCHILUS DAWSONIANUM.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, on THURSDAY, November 19, at half-past 12 o'Clock precisely.

N.B.—Lists can be received for this Sale till Thursday next.

WEDNESDAY NEXT.

THE BULB SALE OF THE SEASON.

500 Choice named Standard, Short Standard, Half-STANDARD, and DWARF ROSES, from a celebrated Prize Grower in Germany, including many of the best-known sorts.

A Surplus Stock of Ornamental Shrubs, and various FLOWERING TREES, 100 Standard and Half-Standard ROSES, and choice named APPLES, PEARS, PLUMS, PEACHES, CHERRIES, NECTARINES, and other Pyramid and Dwarf-trained FRUIT TREES, from English Nurseries.

Specimen Latanias, Azalea indica to name, and a quantity of Azalea mollis, well set with buds, from the Continent.

An Importation of Liliums from Japan, comprising LILIUM LONGIFLORUM EXIMIUM and L. LONGIFLORUM (supposed L. Browni).

A Small Collection of English-grown Palms.

Also an Immense Importation of

HYACINTHS.

From a trustworthy Grower, including a splendid selection of many of the best sorts, for Glasses, Pots, and Borders.

A Collection of SPECIAL TULIPS, and a great variety of other DUTCH BULBS.

FORCING BULBS, from France.

25,000 Best Berlin LILY OF THE VALLEY CROWNS.

DAFFODILS, GLADIOLI, SNOWDROPS,
ACONITES, FREESIAS, ANEMONES,
IRIS, IXIAS, NARCISSUS,

DAHLIAS, AMARYLLIS, SPIRÆA JAPONICA, and varieties.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, November 11, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

DUTCH BULBS—DUTCH BULBS

SALES NEARLY EVERY DAY TILL THE END OF DECEMBER.

MR. J. C. STEVENS begs to announce that he has arranged with several of the first Nurserymen in Holland to Continuously Supply his Sales, during the present season, with only really First-class Bulbs, of the best quality.

Fourth Annual Sale.—Milford Nurseries, Milford, near GODALMING, SURREY.—Highly important THREE DAYS' SALE of first-class NURSERY STOCK.

MESSRS. MELLERSH have received instructions from Messrs. Maurice Young & Son, to SELL by AUCTION, on the Premises, the Milford Nurseries, Milford, near Godalming, on MONDAY, TUESDAY, and WEDNESDAY, November 16, 17, and 18, 1896, at 11 for 12 o'Clock precisely each day, a large quantity of exceptionally well-grown NURSERY STOCK,
lotted to suit all classes of buyers, comprising 3,000 specimen Evergreens and Conifers in borders, from 2 to 8 feet, consisting of Piceas, Abies, Pinus, Cupressus Lawsoniana, Fraserii, Erectas, Cærulea, &c.; Thujas, Cedrus Deodara, Aucubas, Laurels, Hollies, Golden Junipers, Golden Yews, &c.; many thousand well-grown small shrubs, suitable for pots, winter bedding, window boxes, or growing on, such as Retinosporas of sorts, Cupressus, Thujas, all in good variety; a quantity of named Hybrid and Ponticum Rhododendrons, Azalea Mollis, and Pontica &c.; large quantity of transplanted Forest Trees from 1½ to 4 feet, comprising Ash, Hazel, Spanish Chestnut, Scotch Fir, Spruce Fir, Withy, &c.; a quantity of Standard, Pyramid, and Trained Fruit Trees; Standard and Pyramid-flowering Crabs, Ornamental Deciduous Trees, &c.; 1,000 Dwarf H.P. Roses of leading kinds; Tea Roses in pots Clematis, Ivies, Ampelopsis, Honeysuckle, Passion Flower, &c.; 1,000 fine bushy Laurels of sorts from 1½ to 3 feet; Oval-leaf Privet, 2 to 4 feet; and a quantity of general Nursery Stock.

The Auctioneers specially invite the attention of intending planters to this important sale. They have personally inspected the stock, which has made good growth, and is in exceptionally fine condition for removal this season.

The stock may be viewed. Luncheon (by ticket) will be provided each day for purchasers, and Catalogues may be obtained on the premises, and of MESSRS. MELLERSH, Auctioneers and Surveyors, Godalming and Guildford.

WANTED to RENT, 500 to 1,000 ft. of GLASS, with LAND and COTTAGE.
N. S., 41, Wellington Street, Strand.

STANDARD ROSES. — Splendid, straight, well-grown, large heads, leading varieties. Catalogues on application.—FREDERICK PERKINS, Nurseryman, Regent Street, Leamington Spa.

Extraordinarily Cheap.—Must be Sold at once.
200 BUSHELS, PHEASANT-EYE NARCISSUS (dry bulbs), 4s. 6d. per bushel; 10 bushels for 40s. Fine bulbs, not rubbish. Sample bulbs sent free.
R. GAYE, Carlton, Lowestoft.

ALLINGTON PIPPIN.—The finest new Dessert sent out for thirty years.
Maidens, 5s.; 2-yr, 7s. 6d. each; larger to 21s. each.
GEORGE BUNYARD AND CO., Maidstone.
Distributed in November.

GIANT BERLIN LILY OF THE VALLEY.
W. ICETON'S well-known GIANT BERLIN LILY OF THE VALLEY.—100 000 Planting Crowns at 12s. 6d. per 1,000, 1 and 2 years; also a few thousand retarded Crowns. Price on application to—
W. ICETON'S, Putney, S.W.

LORD PENZANCE NEW HYBRID SWEET BRIARS.—The complete set of 16 distinct varieties, as sent out in 1894-5, for 25s. Strong plants that will flower freely next year. These lovely Hybrids are a great addition to Garden Roses. Our new Rose Catalogue, describing all the best old-fashioned and Garden Roses, gratis and post-free.
GEO. COOLING AND SONS, The Nurseries, Bath.

FERNS AND DECORATIVE PLANTS!—(TRADE):—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 12s. 100; ditto, large, in 48's, 10 best selling sorts, 6s. doz.; strong seedlings, 6s. 100, 50s. 1000; Adiantum cuneatum, in 48's, for cutting, 6s. and 8s. doz.; ditto, for making large plants quickly, 16s. and 20s. 100; Cyperus, Aralias, Grevilleas, Solanums, in 48's, 6s. per doz.; Marguerites, Chrysanthemums, and Erica graciliis, Solanums, in 48's, 9s. per dozen; Palms, Ficus, Dracænas, Crotons, Bouvardias, Erica hyemalis, Cyclamen, in 48's, 12s. per dozen Lists free. Packed free. Cash with order.—J. SMITH, London Fern Nurseries, Loughborough Junction, London S.W.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

Important to Mushroom Growers.
CUTHBERT'S SPÉCIALITÉ MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimoniais. Per bushel, 5s.
R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free.
P. MCARTHUR, The London Nursery, 4, Maida Vale, London, W

ROSES, ROSES.—Bush, extra fine plants, 4s. 6d. per doz. Send for list.
H. R. PACKER, St. Peter's Hill, Stamford.

RASPBERRY CANES. — Northumberland Fillbasket, Carter's Prolific Norwich Wonder, Falstolf. Well-rooted planting canes. Price and sample on application.
JAMES W. TODMAN, Platt, near Wrotham, Kent.

FOR SALE, 10,000 PTERIS TREMULA FERN, at 9s. per 100, in 3-inch pots. Good stuff for Potting-on. Cash with order. Post-office Orders payable at Leyton.—T. BALDWIN AND SON, Edith Nurseries, Burchall Road, Leyton.

OLD TURF for SALE.—Fresh cut, sound, and good quality; for potting. Price for a short time only, 9s. per truck of five tons, on rail. Terms, Cash on delivery.—H. GARDNER, Queen Victoria Road, Coventry.

ONCIDIUM CRISPUM, IN SPIKE,
Fine, healthy unflowered plants.
5s., 7s. 6d., 10s. 6d., and 15s. each.
W. L. LEWIS AND CO., Southgate, London, N.

HYACINTHS, fine named, from 2s. per dozen.
TULIPS, fine named, from 2s. per 100.
DAFFODILS, finest Trumpet sorts, mixed, 3s. per 100; 26s. per 1000 (worth more than double). All other Bulbs equally cheap and good. Send for Price List to
MORLE AND CO., The Conservatories, Finchley Road, N.W.

TO PLANTERS.

DOUGLAS SPRUCE
(Abies Douglasii).

In view of the growing demand for this splendid Forest Tree, we hold immense stocks at exceptionally low prices for qualities offered.

DICKSONS NURSERIES, CHESTER.

CHRYSANTHEMUMS.

OUR YEARLY INCREASE in the sale of both Plants and Cuttings arises certainly from the fact that all varieties (1100) are planted out and grown in open pure country fields, cut down early, not allowed to flower, large clumps removed, and replanted near the glass and light. Stock from these are perfect, and the secret why all those we supply carry success wherever they go striking easily, growing quickly, and producing larger flowers.

We cordially invite all to

"COME AND SEE"

the oldest, finest, and best kept collection in the world. Splendid illustrated CATALOGUE post-free to coming customers. A list of all varieties exhibited at the last Aquarium Show free.

H. CANNELL & SONS, SWANLEY.

EXHIBITIONS.

FARNHAM CHRYSANTHEMUM SOCIETY.
A SHOW will be held at the CORN EXCHANGE, Farnham, on NOVEMBER 10 and 11, 1896. PRIZES to the value of £33 for Chrysanthemums, Fruit, Flowers, and Vegetables, will be offered in the Open Classes. Schedules and Entry Forms from
F. WELLER-POLEY, Hon. Sec.
Heath House, Farnham.

FOLKESTONE CHRYSANTHEMUM SOCIETY.
GRAND EXHIBITION, November 10, 11, 1896. £100 and Six N. C. S. MEDALS in PRIZES, open to all England. Prizes to Gardeners' Societies in Kent. BRONZE JUBILEE MEDAL N. C. S. for Best Bloom in Show, Japanese or Incurved, Judges:—Mr. George Gordon, Kew; Mr. Richard Dean. Secretary, N. C. S. Schedules sent on receipt of address. All prizes won, guaranteed. Entry forms of—
T. J. HARRISON, W. H. HAMMERTON, } Hon. Secs.
3, Canterbury Road, Folkestone.

SHEFFIELD CHRYSANTHEMUM SOCIETY.
ANNUAL SHOW, Corn Exchange, Sheffield. NOVEMBER 13 and 14, 1896. Open class Prizes, £15. For Schedules, free, apply— WM. HOUSLEY, Secretary,
177, Cemetery Road, Sheffield.

TWICKENHAM HORTICULTURAL AND COTTAGE GARDEN SOCIETY.
The TWENTY-EIGHTH ANNUAL AUTUMN EXHIBITION of CHRYSANTHEMUMS, FRUIT, VEGETABLES and TABLE DECORATIONS, will be held in the Town Hall, Twickenham, on TUESDAY and WEDNESDAY, November 17 and 18, 1896. Grand Military Concert each evening. Extra Prizes in nearly all Classes.
All competitors must give notice in writing on or before TUESDAY, November 10, 1896, of the class or classes in which they intend to compete, to the Hon. Secretary, of whom Schedules and all particulars may be obtained.
EDWARD F. GREEN, Hon. Secretary.
Strafford House, Twickenham.

LEEDS PAXTON SOCIETY'S CHRYSANTHEMUM SHOW.—At the Town Hall, Leeds, Nov. 24 and 25, 1896. £180 in Prizes, including Four Silver Challenge cups. Schedules may be had of the Hon. Sec —
JAMES CAMPBELL, The Gardens, Methley Park, Leeds.

CHESTER PAXTON'S SOCIETY'S
ANNUAL FRUIT & CHRYSANTHEMUM EXHIBITION.
(OPEN to CHESHIRE and NORTH WALES.)
Town Hall, Chester, November 17 & 18.
Schedules on application to—
G. P. MILN, Hon. Sec., Grosvenor Museum, Chester.

YORK CHRYSANTHEMUM SHOW.
The SEVENTEENTH ANNUAL SHOW will be held on
NOVEMBER 18th, 19th, and 20th, 1896.
Upwards of £200 offered in Prizes, in liberal proportions, for Plants, Cut Flowers, Fruit and Vegetables.
Challenge Prize, value £30, added to the First Prize of £10 for 36 Cut Blooms. £10 and £4 cash for Group. N. C. S. Silver Medal, &c. Schedules, &c., to be had from—
J. LAZENBY, Sec., 13, Feasegate, York.

STRAWBERRIES, Strong runners.—Royal Sovereign, 2s. 6d. per 100; Sir Joseph Paxton, 1s. 6d. per 100; Vicomtesse H. de Thury, 1s. 6d. per 100.
RASPBERRY CANES.
Carter's Prolific, 3s. per 100; Semper Fidelis, 3s. per 100; Hornet, 3s. per 100. Special quotations for large quantities.
Carriage paid on orders of £1 value.
JOHN CHIVERS, Histon, Cambridge.

FRIDAY, NOVEMBER 13, 1896.

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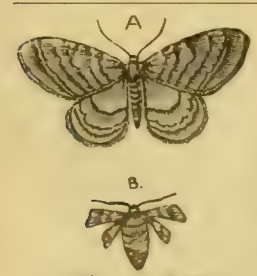
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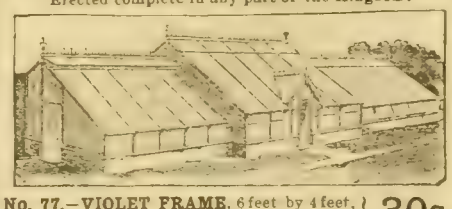
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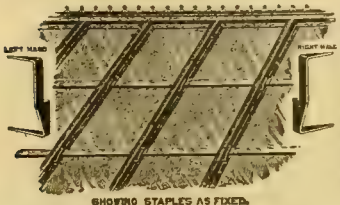
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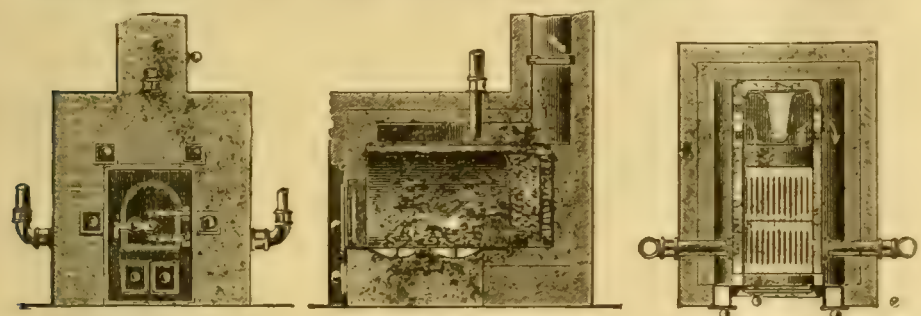
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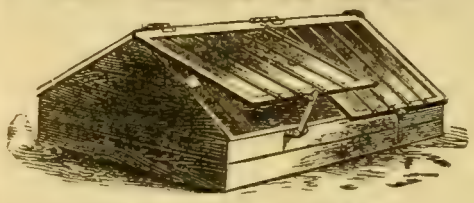
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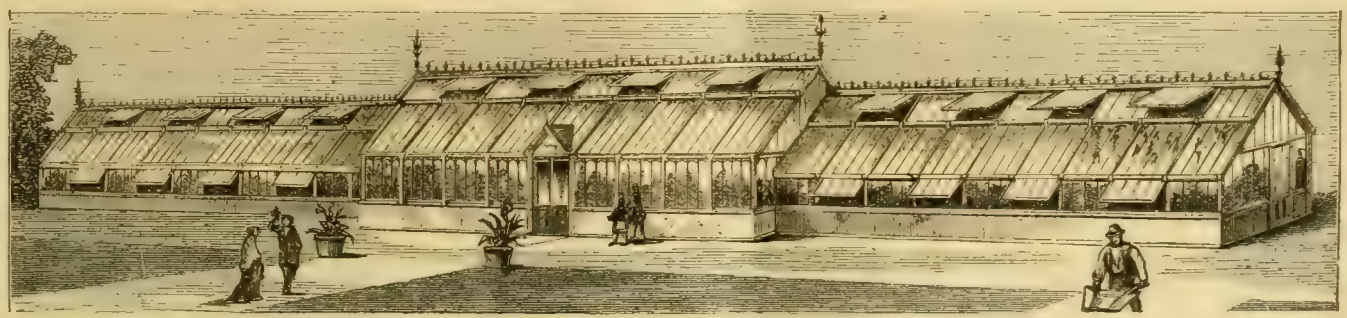
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THE
Gardeners' Chronicle.
SATURDAY, NOVEMBER 7, 1896.

SOME RECOLLECTIONS OF THE CHRYSANTHEMUM.

I THINK it was in November, 1841 or 1842, that my father hoisted me up on his shoulder to carry me in the then new Corn Exchange, Norwich, to see a Chrysanthemum show, and I remember as well as possible seeing plants with one flower in 5 or 6-inch pots exhibited thus:—

o o o
o o
o

Also monster Drumhead Cabbages. I had then never seen the like before, and both left a lasting impression on my mind. No one thought of striking cuttings until April, and then grew and flowered them in 5 or 6-inch pots, just one flower. These were stood in pyramidal groups as above. No green baize or paper to cover the stage; all bare boards in those days. The following were some of the varieties:—

Tasselled Yellow	Cluster Pink
Yellow Cluster	Silver White
Yellow Flame	Early Blush
Large Lilac	Golden Yellow.
Changeable Pale Buff	

About four or five years after this I made my way up to London with eager desire to see the streets paved with gold, that I had heard so much talk about in the country. One Sunday morning, to my surprise, wooden pavements were pointed out to me as showing the riches of London in the street. I could find no Chrysanthemums; hardly anyone had heard of them. After staying eighteen months I returned home. The Exhibition of 1851 became everybody's talk and anticipation. I again ventured to London in the autumn of 1850, going to Stoke Newington, where I was sent by my employer to see the Chrysanthemums grown by Mr. James in his skittle-alley at the Rochester Castle Hotel, Stoke Newington; flowers were so scarce in those days that any we could get were admired intensely. I also went to the show held in the old red-brick, low-pitched, dark Manor Rooms, with leaden casement, and small diamond-shaped panes, in Church Street, and saw monster specimen plants of the loose half-incurved class which occupied the room round by the walls; there were few people, and I do not remember seeing a solitary cut bloom, only a few Chinese Primulas here and there. Nothing here surprised me like the Drumhead Cabbages I saw at Norwich.

Taylor wrote the first book on the growth of the Chrysanthemum about 1853. This was sold in almost every seed-shop, and it quite altered the old mode of cultivation. I continued to visit the Stoke Newington show, following them in the three different buildings in which they were held.

Well do I remember seeing in a schoolroom on the east side of Stamford Hill Road, opposite the present Abney Park Cemetery, a quan-

tity of the lovely Geo. Rundle when first exhibited, no white incurve had before been seen to equal it, and talk of its loveliness ran through all ranks of Chrysanthemum growers. Mr. Heal, the exhibitor, and the raiser, G. Rundle, Esq., of Devonport, were the theme of conversation throughout the year, and in the following November fine specimen plants were seen at nearly all shows, and it was universally admired, for it was these bush plants which formed the chief show in those days, and their cultivation was carried to great perfection. Six plants composed the great class in those days, and I must say that it required more real skill than do cut-flowers at the present day.

About the year 1854, the society called a meeting at the Rochester Castle, with the object of passing a law that unless there were 2 inches of stem clear above the soil and between the branches, the plants would be disqualified.

The South of London began to get jealous of North London becoming so famous, and shows were held at the Horn's Assembly Rooms, Kennington. Four or five of the Stoke Newington and Stamford celebrities came and cleared the board of the best prizes. I was an exhibitor, and got 15*s.* for a large specimen plant. I think after this the great cattle show building at Islington was decided upon as the place for exhibition, and the old society organised a large show there. By this time several good growers had sprung up South of the Thames, such as James Weston, whose Pompons, perhaps, for symmetrical form have never been excelled; Glover, of Tulse Hill, and Beecher, of Plumstead, the crack grower of the South. I think two of the above-named, if not the third, took first prizes. This show nearly broke the back of the great North of London Society financially. The plants shown were dwarf, and the building unduly large, and I do not think that I ever saw plants look so dumpy and out of place before or since—no green baize, no Palms, no edgings, and to fill the building they were "run out" so much that they looked as if they had been purposely scattered. At this show I do not think there was a single board of cut flowers, but there may have been, and if there were any they certainly were none of Mr. Lees' flowers. That I can vouch for! Meanwhile, the love of the Chrysanthemum was taking a firmer hold on the public, shows sprang up in all directions; Salter, of "Versailles" Nursery, Hammersmith, was introducing new kinds of great merit. Adam Forsyth, at Brunswick Nursery, Stoke Newington, was doing the same, and showing fine specimens at all the principal shows. Mr. G. Eyles was then at the Crystal Palace, and a show was arranged there the next season to mend the disaster at Islington, and a very fine show there was, the result being the largest and best ever held up to that time. James George, now of Putney, had the old Christine, nearly 10 feet over. Mr. Charles Turner was then exhibiting, and showed Julie Lagravère, remarkably fine, causing quite a sensation. I came in for a prize for a large plant of Drin Drin; this was about 1859. I and the late Samuel Broom, Temple Gardens, persuaded twenty-nine growers to assist in getting up a society for the district of Brixton Hill. I was much against its being held at the "King of Sardinia," a public-house, and I had to establish one at a school-room, and soon got all the support and promises from the gentry, and they gradually abandoned the pewter-pot, and came over to the school. I thus, in the face of great opposition, absolutely established the Brixton Hill Society, which from that year to the present has had the longest and best run of prosperity, certainly of any society in the South of England, and is to-day a model association, of whose happiness and welfare I am always proud to hear. The great event following this was the introduction of Mr. Fortune's Japanese varieties; and the following are the descriptions under which they were introduced:—

1. *Aurantium.*—Clear golden yellow, of immense size, and very double; this superb plant belongs to the ribbon-flowered group, and is particularly distinguished by the breadth and massiveness of its wax-like petals.

2. *Comet.*—Bright orange-yellow, changing to chestnut-red; petals very long, and curiously twisted and curled, which gives to this flower the appearance of a large bunch of gold thread; good habit, free-flowering, and very double.

3. *Leopard.*—Bright Indian-red, with large yellow spots covering the surface of the petals—a most novel and singular combination of colour, resembling the curious markings of some of the Orchid family.

4. *Red Dragon.*—Red-chestnut, tipped with yellow, and sometimes spotted gold; the flowers, which are very double, and of immense size, are composed of long subulate petals of the most novel and elegant form, very free-flowering.

5. *Tarantula.*—A most singular flower, with a close button-like disc, and a single spreading ray of long, slender, tubular, golden florets, 7½ inches in diameter.

6. *Robt. Fortune.*—Bright orange or amber, large, and very full; a splendid flower, flowering very late—one of the best.

7. *The Daimio.*—Pale pink, changing to rose-lilac; flowers very large, double, and of great substance—a showy and attractive variety of the ribbon-form section.

8. *Wizard.*—One of the most beautiful, flowering in the form of loose tassels, of a bright red-maroon colour, dwarf habit, free-flowering, and early.

—(*From H. Cannell's "Floral Guide" for* 1869.)

The result was a lot of prophesying as to their future success. At that time, as for a long time previously, and even after, we were contemptuously called "Glennyites." George Glenny, who wrote *Properties of Flowers*, and the weekly article in *Lloyds*, demanded that all flowers must be round, smooth, and as if mechanically made, colours defined. The public firmly believed in his dictum, and were infected by his love. Consequently, nothing could be more contrary to the public taste than flowers with long petals in the form of strips of paper or long silk.

Dr. Sharp, of Waltham Cross, whom I used to visit, was one of the best amateur growers, and a great raiser, particularly of the reflexed section.

In the year 1862 I visited Salter's Nursery at Hammersmith; J. & C. Lee's nursery was on the very spot where Olympia now stands, and here long greenhouses stood a short distance from the road, with a Quick-set hedge running pretty well half a mile towards the west—how different then to now! Salter's Versailles Nursery was directly opposite, on the other side of the main road to where Lee's nursery formerly existed. I was surprised at the few plants—perhaps fifty seedlings in a long French-looking conservatory; but what they had were good, and the elder Mr. Salter spoke very freely and pleasantly about his having been the first to introduce the Pompons.

I called in at the new Horticultural Gardens to see one of the first shows in the then new conservatory at South Kensington. The late Mr. James, then at Isleworth, took 1st for six plants; Messrs. Veitch had a dozen stand of cut flowers, flat on the board—no raised cups in those days. These were the first wonderful Japanese kinds, of which I have given descriptions above. In the centre of the stand was a very fine incurved bloom of John Salter—the contrast was wonderful; no one, so far as I remember, saw the least beauty in the long twisted silk kinds, my friend with me observing, "Good job the introducer's name was Fortune, for he will never make one out of them." Neither did he, for there was no sale for these varieties till years after. I believe it was only I who could see a future before them, or the slightest hope of their being more acceptable to the public. It was size—the secret of disbudding brought this, that made them popular. I continued advocating and growing them, and issued the following extract from my *Floral Guide* for 1869, which are, I think, it may be truthfully said, the first published instructions how to grow the Japanese varieties:—

"These are certainly very novel in appearance, and are distinct from the ordinary kinds of Chrysanthemum, and most of the varieties do not fully develop their flowers until about Christmas, and are therefore valuable on that account. They are no good for small specimen-plants, as their habit is rather long, and they require to be treated similar to the cut-bloom varieties, that is to say, to let the plant grow upright with about two shoots; and all the buds rubbed off but about two or three, that is to say, the earliest and the latest. They require good cultivation. These mixed with Azaleas and other greenhouse shrubs in mid-winter, have a grand appearance, and will excite the curiosity and admiration of everyone, for their colours are very striking, resembling somewhat the plumage of tropical birds, and others have the appearance of tassels made up of various kinds of beautiful coloured silks, and others of narrow strips of paper. If damp is kept from them, they will continue blooming a long time."

I think it was the Stratford Society which held fine shows in those days, whose members first adopted my suggestions, and began to thin out their buds and grow them as I directed, to 8 or 10 feet high, with one or two flowers. This, I believe, was carried into effect at their show the following year, and so they got to be more acceptable. Shirley Hibberd and Samuel Broom of the Temple Gardens gave lectures in all directions, and wrote books. In 1875, Woolwich organised and held several splendid exhibitions in the Town Hall; Napoleon and the Empress Eugénie drove over from Chislehurst to see them.

Mr. Mongredien, of Forest Hill, fortunately had a sport from Mr. George Rundle of a lovely cream-colour. I purchased and sent it out, calling it George Glenny. Soon after this the latter also sported, and gave us a lovely bright yellow, afterwards called Mrs. Dixon. This was generally grown, and exhibitions consisted very much of what were called the "Rundles." Following this, about seventeen years ago, Simon Delaux sent over a set of splendid, large, and distinct kinds. English growers re-named them, and caused great confusion. There was a hubbub, but French names were persisted in by the Hackney Society. This event brought about the establishment of the Floral Committee, and the beginning of all the good work of the National Society we now see going on.

After this the Hackney Society gave new life to the Chrysanthemum in London. Saunders and his brother were the first great growers and exhibitors of the incurved as cut blooms, and were for many years champions. Mr. Rainbow was secretary, and ultimately the late Wm. Holmes filled this office, held floral committees, gave certificates and used to exhibit; it was he (Holmes) who suggested that they should remove the old society's show to Westminster, as they had outgrown all the buildings at Stoke Newington.

After exhibiting at Hackney for two or three years, I followed on at the Aquarium, and for two or three years many very pleasant incidents could be related; its success was surprising. Certainly the most important alteration was made when at my suggestion the name of the Society was altered from that of "Hackney" to "National." This change of name the then president, Mr. Sanderson, the Orchards, late of Amherst Nursery, and many other members, most strenuously and determinedly opposed; however, Mr. Holmes could see numerous advantages that would arise from it, and he ultimately carried his views. At the present time it has the largest number of members, and the greatest income of any society of its kind the world has ever seen. I showed, I think, the first single-flowered Chrysanthemum at a meeting of the Royal Horticultural Society about eighteen years ago. *Henry Cannell, Swanley.*

New or Noteworthy Plants.

CYPRIPEDIUM × ARGO-STONEI

(Argus × Stonei),

new gard. hyb.

This pretty hybrid, which has been raised by Norman C. Cookson, Esq., Oakwood, Wylam, Northumberland (gr., Mr. W. Murray), bears a striking

resemblance to the famed C. Stonei platytænium, and also to the best form of C. × Morganiæ, but its long downward-curved petals have larger blotches than in either of the varieties named. The scape is 18 inches high, and bears two flowers. The upper and lower sepals are white, with many faint green lines radiating from the base, those near the margin being also slightly tinged with rose. The labellum is bright rose on the face, and white, with yellowish veining on the under side, which also shows the fold or groove extending from front to back, as in C. Stonei. The showy petals, which are 4 inches long, are yellowish at the base, and rose-coloured at the tips, the greater part of its length being decorated with shining irregular chocolate blotches. The staminode, which is a curious compound of both species, is yellow, with rose veining. *James O'Brien.*

PASSIFLORA GALBANA, *Mast., n. sp.**

For the opportunity of describing and figuring this heretofore unrecorded species, we are indebted to R. Creighton, Esq., of Filey. We learn from that gentleman that it was imported with a large piece of Cattleya labiata, bought at one of Messrs. Sander's sales, and it is, therefore, presumably of North Brazilian extraction. It belongs to the Granadilla section, with entire leaves and free bracts. Its botanical characteristics may be gleaned from the description in the foot-note, and from the drawing made for us by Mr. Worthington Smith (fig. 97). The flowers are of a pale greenish or primrose-yellow, whence the name we have given to the species, and open in the dusk, closing in sunlight, a fact which suggests that fertilisation is effected by some night-flying insect. All the Passion flowers require the aid of insects, and some of them are known to be incapable of fertilisation by their own pollen! The difficulty of defining what are to be called species, especially in Tacsonias, is thus accounted for. The present species is allied to P. Miersii, but the colour of the flowers is different, the coronal threads are self-coloured, not banded, and there are various other technical differences; for its culture, warm greenhouse treatment would be most suitable. The coronal threads are more numerous than they are shown to be in the drawing. *M. T. M.*

* *Passiflora galbana*, Mast., sp. nov. (§ Granadilla) glabra, ramis gracilibus; petiolis ad 1 cent. long., medio purpurascentibus glandulis 2 sessilibus munitis; stipulis majusculis foliaceis falcato-lanceolatis acuminatis; foliis membranaceis circa 6 cent. long., 1·5 mill. lat., cordatis oblongo lanceolatis, 1-nerviis, nervo medio in aristam brevem exeunte; pedunculis gracilibus foliis longioribus glaucis versus apicem articulatis; bracteis liberis subfoliaceis stipuliformibus a flore parum remotis; alabastris cylindrato-oblongis; flore pallide flavente diro. circ. 6 cent., fragrante, crepusculo tantum aperiente; floris tubo glabro cyathiformi basi intruso sepalis herbaceis oblongis apice cucullatis dorso subapice corniculatis; petalis conformibus planiusculis paullo brevioribus pallide flaventibus; corona fauciali e filis pluriseriatis liguliformibus concoloribus petalis dimidio brevioribus constante; corona media brevitet annulari, superne in filis præcedentibus 2—3 plo brevioribus divisa; corona basilari cupulari crassiuscula basin gynophori cingente; gynophoro tereti glabro; antheris luteis; ovario ellipsoideo glabro longitudinaliter costatum; stylis clavatis.

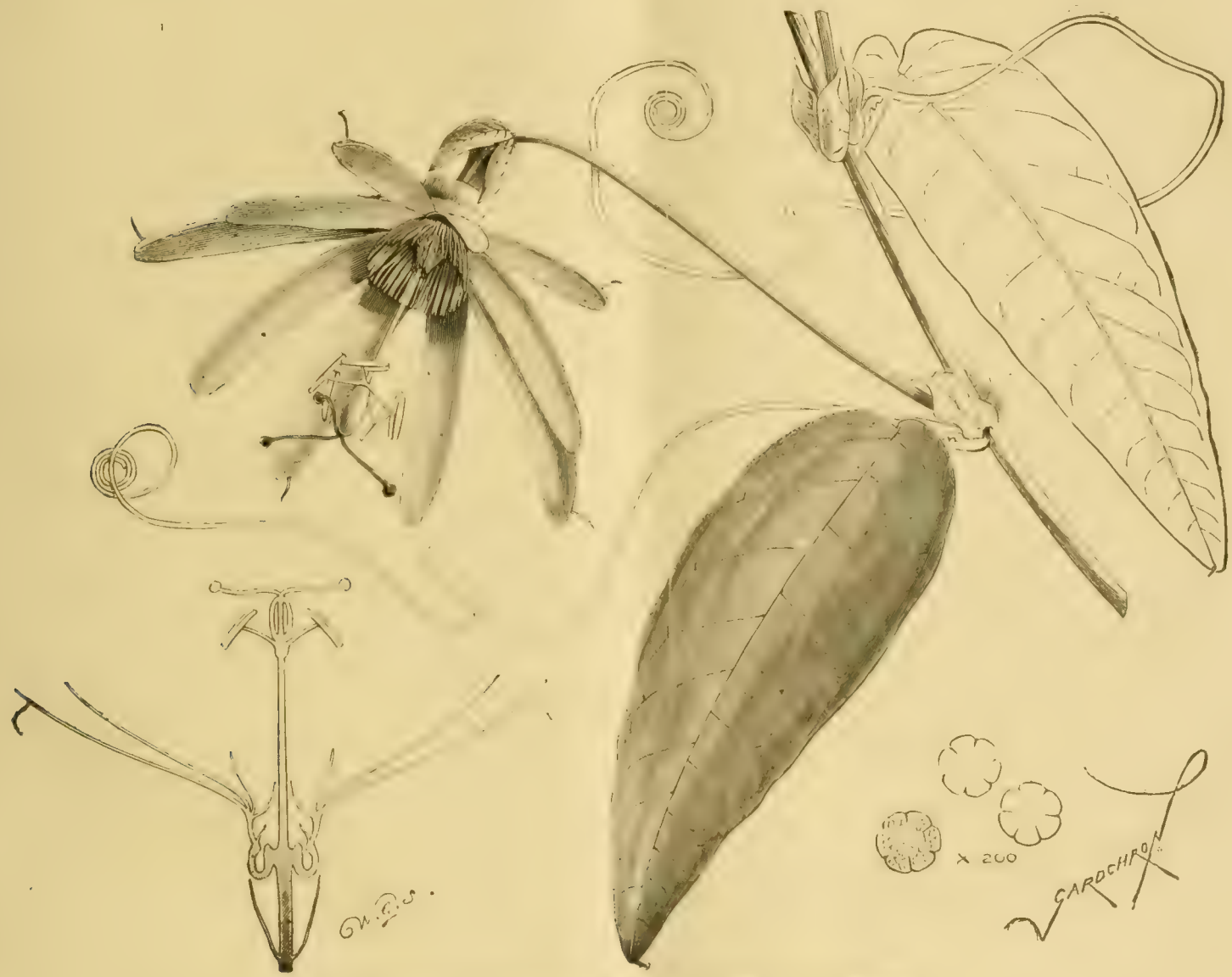


FIG. 97.—PASSIFLORA GALBANA: FLOWERS PALE PRIMROSE-YELLOW, FRAGRANT.

ORCHID NOTES AND GLEANINGS.

CYRTOPODIUM WOODFORDI, *Benth.*
(CYRTOPERA WOODFORDI, *Lindl.*).

IN one or two districts of Grenada, this Orchid is fairly common. Along the road-side, on stiff loamy soils, it grows naturally, and also near at hand, its greenish purple scapes may be observed quite at home in swampy flat patches of land, peering out of the sedges and other swamp-loving plants. Its leaves simulate *in situ* somewhat those of a common Grenada-grass, namely, Panicium palmifolium. I am told by an old white settler—C. W. Proten by name—that the lower portion of the plant yields a viscid sap, by the aid of which broken wares may be repaired. Grisebach records, at p. 630 in his *Flora of the British West Indies*, upon the authority of Crueger, that in colour the flowers are "white with a yellow spot on the lip." This reference of colouring seems to me to raise a doubt as to whether Crueger did not mean Cyrtopodium cristatum of Grisebach, the latter being—if my memory serves me correctly—a pure white, with a yellowish tint somewhere about the flower. When I saw it growing

in the Aripo savanna of Trinidad, it brought to mind the Lily of the Valley. Our Grenadan C. Woodfordi certainly shows no tendency to white, but on the other hand is decidedly of a brownish-green-purple colour. When collecting herbarium material last year, I noticed the flowering stem to be succulent and pliable, and the leaves brittle. It flowers during the months of August, September, and October. *W. E. Broadway, Grenada, B. W. I. October* 15, 1896.

CATTLEYA LABIATA.

I am sending you a flower of Cattleya labiata, which you will see has a double lip, or rather the sepals form another lip, and are coloured like the ordinary lip. I sent a bloom of this plant last year to several well-known Orchid-growers, who thought it was only a temporary freak, but advised me to take notice of its future action. The plant this year has nine flowers, and all are formed like the one enclosed, and the colour is very distinct from others blooming with it. I should be glad of your opinion of it as to whether it is of any more value than the ordinary type, and worth a distinct name. It is evidently a permanent deviation from the type. *R. C. W.* [In the flower sent the two lower sepals were coloured like the lip, thus constituting the commencement of a "peloriate" flower. It is interesting to know that the plant retains this habit, and we should certainly advise that it be kept. It is too distinguished an individual to be named like an ordinary florist's flower! Ed.]

CYPRIPEDIUM INSIGNE SANDERÆ.

This still holds the field among its associates, and is likely to do so until Mr. Sander or someone else gets the desired and desirable white one, even at a thousand guineas. A famous-grown plant of Sanderæ is in the collection of Geo. Shorland Ball, Esq. (gr., Mr. A. Hay), Ashford, Wilmslow, Cheshire. It has seven growths in exuberance of health, and is bearing three flowers, one of which was sent to the Drill Hall, at the meeting of October 13. If there has been only one plant of C. Sanderæ introduced, then all the plants of Cypripedium insigne Sanderæ ought to be the same; and if there be any difference it must be owing to cultivation. It is so valuable a plant up to now, rather increasing than decreasing in value, that all orchidists are interested in its history since first introduced. Mr. Ball's plant, with such vigour in it, has the largest flowers, up to now, I have seen. The colour is so enchanting, the green and the yellow so minutely blended, that it keeps one looking at it, and looking at it again. There is no doubt that if there is any blemish in it at all, it is in the minute spots on the dorsal sepal. The finish is exquisite. It comes to be proved whether rank or gross culture will intensify this spotting. The smaller flowers are more indistinct in this particularity. I should like to know personally whether there were introduced at any time any other plants of Sanderæ than the one sent out by F. Sander & Co., and if the original plant was big enough to be capable of having more than one variety in it. A cut flower off a plant does not show up nearly so well as when one sees the flowers growing on the plant. It seems far easier of culture than its compeer Cypripedium callosum Sanderæ. Nothing could be finer for its size than Mr. Ball's plant. *J. A.*

CATTLEYA AUREA VAR. STATTERIANA.

In the collection of Orchids formed by H. J. Hunter, Esq., of Grange Loan, Edinburgh, there is at present in flower a plant of Cattleya aurea, which from a most critical comparison with that figured in *Lindenia*, vol. viii., plate 356, is assuredly a specimen of this choice and hitherto unique variety; which is admitted to be one of the finest forms of the Warscewiczii section. The variety is one that is so very characteristic that it is not easily or readily misjudged, the flower itself has that substance and boldness of character which at once rivets attention; the labellum is large and flat, the central band of the disc bright and intense purple, spreading towards the apex and gradually diminishing on either side back to the lobes of the column—thus giving the labellum the appearance of having a distinct band of purple and deep rose, which, contrasting with the rich orange-yellow veins, makes its beauty indescribable. The original plant worthily received a F.C.C. by the Royal Horticultural Society, September 19, 1890. *I. I.*

ODONTOGLOSSUM CRISPUM VAR.

The favourite Odontoglossum crispum is so variable, and the spotted forms so beautiful, and in a measure distinct from each other, that it is pardonable if the one who is lucky enough to flower an exceptionally good form considers it equal to the best. Such a variety has been kindly forwarded by J. T. Moss, Esq., Wintershill, Bishop's Waltham. It is of the O. c. apiatum class, or perhaps nearer to O. c. nobilior, illustrated in the *Gardeners' Chronicle*, Feb. 20, 1892, p. 235. It is a fine variety of the best type, and the greater part of the surface of the sepals is covered with red-brown blotches, while the petals bear a connected group of blotches in the middle, a broad white margin running round them. The flower also has a purple hue, and is altogether very beautiful.

CONIFERS AT FORNHAM PARK.

CUPRESSUS NOOTKATENSIS VAR. FALCATA, *syn. Thujopsis borealis falcata.*—Some fine plants of this Conifer at Fornham Park, Bury St. Edmund's, are worthy of note, now that the season for tree-planting is near at hand. The variety has a more graceful habit than the ordinary form, and is of distinct appearance even when seen at a considerable distance; and, as most persons will admit, there is too much sameness amongst Cupressus when not observed at close quarters, that a variety which is distinct, when viewed at a distance, is a gain to gardens. A specimen of the C. nootkatensis falcata, planted in 1872, is now about 25 feet in height.

The collection of Conifers at Fornham is a very interesting one, and well worthy of a visit from the lover of trees. Some of the rarer forms noticed were —Pinus Balfouriana, distinct and pretty; Abies excelsa inverta, 10 feet high, very curious and distinct; A. bracteata, 15 feet, very pretty, the young bark showing red among the leaves; Juniperus Sabina tamariscifolia pyramidalis, in spite of its unwieldy name is worthy of notice; Juniperus virginiana pendula is also pretty; also, J. virginiana glauca. Good use has been made of the golden forms of Cupressus, Thuia, &c., which assist in brightening the appearance of the others considerably. Mention should also be made of Menziesii, Picea, or Sitchensis, which is seldom met with in such good form as here. A perfect specimen of this Spruce, 50 feet high, was noticed; and a very large, old tree of the glaucous form of Cedrus Libani, which is probably the largest specimen of the kind in Britain. Of the more common species, there are many fine specimens here which are well cared for. The soil is gravelly. *W. H. Divers, Belvoir Castle Gardens.*

CHRYSANTHEMUM CHAT.

(*Continued from p.* 532.)

SOUTHWARK PARK.

This is another open space in a locality that very much needed one, but the atmospheric conditions are far from congenial to the growth of plants, or even of hardy trees. The house in which the Chrysanthemum exhibition is held is T-shaped, but the arms are unequal in length. The plants are grouped together in the centre, and the group follows the shape of the building. Here and there it takes the form of a cone, and among the Chrysanthemums are interspersed a number of Palms and green-leaved Dracænas. A walk encircles these plants, and divides them from the stage that runs along all sides of the house. The bottom has been taken out of this, and Chrysanthemums are placed upon the ground, though at first sight they would appear to be dwarf plants upon the stage merely. The collection contains a good number of the hirsute kinds, amongst which we noticed the following:—King of the Hirsutes (yellow), Louis Boehmer, and the white variety of same, the well-known Hairy Wonder, Spartel (a lilac-rose coloured variety), Esau, Lady of the Lake, and W. A. Manda. The above kinds are all grouped together, and form a distinct feature. One of the newest of the Japanese we noticed was Mrs. G. Gover, with much-twisted florets, red with yellow reverse, and belonging to the "ragged" section, as a visitor in our hearing termed it; Madame Carnot, and a large number of better-known varieties, bid fair to make good specimen blooms. Mr. Curle, the superintendent here, has upwards of 2000 plants. *P.*

SYON HOUSE.

The Chrysanthemums at Syon are now looking exceedingly well. A recent inspection, by the courtesy of Mr. Wythes, was afforded, and one could not but be impressed with the Autumn Queen's usefulness, either as a plant in a pot, or for the supply of the blooms when cut flowers in large quantity have to be provided, as at Syon. The aim of the cultivator is not so much to obtain them of full exhibition size as to have a supply that will meet the demand. The early varieties are now all in flower, whilst mid-season and late ones are coming on in the various glass-turns. There are in all about 1300 plants, half of these being treated as "cut-backs," and the others in standard-form. In height the plants vary from 3 feet and upwards. They are holding their foliage remarkably well, and it is of a healthy green colour. They occupy in all eight of the houses in the long fruit-range, in which the Vines and fruit-trees are at rest. The plants are grouped effectively, each variety being kept by itself instead of being indiscriminately mixed, and are thus easily observed, and the effect is good. Amongst the most prominent just now are—of the Japanese varieties: Elaine, Charles Davis, Amos Perry, John Lightfoot, W. Tricker, and Mrs. C. H. Payne; and of the incurved: Baron Hirsch, Jeanne d'Arc, Brookleigh Gem, Emily Dale, Golden Queen of England, and Queen of England. Of others just expanding amongst the Japanese are, Madame Carnot, Etoile de Lyon, Viviand Morel, Miss Dorothea Shea, and Hairy Wonder, all of which promise well. There are also a few good bush-plants grown; these consist chiefly of single-flowered and the decorative varieties, amongst which Jane is one of the best, the plants of this useful variety being well-formed bushy heads. Of others, Lady Selborne, Source d'Or, and Avalanche are specially good. *H.*

MR. W. WELLS, EARLSWOOD.

Among the many successful trade growers whose enthusiasm and interest are mostly directed to the propagation and growth of the Chrysanthemum is Mr. Wells, whose place of business adjoins the railway-station at Earlswood. Mr. Wells is, in fact as well as in name, a Chrysanthemum nurseryman, for very few other plants find a place in his establishment.

Mr. Wells has exhibited well at the early shows this season, and has obtained several Certificates for continental and other novelties. The interest attaching to the early shows, however, was as nothing compared with the great Jubilee festival which is held as these notes are published. A week ago preparations for the coming struggle were in full progress, but our attention was not so much concerned with the group then being placed together in one of the houses, as with the general collection, which was found to include very many of this season's novelties, and of others that were seen but little last year. Mr. Wells has so many of these that our notes are upon those only that were specially attractive. One of the foremost was Mons. Chenon de Leché, one of last season's novelties from Calvat; it has already been described many times, and has been figured in the *Gardeners' Chronicle* from a plant grown at Earlswood. An Award of Merit was obtained by the variety at the last meeting of the Royal Horticultural Society, but we had not previously seen it so large. It is evident that when grown well, and the colour is good, this reflexed Japanese is a most distinct and desirable variety. Close to this was a plant of Mrs. H. Weeks, an incurved Japanese, also of last season, an English-raised seedling of much merit; and Lady Byron, too, which will prove to be a very popular white Japanese

Although Esau, a hirsute variety, was sent out by Mr. Jones, of Lewisham, at the same time that Hairy Wonder was distributed from the same establishment, it is much less often seen than the latter, the result, no doubt, of its being less easily cultivated. In Mr. Wells' collection it has done splendidly—this season has been favourable to it, and seen thus it is more attractive than the popular Hairy Wonder. It has a yellow centre, and the rest of the florets are pale lilac-pink. The flower is close, globular, very full in the centre, and exceptionally hirsute; Baron Adolphe de Rothschild (Calvat) is a white Japanese, from the raiser of Madame Carnot. It is of the same type of flower, but quite distinct, and will probably be equally large. General Roberts (Owen) is a very large Japanese, and of a good colour, but apparently the bud taken should be an early one.

Perle Dauphinoise (Calvat) is catalogued as a true incurved. As seen here, it is yellow with shading of pink. The flower is of good size, but it is one of the "doubtful" incurved; as is also Ma Perfection, a pure white flower from the same raiser, produced upon a plant of excellent habit. These incurveds need to be tried upon different buds, and for a second season, before their true character can be satisfactorily determined. Madame Gustave Henry (Calvat), a pure white Japanese incurved, which was certificated to Mr. Wells at one of the early shows, is still to be seen, and is good in flower and habit. Many plants are in flower of Calvat's Australian Gold, which was described in our last issue upon it obtaining an Award of Merit at the Drill Hill. It can hardly be spoken of too highly, being of exceptionally good habit, and Mr. Wells has a number of plants which are being grown under conditions for testing its adaptability to market work. Indeed, in this collection a very prominent place is given to M. Calvat's novelties, and Mr. Wells appears to rate, at their true value, the many excellent varieties that have been received from this raiser during the last few years. Mrs. J. Lewis, a Japanese reflexed, described in our last issue, is another of this set. We mention Thomas Wilkins, a rich yellow Japanese, only because the blooms were extra good—better than Mr. Wells exhibited this variety at the October show, and he had some good ones there. A new flower of true incurved character is Harold Wells, a pretty yellow sport from Sir Trevor Lawrence. Le Rhone is a well-known variety of very late habit, generally seen in bloom during January, and even February. There are some good flowers out here already; they were obtained by stopping the shoots in March, and again in July. Remarks might be made upon many more varieties in the Earlswood collection, but time and space forbid. Enough has been said to indicate that the show to be seen there is an extensive one, that it includes a large number of novelties, and that Mr. Wells cultivates them well. *P.*

At Mr. W. Drake's, Cardiff.

I had recently the privilege of visiting the nursery of Mr. W. Drake, at Cathays, Cardiff, and the Chrysanthemums which I saw there would lead one to expect some excellent blooms at the various exhibitions yet to be held. The nursery in question is devoted almost exclusively to Chrysanthemums, and many of the newest and best varieties yet raised are included in the collection there grown; several of the novelties are, indeed, acquisitions. The past season of extremes has, apparently, suited Chrysanthemum-culture admirably, and damping of blooms, which the dull wet weather of the last month would lead one to expect, has made itself felt exceptionally little. I noted the following as the best varieties grown by Mr. Drake:—Mme. Carnot, a beautiful Japanese white, very large flowers; Edith Tabor, a handsome yellow Japanese, of fine size, and probably the best of this season's novelties; Mons. Panckoucke, another good yellow; the Vicar of Exmouth, also one of this season's novelties, a very striking crimson variety, and will, no doubt, be seen frequently at the exhibitions. Mrs. W. H. Lees, a fine large white flower slightly tinged with pink, is a charming variety; Lady Ridgeway is a new Japanese incurved, florets of a salmon-pink colour; Mrs. C. Blick, a Japanese white; and the Beauty of Teignmouth, a fine rose-coloured variety, are all good. Many more were worth notice, but the foregoing are the very best in this collection. *P. W. C.*

At Downside, Leatherhead.

The collection of these flowers annually grown in Mr. Alfred Tate's garden is invariably one of the very best in the kingdom. Having as an experienced grower a very high opinion of his flowers, it is no matter for surprise to learn that Mr. Mease purposed taking part in all the leading classes at the Royal Aquarium shows during the current week, and ere this appears in print everybody will know how far the grower's confidence has been justified. I was fortunate enough to see the blooms on October 31, before one had been cut, yet while they were nearly at their best. Two large, long span-houses, opening one into the other, are filled with the plants, and to enable visitors as well as workers to see the blooms to the best advantage by the aid of stout trellises, the alleys are lifted to the level of the side-stage and centre beds, so that whilst the blooms are fairly near the glass, everyone can be seen to the best advantage. Many other plants, however, occupy positions elsewhere.

A very marked feature is found in the comparative dwarfness as well as moderate wood growth of the plants. Mr. Mease does not feed highly, but he does seek to obtain for his plants first-class turfy loam, mixed with well-decayed manure, and he pots his plants comparatively hard. But whilst some growers have during the late hot weather been employing liquid-manure almost daily, forcing very strong stems and luxuriant leafage, he gave his plants weak manure-water about twice a week, and a little dry manure sprinkled about the surface of the soil once in three weeks. Thus when the excessive wet of September came, the roots being of a hard wiry nature, and the foliage not unduly strong, the plants seem to have suffered nothing; whilst other growers who were high feeders found under the heavy rains, roots soft and perishing, or luxuriant leafage absorbing food at the expense of the flowers. Judged by the results, the moderate feeding and watering at Downside seem to have been very successful, for the blooms are indeed splendid, the Japanese being in fact the finest ever grown there; whilst the incurved, if a little later, are all the same wonderfully good. If in the big Aquarium classes Mr. Mease is beaten, then must the winning flowers be entitled to rank amongst the finest ever seen. The Japanese section has now so many whites and yellows, that these two colours seem to largely dominate all others. But they comprise some grand varieties. The Downside collection includes such high-class ones as Mutual Friend, Mdlle. M. A. de Galbert, Madame Carnot (superb), Western King, new and splendid; Simplicity, regarded as superior to even W. H. Lees; Niveus, La Petite Amie, Madame Thérèse Rey, Madame Achalin, and Mrs. Weeks, with various others. Then of yellows, Oceana, Thos. Wilkins, Mons. Panckoucke, Phœbus (a splendid reflexed, a dozen blooms of this being ready for the American Gold Medal), Pallanza, Wm. Slogrove, La Moucherotte, Amiral Avellan, Sunflower, Robert Owen, Modestum, a noble incurved; Lord Brooke, &c.; and of pinks and darker hues, a few noted hurriedly were Viviand Morel, Charles Davis, Col. Chase, most beautiful; Viscountess Hambledon, Louise, Etoile de Lyon, in fine colour; Mons. Gruyer, President Borel, M. Georges Biron, Duke of York, Pride of Madford, both very fine; E. Molyneux, M. Chenon de Leché, Wood's Pet, Miss Dorothy Shea, Australie, Col. W. B. Smith, Mrs. C. H. Payne, Madame Van Heede, &c. Then of incurveds, very fine indeed were C. B. Whitnall, C. H. Curtis, Robert Petfield, M. P. Martignan, Major Bonnaffon, Robert Cannell, M. C. Houghton, Princess of Wales, Jeanne d'Arc, Violet Tomlin, Princess Beatrice, J. Lambert, Mrs. H. King, Brookleigh Gem, Mrs. F. Hepper, Flora Macdonald, all the Queen and Empress sections, and indeed many others too numerous to name. This selection, however, suffices to show how representative the Downside collection is. *A. D.*

At Woodhatch Lodge.

Amongst very many private establishments in which Chrysanthemums are grown for the production of large-sized blooms, the garden of T. B. Haywood, Esq., near Reigate, is one of the best known. Mr. Haywood is a gentleman who takes much delight in his garden, and is seldom better pleased than when he has a display of more than usual excellence to exhibit before his horticultural friends. In Mr. Salter he has a gardener who is enthusiastic in matters pertaining to Chrysanthemums, and in every other department, whether indoors or out-of-doors, there is more than usual neatness and efficiency attained. Judged by previous displays at Woodhatch, the collection in bloom at the present time is one that should give employer and gardener cause for much satisfaction. Some of the Japanese varieties are splendid; yet on the whole, we think the incurved section has been grown with equal success. It is a relief—such as many collections do not afford—to notice the attention given here to the less popular types, and to admire very fine flowers of the Anemone, Pompon, and single-flowered sorts. Flowers from Woodhatch are generally to be seen early in the season at the Crystal Palace Show, but as this event will not take place this year, the flowers will not be exhibited until later, for they are never sent to the Aquarium.

One of the first varieties we noticed in this collection was one from Australia, named C. B. Haywood: it is a white Japanese, florets moderate in width and length, but the flower builds up to a great depth, and looks as if it would resist considerable ill-usage from packing, &c. M. Chenon de Leché was perfect in colour and size. Surprise is a fine habited variety, and has moderate sized Japanese blooms of carmine crimson, a good colour, and the florets are good. Close to this were capital blooms of Viviand Morel, but this is a very well known sort. H. L. Sunderbruch was also noticed as good here; and Mrs. Harman Payne, too, was particularly well coloured.

M. Ph. Dewolf is a yellow-flowered Japanese we have not observed before—it is promising; but close to it were fine flowers of Phœbus, with long broad florets of rich yellow—a very graceful bloom. Yellow Japanese sorts are now very numerous and good, still it is thought that Edith Tabor will excel Phœbus, to which it bears much resemblance. Reine d'Angleterre, as seen here, looked like a refined Etoile de Lyon of much better colour than that variety. Robert Flowerday is a very good colour, and for such is commendable; it is bright crimson, with silver reverse. Amiral Avellan is still another yellow Japanese, and an introduction of M. Calvat's; it has large breadth, and we have already seen it in many collections. There were some good blooms of Christine, and of the finely-formed purple-coloured reflexed flower Florence Lunn. Major Bonnaffon has been described as an incurved, but we are not disposed to look upon it as an ideal one from flowers we have yet seen; if staged as an incurved, it will require much making-up. Commandant Blussett is not so popular with many growers as with Mr. Salter, who grows it very well indeed; when the flowers open freely and and the florets are smooth and of good colour, it is distinct and desirable. Colonel Chase is pretty, although the flowers are not of the largest size, and the plants run rather higher than many others. King of Chrysanthemums produces very large blooms, light chestnut in colour, Japanese, with slightly incurving florets. The Anemone section was well represented, and we noticed very fine blooms of Descartes, one of the best of the type ever raised; and of John Bunyan, a yellow variety, that builds up a good cushion, and is in every exhibition collection.

We have already said that many incurved varieties were looking well. The Queen type in several varieties was good, and the flowers unfolding kindly and building well, but they are doubtless much more perfect now than when these notes were taken. *P.*

At Mr. Godfrey's, Exmouth.

When visiting this excellent collection recently, I

was struck with the dwarf appearance of the plants and their robust health. The house in which they are displayed is 175 feet long, and was especially built for Chrysanthemums last year. Among some of the best in full bloom was Pride of Exmouth, a lovely lilac and white, some magnificent cut blooms of which were being placed on the boards ready for sending to the National Chrysanthemum Society, which I am glad to hear since were granted a Certificate. Mons. Hoste, which has shared the same honours. Warrior, a lovely terra-cotta, a decided improvement on W. W. Coles. Antonelli, with broad petals, pure white, a lovely flower. Mrs. Tucker Pain, much like President Borel, but richer coloured. J. E. Laker, a very beautiful yellow, slightly hairy. Calvat's Australian Gold is the best yellow in the collection, having immense blooms, without the least coarseness. One of the richest yellows was Modestum. Arona is bronze, shaded carmine; and Oceana is a lovely soft yellow colour, with broad petals. Mr. W. J. Godfrey was to be seen in quantity, with better blooms than ever, and it is likely to be included this season in most stands of cut flowers. Gold dust, a hirsute variety, was splendid; and La Moucherotte is in the way of C. Davis, but has much larger blooms, and they are shaded with bronze. Mons. E. Rosette is an immense flower, colour creamy-white; the guard-petals are long, narrow, and drooping. Captain L. Chaurie, after Lord Brooke's style, has broader florets and larger flowers.

The above are some of the best from a number of varieties in full bloom, but very many varieties have still to perfect their flowers. Beauty of Teignmouth is represented here in good form. It is strange that this variety and Pride of Madford were certificated by the Royal Horticultural Society last October as being identical. Pride of Madford was grown here in this neighbourhood years ago—a dull red flower, and discarded by Chrysanthemum growers, and is totally distinct from Pride of Teignmouth. *D. C. Powell.*

At Mr. H. J. Jones'.

The position that the Ryecroft Nursery has attained in the Chrysanthemum world, in a comparatively short space of time, is a striking testimony to the untiring zeal of its director. Indomitable energy is seldom employed to little effect, and as this is one of the characteristics of Mr. H. J. Jones, it accounts in some measure for the reputation he has won. In one instance alone—viz., in the exhibition and grouping of Chrysanthemums—he has shown much more than ordinary tact by endeavouring, as far as possible, to disregard conventional methods in favour of others which possess originality, though possibly open to objection from other standpoints. A most zealous supporter, financially and otherwise, of the National Chrysanthemum Society, we were not surprised when visiting the nursery on the 31st ult., to find Mr. Jones engaged in preparing his exhibits for the Jubilee Festival. It was known that there would be considerable competition in the class for a group of plants arranged for effect, and it was evident at Ryecroft that no endeavour was to be spared in making as fine a show as possible. Several innovations were spoken of, but when these lines appear in print there will be others also which will describe the nature of most of these groups, and what is very uncertain at present—the result of the competition. The Chrysanthemums in bloom occupy three at least of the houses at Ryecroft, and the largest display is to be seen in what is termed the large house. Here the plants are grouped on either side, and a serpentine path in the centre divides them. Such a collection is full of novelties, and they are all of very recent introduction. Indeed, we missed some of the very best of known varieties, and when remarking upon same, the reply we got was in effect as follows:—"That variety and its characteristics are well known; we have ceased to cultivate it for the production of large blooms, and grow it merely for stock purposes." Thus we see such varieties as Madame Gustave Henry, Baron Ad. de Rothschild, and Viscountess Roger de Chezelles. The last-named is one of this year's set from M. Calvat, a Japanese of old-gold and orange colour; it has wide and long drooping florets, and is a desirable sort. Next there is a deep yellow sport from Primrose League; it is named A. H. Woods—the flowers of the type and sport are apt to be thin, unless well cultivated, but when perfect they are graceful, the florets being exceptionally long. Western King is the name of an incurved Japanese from America, which promises to be very good; it is white, with pale lemon centre, and builds up a deep, handsome flower. Matthew Hodgson is a novelty of the type of Mrs. F. Jameson, but may be a better colour, and it is said of it that the centre of the bloom develops more easily than that of the latter. The next variety we noticed was one figured in *The Album*, viz., Herbert J. Cutbush (Jones). This Japanese flower is of large size, the florets fairly wide and drooping; colour deep red with yellow stripes. George Langdon (Jones) is another of the same set; it is of similar type to Edith Tabor—colour canary-yellow. The florets are good, of fair breadth, length, and of unusual substance. In Mrs. Richard Jones (Jones) is seen a white Japanese of distinct appearance; it builds up to a very great depth, but is not so broad as some others. We next noticed Madame James and Miss Elsie Teichmann, the latter being the same excellent variety as Mr. Shea exhibited at the last meeting of the Royal Horticultural Society. Mrs. C. E. Shea has been a little disappointing in many collections this season, but some flowers here had opened kindly, and promised to make very fine blooms. Perle d'Or may be termed a fine new yellow variety of the hairy section, but it is much less hirsute than others, yet the florets are good and the flower pretty. Duchess of Fife, Madame Carnot, and Amiral Avellan were all noticed with good flowers; and especially distinct and good is the new Australie, a Japanese incurved with very broad florets, the reverse of which is clear silvery—when the flower is perfect, the reverse only is seen, and it is exceedingly handsome. In Modestum we see a first-rate incurved Japanese from America; the florets are very fine, and the rich colour glorious. Madame Desblanc is a large flower of true incurved type and French origin. The florets are crimson, but the reverse, which is most seen, is brown; it grows rather tall, and has very luxuriant foliage. Another quite new incurved flower is Yvonne Desblanc; the flowers are creamy white, but were not perfect when we saw them. We have only been able to mention a few of the novelties to be seen at this establishment.

It is well known that Mr. Jones has undertaken the cultivation of Pelargoniums and Begonias in addition to the Chrysanthemum, and we were surprised to find that since our last visit he has built two additional houses, upwards of 200 feet in length. One of these is now full of zonal Pelargoniums in flower. The culture of other florists' flowers, and of Ferns also, will doubtless follow. *P.*

(To be continued.)

EGYPT.

EXPERIMENTS WITH FIBRE PLANTS.

Agave rigida var. sisalana.—With a view to utilising tracts of desert land for the cultivation of fibrous plants, the Egyptian Government obtained from Florida, in 1894 and 1895, a number of suckers of this Agave. These were planted for experimental purposes at different places in Upper and Lower Egypt, under the direction of Mr. E. A. Floyer. The result, so far as the growth of the plants and obtaining of new suckers, has been very satisfactory. Under the direction of Mr. Walter Draper, Director of the Government Gardens at Barrage, some thousands of Agaves are now being transferred from their nurseries to their permanent quarters in the Behera Desert, the object being to prevent the drifting of the sand into the canals, and to obtain a return of fibre from the plants.

Owing to parts of the desert being inundated during high Nile, it is thought that when the plants become once established, their roots will be attracted to the moist sand below, and thus serve to maintain the plants during the parching heat of the Egyptian summer.

Experiments have also been made at Barrage to ascertain what amount of moisture the Agaves will stand without ill-effects, although it is generally known that water developes the pulp to the detriment of the fibre.

NYMPHÆA × ROBINSONIANA.

Among the most useful, as well as the most beautiful, of aquatic plants is the race of hardy Water Lilies, introduced into commerce by M. Latour-Marliac, of Temple-sur-Lot, France. The one of which we give an illustration (fig. 98) was grown at Gunnersbury by Mr. Hudson, and formed one of a group exhibited by him at a recent meeting of the Royal Horticultural Society. The leaves of this variety are of a dark blackish colour, sprinkled with dark claret blotches. The flowers are of an intense purple-crimson, deepest in the centre, forming a contrast with the yellow anthers. The interior of the sepals is of a light rose colour. The flowers remain open during the day. The plant, with others of the same kind, was described in the *Revue Horticole*, 1895, p. 259, by M. Ed. André. M. Maurice de Vilmorin has also described several in the same periodical. The parentage is not given, but from internal evidence there is not much doubt as to the species employed. Be this as it may, we cannot too highly commend these beautiful and hardy Water Lilies. We hope shortly to publish other illustrations, with notes on their culture, &c.

FORESTRY.

GERMINATION OF TREE SEEDS.

The proper season to sow the seeds of various kinds of tree seeds is usually taken to be the spring of the year, and for many practical reasons this is no doubt the best and most convenient time. In spring the so-called dormant period is nearly past, and the seeds at once begin to undergo those changes which result in germination, whereas when lying in the ground through the winter months they are exposed to many dangers from birds, mice, and other animals, which may reduce their number considerably. But from a purely physiological point of view, it may safely be asserted that the most appropriate time to sow the seeds of all indigenous plants is at that season when they fall naturally from the tree or plant themselves. Fresh seeds, according to eminent authorities, contain natural ferments, which act upon the starch and albuminoid compounds of the seed in much the same way that pepsin acts upon animal food. These ferments being chiefly located in the seed-coat or husk, are naturally the first to feel the effect of outer influences, such as heat and moisture, and are probably the first to suffer from lack of them. It is a well-known fact that old seeds not only produce weaker plants, as a rule, than fresh, but also take longer to germinate. On the other hand, authenticated cases are common of the seed of various plants which have been buried at great depths in the soil for many years, retaining their vitality and germinating when again brought to the surface. These facts indicate the importance of the conditions under which seeds are kept between their ripening and subsequent germination, and prove that the loss of vitality in seeds is chiefly due to the loss of moisture, occasioned by evaporation in dry air, for however impervious the seed-coat may be relatively, porosity to some extent must exist.

The practical moral to be drawn from this is, that seeds from which strong healthy plants are expected must not be kept too long in a dry atmosphere, the limit being determined by the peculiarity of the plant itself. The seeds of many Leguminosæ, for instance, may remain dormant for many years, while those of the Walnut and Chestnut are useless if kept dry for two or three months. But confining ourselves to the question of sowing seasons and their influence upon the growth of the seedling, it is necessary to see wherein

the difference lies between autumn and spring-sown plants. Many who have not paid particular attention to the question of germination, are probably of the opinion that the growth of the plumule and radicle commence simultaneously, but such is not the case. In all seeds the radicle is the first to make a move, and is usually an inch or more in length before the cotyledons begin to unfold. In the case of tree-seeds, however, this advance-growth of the tap-root is much more pronounced than in the majority of seedlings. During the first year's growth the above-ground portion of many tree-seedlings is confined to the development of a pair of leaves, in addition to the seed-leaves. But upon examining the roots, their growth and development will be found out of all proportion to that of the stems; and, supposing the length of the latter to be represented by 1, that of the former will probably be from 5 to 10, according to species and season. With autumn-sown seeds this root-growth is greatly promoted, owing to the longer period which elapses between the start in growth of the root and that of the stem. Under natural conditions, such seeds as Oak, Chestnut, Walnut, Sycamore, &c., germinate a few days or weeks after they fall from the tree, providing they are surrounded by moist leaves or earth; and should the following winter be fairly mild, strong healthy tap-roots will be developed by the following spring, although the cotyledons may still remain inside the seed-coat. Such seedlings, if injured by late frosts, or other vicissitudes of climate, recover much more rapidly than those which, after lying in store during the winter, are only just passing through the critical stage at the time of injury. The chief danger in sowing such seeds in autumn is the avidity with which mice attack them during the winter months. A mixture of cow-dung, coal-ashes, and paraffin laid in the drills with the seed will, however, usually prevent much damage being done in this way. The seeds of Ash, Hornbeam, Thorn, &c., which do not usually germinate until the second season after ripening, will sometimes start away the first season if gathered fresh, and sown at once; but a certain percentage will always lie over, and it is usually better to pit these seeds for a year than to lose half the seed, or keep the seed-beds clean the second year, which in some ground is almost impossible.

With tender seedlings, such as those of Coniferæ, Beech, &c., autumn sowing is very risky owing to spring frosts, and unless the seedlings are protected until mid-summer, late sowing in spring is usually the safest plan. *A. C. Forbes.*



Fig. 98.—Nymphæa Robinsoniana ×: hardy water-lily. Flowers rich crimson; anthers yellow. (See p. 558.)

JOTTINGS FROM SYON HOUSE GARDENS.

IT would be hardly possible to visit so extensive and well-managed a garden as that at Syon at any season of the year without finding much to interest the visitor. Comparing the years that are gone with the present time, it is evident that the opportunities for horticultural advancement are much greater now, and a visit shows this very markedly, being in almost every detail quite modern, in so far as is possible in a garden where evidences of the past are so apparent on every hand. Structurally, however, the numerous glass-houses are not modernised, and they are, therefore, not the lightsome and well ventilated structures one is accustomed to see erected at the present day. Notwithstanding, there are not wanting in this representative garden evidences of high culture, so that in their seasons we see plants, fruits, and flowers that reflect great credit on an all-round good gardener. No young gardeners who are so fortunate as to be employed there will have reason to regret it, if they make the most of their opportunity of acquiring knowledge.

Of Orchids a choice assortment of the more useful genera and species has been brought together, also a fine lot of Nepenthes, in splendid condition. The best of M. Marliac's hardy, cross-bred, Water Lilies, which, when established in the ornamental waters, will have a nice effect.

Fruit is a strong feature at Syon. In this connection a collection of single cordon Pears on a wall form a valuable object-lesson. The trees were planted of each variety in numbers in proportion to their merits. Some of the earliest fruits to ripen had been gathered while others were still hanging, and of the quality and colour of others still I was able to judge in the fruit-room a little later on. Particularly fine were the examples of Durondeau, and the crop was a heavy one. It is a reliable Pear for early September; while another showy early Pear is Conference. Louis Bonne of Jersey is highly spoken of at Syon; and Fondante d'Automne they also regard as a first-class October variety. Another of merit is President D'Osmonville; Emile d'Heyst is a great cropper; Clapp's Favourite is also grown, as is also Marie Benoist, Souvenir du Congrès, King Edward, a good stewing-Pear; and Beurré Diel, the fruits of the latter on young cordon trees being magnificent indeed. The particular fruits to which this remark applies have been characterised as among the finest ever seen of the variety. Numerous Pear-trees are planted in other positions against walls, and in the open. Strawberries, too, are grown by the thousand, and some 5000 plants in four or five varieties are potted annually for forcing, a considerable item alone when it is remembered that all the plants are raised at Syon, Vicomtesse Héricart du Thury, Royal Sovereign, President, and La Grosse Sucrée, being the principal, while Monarch and Leader are also grown; in the culture of this fruit in the open, Mr. Wythes has a system of treating them as annuals, so to speak, fruiting the plants once, and afterwards reserving them for runners. In this way thicker planting is indulged in, and while fewer fruits are obtained from individual plants, these are of the very finest quality. Vines and vineries of course, abound, the fruit in many stages, and the pot Vines for earliest work already pruned and started at the time of my visit. The Grape growing department here is a large one, and fruit of high quality and in abundance is obtained.

Figs, too, are largely grown, some six dozen fine plans in pots being forced ready for March, the principal variety being St. John's.

Of Tomatos, a constant supply is kept the whole year, and those for winter fruiting are well set and swelling, and a succession for March in pots was represented by sturdy pot plants waiting their final shift. I cannot leave the fruit department of Syon without touching on Melons, for not only is Mr. Wythes a foremost grower of the fruit, but an ardent raiser of new varieties, some eight or more popular sorts having now been raised by him, and one called Syon House Gem is in much demand for late work; and there is also another fruit here not usually seen in private gardens, or at least only those of large size, I mean the Banana, and to these alone two large houses are devoted, and a good succession of fruit thereby maintained. Musa Cavendishi is the favourite species, and suckers are planted at intervals as they are needed. In this way plants may be found in various stages of development.

Space forbids more than a mention of flowering and other plants under glass, of which there are some 1500 Chrysanthemums of all sections and the best varieties. There are also large batches of Euphorbia pulcherrima to be counted by hundreds, fine plants in the best of health. Calanthes, so exceedingly useful late in the year, are much grown; and a few hundreds of Cypripedium insigne, many other equally useful Orchids, principally such as best suited for cutting, were noted. Crotons are largely grown, the plants dwarf, compact, and well-coloured, and in almost endless variety. A reading-room for the winter was started a few months ago for the young gardeners. *J.*

THE WEEK'S WORK.

THE FLOWER GARDEN.

By HEDLEY WARREN, Gardener, Aston Clinton, Tring.

Gladiolus corms to be ready for storing, should be carefully lifted, the adhering soil shaken from them, not cutting off the stems, but letting these remain till they part easily from the corms, and laying them on mats in a light, airy shed, where they may remain till the soil gets dry, when they will be fit for storing after being cleaned, assorted, and labelled. If increase of stock be wished for, bulbils, which collect round the base of the old roots, may be saved, placing them in dry sand in bags or boxes.

Roses.—The planting of Roses may still be proceeded with in the absence of frost if the amount of planting is considerable. The present month is favourable for making cuttings of Roses, and Roses on their own roots are to be preferred where plants worked on Briar and other stocks quickly die off, which many of the H. P. varieties do. A cutting should be made from a strong, well-ripened shoot with a heel of older wood; it should not be less than 9 inches long, and is better if it is 12 to 15 inches. Having prepared a number of these, and kept them moist meanwhile, take out trenches with an upright face on ground that has been prepared by dressing with gritty-soil and digging, and firm trampling, and proceed to lay the cuttings against the face about 4 or 6 inches apart according to variety, scattering at the bottom of the trench enough sandy-loam to bury the butt ends an inch, filling up with the staple, and making all very firm with the feet. The cuttings may range above the surface of the bed about 4 inches. To prevent in great measure the frost penetrating the soil, a mulch of half-rotten manure may be put on it. The following are some of the varieties of the H. P. which strike readily from cuttings: Captain Christy, John Hopper, Countess of Oxford, Depuy Jamain, Sénateur Vaisse, Hippolyte Jamain, Madame Lacharme, Charles Darwin, La France, General Jacqueminot, Exposition de Brie, Souvenir de la Malmaison, Chas. Margottin, François Michelon, E. Y. Teas, and many others. Sweet, Scotch, and Austrain Briars, Polyantha, Bourbon, China or Monthly, Prairie, some of the stronger Teas grow well from cuttings. Under the same kind of treatment, cuttings of the following do well: Ligustrum, Lonicera of all kinds, Ivy, Ampelopsis, and Jasmine.

General Hints on Working.—Although much time is now occupied in sweeping up tree-leaves from the lawns, paths, and roads, and carrying them to the leaf heap, time will usually be found for bush and tree planting, and re-turfing, both of which the prudent man will try to forward during open weather. In some places the heavy rains will have put a stop to planting, it being an unwise proceeding to trample on the soil whilst it is very moist; still, advantage should be taken of every day when the soil is workable to push on the various jobs of planting. Herbaceous and other borders being necessarily in unsightly condition at this season, when the weather will permit decaying stems and leaves should be cleared off, and any necessary transplanting and dividing performed. The plants and bulbs for the spring flower-garden should be put into the soil without further delay. Pelargoniums and other bedding-plants in pots and frames, should be afforded just as much water at the root as will keep the plants alive; any excess of it causing certain decay at this season unless much artificial heat be afforded, together with much ventilation, and neither is to be recommended for the present. Verbenas and similar plants should be kept very cool; and should mildew make its appearance, free ventilation will have to be given, and flowers-of-sulphur must be freely used on the plants.

FRUITS UNDER GLASS.

By W. POPE, Gardener, Highclere Castle, Newbury.

The Earliest Peach-house.—Where ripe fruit is required in April, the trees should be got in readines, for a start being made about the middle of the present month, and although fire-heat may not be needed for the first fortnight or so, the warmth must be kept from falling below 35°; merely keep the house close for that period of time, admitting air in the middle of the day only, and that for a short time when the warmth rises to more than 50°. It should be understood that the slower the trees are started into growth the stronger will be the blossom and shoots at the start. A thorough soaking of water (or weak liquid-manure if the trees are inclined to be weakly) should be afforded the inside borders where required; if, however, the roof-lights were removed during the autumn months the rain will have sufficiently moistened the soil. When the house is closed commence to sprinkle the trees with tepid water in the morning, and also in the afternoons when the day is fine, but do not keep them always moist. Outside borders should be protected by adequate coverings of dry leaves, &c.

Succession Peach-houses.—As soon as the leaves have fallen, loosen the trees from their fastenings, and wash the stem, branches, and shoots with warm soapsuds, doing the necessary pruning soon afterwards. Former directions with regard to preparing forcing-houses should be carried out. When the pruning is finished, an insecticidal dressing may be applied, and the trees fastened to the wall or trellis. Make the ties loosely to admit of the shoots increasing in circumference, and so regulate the shoots that they are spread evenly over the entire area. Keep the houses cool, and only close the ventilators during periods of severe frost. If new trees have to be introduced, planting should not be delayed, selecting, if possible, those that have been periodically lifted, as such can be taken up with plenty of fibrous roots, and if carefully handled the trees will experience very little check from removal. It is the better plan, too, to plant good-sized trees that will carry a moderate crop of fruit the first season, than small trees that will bear scarcely any fruit for two or three years. For the earliest crop a few trees of Alexander and Waterloo should be planted, for notwithstanding the fact that the quality of the fruit does not equal the older early Peaches, they are very precocious, and may be easily ripened one month in advance of those. A selection of good varieties suitable for growing under glass, given in the order of their ripening, would be Alexander, Waterloo, Hales' Early, Early York, Abec, Stirling Castle, Grosse Mignonne, Royal George, Barrington, Princess of Wales, Sea Eagle, Walburton Admirable, and Golden Eagle. Of the earlier Nectarines are Cardinal, Early Rivers, Lord Napier, Stanwick Elruge, Humboldt, Pine Apple, and Violette Hative. Where late varieties have grown strongly, and have not as yet shed their leaves, a trench may be taken out about 4 feet distant from the stem and down to the drainage, the roots shortened, and the soil returned to the hole, a sort of treatment that checks the tendency to form late growth, and induces a more speedy ripening of the wood and foliage.

THE ORCHID HOUSES.

By W. H. WHITE, Burford, Dorking.

Vandas.—The cultivation of these stately plants is frequently not attempted by amateurs on the plea that they do not produce sufficient bloom to compensate them for the space that the plants occupy; but this should not be, for when well managed, with leaves on the stems as low as the rim of the pot, they form, either in or out of flower, some of the most imposing objects in an Orchid-house. Vanda tricolor is what may be called an old plant, having been introduced to this country from Java in 1846. There are several distinct varieties of V. tricolor, all of which are well worthy of cultivation, viz., V. t. planilabaris, V. t. Bassetti, V. t. Pattersoni, V. t. Dalkeith var., V. suavis, and V. s. Veitch's variety. If any of these plants require repotting, or if there be any doubts of the sphagnum-moss below the surface being decayed,

or in a condition not conducive to health, autumn is the best season to attend to their requirements. If a plant must be repotted because of loss of leaves at the base, the old material and drainage should be removed, and if there be found plenty of live roots some distance up the stem, so much of the lower portion of it may be removed as will bring the lowest pair of leaves, when the plant is again placed in the pot, almost down to the rim. Place the plant in the middle of the pot, and then put a few large crocks at the bottom, and over these a layer of sphagnum-moss, over which spread the lowermost roots, and carefully work in amongst them some clean crocks, and a moderate quantity of unchopped sphagnum-moss, pressing it down firmly, then distribute more roots in a like manner, filling up to within half an inch of the top, and finishing off with a cone of clean healthy sphagnum-moss, well mixed with small crocks. It is important that each stem be made secure by tying it to a strong neat stick. After repotting or top-dressing the plants, no water should be afforded till several days have elapsed, and then water thoroughly. Afterwards, if the moss on the surface appears dry, it will suffice to lightly sprinkle it, so as to keep it alive. When a plant is established, the quantity of water may be gradually increased, but the moss must never be kept in a saturated state, it being advisable rather to keep the surroundings moist by damping the sides of the pots and the staging several times daily. These Vandas require a coolish intermediate temperature, and after any disturbance of the roots, to be shaded from strong sunlight.

Habenarias.—At this season the lovely terrestrial Orchids, Habenaria militaris, H. carnea, and H. Susannæ, form prominent plants in the warm Orchid-house, but their flowering period is but short, and the plants then commence the resting stage. As soon as the flowers fade, the plants should be placed near the roof-glass, so that the newly-formed tubers may ripen thoroughly. The leaves will soon change colour, and the stems die down; but nothing should be removed, but left to fall away naturally. When the foliage begins to get brown, water must be withheld gradually till the growths are decayed, when the pots should be placed on a high shelf convenient for examination of the plants during the winter months; for although they are then dormant, they must have water occasionally, or the tubers will shrivel. At Burford Lodge I examine them every week, and those which are found to be dust-dry are taken down and carefully sprinkled with tepid rain-water from a fine-rose watering can.

Cypripediums.—Plants of the following, Cypripedium grande ×, C. Sedeni ×, C. S. candidulum ×, C. calurum ×, C. leucorrhodum ×, C. longifolium, and C. albo-purpureum ×, which may have become pot-bound, should forthwith be afforded a liberal repotting. Afford the pots plenty of drainage, and pot firmly with lumpy fibrous peat and a little sphagnum-moss. To keep the compost porous, and consequently sweet, it is a good plan to mix nodules of tufa with it, around which the roots of this section of Cypripedium entwine themselves luxuriantly. These plants grow very freely after becoming established, and should on no account be allowed to get dry.

Cattleyas.—The growths of the distinct-looking C. Lawrenceana will now be making considerable progress, some of the plants showing their flower-sheaths. It is important at this period to place them in the lightest possible position. The affording water to the plants at this stage requires much judgment, the young growths being liable to decay if there is any excess, especially in dull or wet weather. The new growths should be occasionally examined, as it sometimes happens that the flower-sheath adheres so firmly to the side of the growth that unless loosened the flower-spikes come deformed. Plants of C. Percivalliana which may have ceased to grow should be kept moderately dry at the root till the flower-spikes are seen to be pushing up the sheaths, when more water may be applied. This species of Cattleya should also be placed near the roof in the winter season.

PLANTS UNDER GLASS.

By Jno. McIntyre, Gardener, Woodside, Darlington.

Forcing-house. — Numerous plants will now be arriving from the continent, and foremost, for usefulness, is Azalea mollis. The successful forcing of this variety depends upon the state in which the plants come to hand; and it is my opinion that plants when imported are frequently damaged in transit by the soil about the roots getting dry. Moreover, they are lifted from the open ground a week, or probably a longer time, before the nurseryman here receives them; this dryness at the root is a very likely occurrence. When the gardener receives his Azaleas, they should be examined, and if root masses are found to be dry, they ought to be moistened forthwith, and when the water has well drained away from them, the potting should be done. Never allow the plants to remain in some dry shed until time can be found to attend to this matter, but see to it at once. I have found that if the plants be forced without this very necessary attention, the flower-buds drop off instead of expanding. In many gardens, plants of Azalea mollis are brought on annually, no attempt is made to grow them for flowering a second year; but where economy in the garden is studied, it is prudent to prepare the plant for forcing a second year. The method that I adopt is, instead of turning them out-of-doors as soon as flowering is past, to remove them to an early peach-house to make their growth, and in the spring or early summer they are planted out, or plunged in their pots on a warm border with a south aspect. In the north the latter is best. If the summer is fine and warm, the plants do not fail to set plenty of flower-buds. In unfavourable years, the plants do not set well, they are not used for forcing, but remain in the border for another year, and in most cases good stuff for forcing is thus obtained. In potting Azalea mollis, light soil, two parts sandy loam, two parts good leaf-soil, should be used. It is advisable not to force the plants very early, but to afford them a good long rest in cold-pits; the first week in December is quite early enough for the first batch of plants to be placed in heat. Deutzias standing in the open should be potted up at this season, also any bought-in plants arriving out of pots. When potted, house them in cold-pits, where they will be safe from frost, where they should remain till placed in the forcing-house. Lily of the Valley imported crowns and clumps are now coming to hand. Some gardeners fail in early forcing Lily of the Valley, as was my own experience for some years, notwithstanding the healthy and strong appearance of the crowns on arrival. They were potted up, both crowns and clumps, as soon as received, and kept out of the reach of frost until wanted for forcing. I found that when thus treated they would not be forced early; and now, on the crowns arriving, they are buried in coal-ashes in the open with the buds exposed to the weather. We have now no difficulty in forcing them, three weeks being sufficient time to flower them. It is not necessary to pot the roots, but simply to fill a propagating-case with cocoanut-fibre, and pack the crowns in as thickly as possible. Crowns early forced do not throw up leaves with the flowers, but to obtain leaves our own home-grown roots are lifted and forced for foliage to go with the flowers. A number of Dielytra spectabilis may now be lifted from the open ground for the purpose of being forced early in flower. As it is well known, this species is useful for decorative purposes when grown in pots, or for cut bloom. Some gardeners lift large clumps with all the soil that will adhere to them, and place in large pots; it is, however, I think, better practice to shake off the soil and cut the large masses into a number of small pieces, each having a bud or two, and place four to six such pieces in 6-inch flower-pots. There are numerous species prepared for forcing, viz., Lilac, Staphylea, Primula sinensis, Japanese Maples, Rhododendron hybridum, Solomon's Seal, all of which may be plunged in coal-ashes in the open, or in cold-pits with the sashes kept over them in hard weather. In potting the plants, make the soil very firm in order that water when afforded may not pass too rapidly away, otherwise the original root-mass may remain dry whilst all around is moist.

Mignonette will now have passed out of flower in the open border, and recourse must be had to that which is grown in pots. Everyone with suitable pits or house should grow this Mignonette for winter and spring flowering. At the end of the month of July, seed is sown in thumb-pots, and the seedlings are thinned out till four or five are left, and when these are established shift them into 60's, and then into 48's, in which size they ought to flower. Sowings for succession are treated similarly, and come at the last shift into 5-inch pots. The soil for Mignonette should consist of good loam two parts, coarsely broken lime rubbish one part, and sharp sand one part. Place the pots on a shelf that is near the glass in a pit or house having a temperature of 60° at night, and afford water only when it is really required, and only with the spout of the watering-pot, and then only in early morning. One of the best varieties for growing in pots is that called Matchet.

THE KITCHEN GARDEN.

By Charles Herrin, Gardener, Dropmore, Maidenhead.

Tomatos.—Fruit cut from outdoor plants in a green state should be kept in a dry warm house to ripen. If any of these should decay, promptly remove them. Plants intended to furnish a winter supply of fruits removed from the cool-house they have hitherto occupied since they were brought from the open air, may be placed in a warm house for ripening off their fruits. With fruits fairly advanced in growth no difficulty will be experienced in ripening them if sufficient warmth and air when the weather is fine be afforded, a close moist heat being strictly guarded against. The ventilators need not be quite closed unless the weather is very frosty, and a temperature of 50° to 55° at night, rising from 60° to 65° in the day time, or more with sun-heat, will suit the needs of the plants. To assist the swelling of the fruits a very slight application of some sort of artificial manure should be spread over the surface of the soil in the pots occasionally, observing that less is required now than when growth is more active. The setting of late blooms will be attended with some difficulty; still, it may be done by going over the plants once a day at noon, when the weather is bright, and giving the rods a gentle tap to disperse the pollen, catching it on a piece of paper, and applying it to the stigmas with a camel-hair pencil. The next two months are usually the worst for the setting of the blossoms.

Cauliflowers.—In anticipation of frost of sufficient severity to injure the heads of the Autumn Giant Cauliflowers and Autumn-Protecting Broccoli, these plants should be lifted with all the soil that adheres to the roots, and transplanted closely together in pits where lights and other protection may be given them in hard weather. If no pits are available, lift and plant closely together in a sheltered position in the open, making walls of bracken or litter round about the patch, and covering the tops with the same kind of materials in frosty weather. The heads should be replanted in an upright position, for when growing, if laid slanting-wise, the flower is liable to open, and become otherwise disfigured.

Seakale.—Roots of this vegetable, lifted a few weeks ago and left exposed to the slight frosts that have occurred in the interval, will start into growth fairly well when placed in heat of about 55° to 60°. If a small place at the warmer end of the Mushroom-house can be boarded up so as to keep it perfectly dark, this will make a good place for forcing the roots. They should be packed close together in moderately light soil. Seakale may also be forced in 8 or 10-inch pots if an empty pot be inverted over each, and the pots stowed away in any warm corner or in a forcing-house.

THE HARDY FRUIT GARDEN.

By G. Woodgate, Gardener, Rolleston Hall, Burton-on-Trent.

Transplanting.—The season for transplanting has arrived, but the land is in a saturated condition, and in an unfit state for the purpose. Trees received from a nursery should be unpacked on arrival, and laid-in in rows singly in some sheltered part of the garden, care being taken to cover the roots with dryish soil. In laying-in, the trees should be so placed that the branches cannot whip each other in windy weather, and the covering of soil should suffice to keep the roots moist; and to do away with risks from frost, some stable-litter should be placed on the soil. In laying down new Currant and Gooseberry quarters, the position chosen should be one in which it is easy to afford protection by means of nets, that is, the bushes should be altogether, not scattered about the garden, the quantity of netting required in the former case being much less than in the latter.

Pruning of Apple, Pear, Plum, and Cherry-trees.—In favourable weather, push on with the pruning of these trees, so as to get it finished early. If proper attention was given the trees in the matter of disbudding and finger-and-thumb pruning, but little will remain to be done at this season beyond the cutting-back those shoots which were pinched to five or six leaves to three buds from the base. The most awkward of the fruit-spurs should be thinned if very numerous, all dead wood removed, and the leading growths shortened to from 12 to 15 inches, according as the varieties are of robust or weakly growths, the latter being pruned the closer. Cordons and espaliers will require similar treatment, with this exception, that the leading shoots should not be shortened before they fill their allotted space, when they may be treated in the same way as laterals. No time should be lost in lifting and shortening when practicable the main roots of all trees which showed exuberance of growth.

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY,	Nov. 10	Royal Horticultural Society's Committees: Lecture on Seed Growing at 3 P.M. Brighton Chrysanthemum (two days), Croydon do. (two days), Folkestone do. (two days), Hanley do. (two days), Huddersfield do. (two days), Ipswich do. (two days), Kingston do. (two days), Leeds do. (two days), Portsmouth do., West of England do. (two days).
WEDNESDAY,	Nov. 11	Blackburn and District Horticultural Society, Carlisle and Cumberland Horticultural Society, Chrysanthemum, Fruit, &c., Hull Chrysanthemum, Birmingham do. (two days), Yeovil do.
WEDNESDAY,	Nov. 11	Dutch Bulbs, at Protheroe & Morris' Rooms. Immense Importation of Hyacinths and other Dutch Bulbs, Roses, Shrubs, Plants, and Liliums, at Stevens' Rooms.
THURSDAY,	Nov. 12	Dutch Bulbs, at Protheroe & Morris' Rooms. Immense Importation of Hyacinths and other Dutch Bulbs, Roses, Shrubs, Plants, and Liliums, at Stevens' Rooms.
FRIDAY,	Nov. 13	Dutch Bulbs and Imported Orchids, at Protheroe & Morris' Rooms. Miscellaneous Property, at Stevens' Rooms.
SATURDAY	Nov. 14	Dutch Bulbs, at Stevens' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—43·3°.

we hope in the next issue to be able to reproduce his drawing. Singularly enough, whilst we were engaged in opening the box containing this treasure, a letter was placed in our hands from Mr. WOODALL, of Scarborough, announcing the fact that the plant was also in flower with him; and now we learn that the plant is also in flower at Kew. We reserve further particulars until next week.

The Jubilee of the National Chrysanthemum Society.

THE National Chrysanthemum Society—one of the most influential among the special floricultural societies in the present day—may be said to occupy a unique position in



FIG. 99.—A TABLE OF CUT BLOOMS, VASES, AND PLANTS, AT THE NATIONAL CHRYSANTHEMUM SOCIETY'S SHOW. (SEE P. 570.)

THURSDAY,	Nov. 12	Glasgow Chrysanthemum (two days), Highgate do. (two days), Longton do., Winchester do.
FRIDAY,	Nov. 13	Bradford and Shipley Chrysanthemum (two days), Eccles, Patricroft, Pendleton, and District do. (two days), Lichfield do., Sheffield do., Stockport do (two days).
SATURDAY,	Nov. 14	Royal Botanic Society: General Meeting.

SALES.

MONDAY,	Nov. 9	Great Trade Sale of Dutch Bulbs, at Stevens' Rooms. Sale of Choice Fruit Trees, at Parsonage Farm, West Farleigh, Kent, by order of Mr. T. W. Startup, by Protheroe & Morris.
TUESDAY,	Nov. 10	Dutch Bulbs, at Protheroe & Morris' Rooms. Valuable Collection of British Lepidoptera, at Stevens' Rooms. Dutch Bulbs, at Stevens' Rooms.

Camoensia maxima.

NOT very many, perhaps, of the present generation will remember the excitement that was caused by Dr. WELWITSCH's discovery in Angola of this superb climber. It was speedily introduced into commerce by Mr. WILLIAM BULL, but it is little more than two years since we first heard of it flowering under cultivation in the Peradenyia Botanic Garden, under the charge of our lamented friend, Dr. TRIMEN. In this country we have not heard of the production of flowers until a day or two since, when Mr. BULL roused the old interest by sending us a raceme which had been grown in the gardens of Mrs. WINTHROP, Barton Court, Hungerford, under the charge of Mr. W. F. CONN. That head of flowers is in the hands of the artist, and

horticultural annals. It has witnessed the Chrysanthemum taking a foremost place among flowers in the popular estimation, and it has greatly fostered the development of the golden flower by endeavouring to popularise it in many ways. It has held, and is still holding, exhibitions of Chrysanthemums as surprising in extent as they are for the high quality of the blooms displayed. It encourages the development of every type of the flower, and presents it to public view in many attractive and utilitarian aspects. That it has imparted an enormous increase in the commercial value of the Chrysanthemum there can be no doubt. It has, by bringing many Chrysanthemum societies into affiliation with it, ramifications extending to all parts of our own country, and it has

a substantial hold upon some of our distant colonies.

Instituted in 1846 as the Stoke Newington Chrysanthemum Society, it had its first home in the "Amhurst Arms," in Shacklewell Lane, and it would appear that the original intention of its founders was to hold a fruit show merely; but as the Chrysanthemum was at that time rapidly rising in popular favour, it was also included in its programme by the promoters. Shacklewell is on the north side of Dalston Lane, and was formerly (and probably is so still) a hamlet to the parish of Hackney. It lies on the east side of the Stoke Newington Road. It was then, doubtless, an open and breezy district, with its Manor House, and old family residences with large gardens, on the sites of which there is now a forest of houses. Ten years, and probably less, before the Society was formed, Stoke Newington consisted principally of one long street, extending from Kingsland Road to Stamford Hill, with abundant open spaces and gardens on either side, in which Chrysanthemums were grown; but now, almost entirely covered with bricks and mortar in some form.

Of all those who took part in the inauguration of the Stoke Newington Chrysanthemum Society, not one, it is believed, is now living. The Society soon changed its quarters to the Rochester Castle, in Shields Alley; and from thence, later in time, it went to the Manor Rooms, Church Street, Stoke Newington. It was while installed at the Rochester Castle that a considerable amount of vitality was imparted to the Society; Mr. Robert James, the landlord, an enthusiastic cultivator and exhibitor, was Treasurer; Mr. John Edwards, the then Secretary of the National Floricultural Society, President; Mr. George Glenny, Judge; and Mr. William Holmes, the father of the late Secretary of the National Chrysanthemum Society — then gardener to Dr. Frampton, Frampton Park, Hackney—was a member of the Committee. The Frampton Park Nursery, still in the occupation of his widow, is on a portion of Dr. Frampton's estate. Of those who were active workers in the Society at that time, but very few survive; Mr. J. George of Putney, is still among us, and a member of the National Society. The successor to Mr. Edwards in the presidency was the late Mr. E. Sanderson, first elected in 1861, and who filled that position with one or two intervals nearly up to the time of his death, a few years since.

The pioneers of Chrysanthemum culture in Stoke Newington adopted a somewhat unique method of paying their prize-money. All the money taken at the doors was divided into prizes on a *pro ratâ* scale, and handed to the winners at a dinner which was usual on the evening of the show. Each man's pile was placed upon a tray, carried into the dining-room, and distributed; and the remark of the late Mr. Arthur Wortley can be well understood when he said that it was no easy task to divide such a sum as £80 after the close of the show and pay it away the same night.

The leading varieties grown for exhibition cut blooms in those days were Annie Salter, Beauty, Christine (lilac), Phidias, and Queen of England, all of which can still be found under



Fig. 100.—Group of Chrysanthemums, at the National Chrysanthemum Society's Show.

Shown by H. Tate, Esq., Park Hill, Streatham, Surrey (gardener, Mr. W. Howe). (See p. 570)

their separate headings in the Jubilee Catalogue of the National Chrysanthemum Society; also Aristides, Campestroni, Duke, King, Pio Nono, Vesta, Defiance, Gem, Lysias, Nonpareil, Rebecca, The Warden, Themis, Formosum, Dupont de l'Eure, Pioneer, and Cyclops, some of which, in all probability, still exist in old-fashioned gardens.

Between 1865 and 1868 the late Mr. SHIRLEY HIBBERD was President. In 1874 the title of the Society was enlarged to the Stoke Newington and Hackney Chrysanthemum Society, and the following year the place of meeting was changed from the "Rochester Castle" to the "Lord Stanley," Mr. ROBERT JAMES having died in 1871, and the Society then became known as the Borough of Hackney Chrysanthemum Society. It was at this time that the late Secretary, Mr. WILLIAM HOLMES, became connected with the Society, and his active personality soon infused fresh vitality into it and its operations. In 1877 it was resolved that the annual exhibition should take place at the Royal Aquarium, and it was held there in 1878, and has continued to be held there since. In the early part of that year the late Mr. WILLIAM HOLMES was appointed secretary, which office he held until his lamented death in 1890. Soon after Mr. HOLMES' election, the home of the Society was transferred to the Mitford Arms hotel, near to Hackney Downs.

With the appearance of the Society at the Royal Aquarum, assisted by a subsidy from the authorities of the building, other shows were added to that usually held in November, and the Society entered upon an association which has greatly assisted to develop it. In January, 1884, the title was changed to that of the National Chrysanthemum Society, and its progress became more rapid still; its Floral Committee was instituted, its general committee enlarged, its rules extended to meet the requirements of its newly-broadened sphere of work; while the Chrysanthemum centenary celebration in 1890 found it connected with many provincial societies by affiliation, and some in distant parts of the earth. It will be remembered that the late secretary died shortly before the centenary celebration, the lines upon which it was carried out having been mainly laid down by him. Though scarcely successful financially, it yet exercised a potent influence in the way of popularising the Chrysanthemum.

The introduction of the Japanese type by the late Mr. ROBERT FORTUNE in 1862, not only imparted a great impetus to Chrysanthemum culture, but the rapid improvements in the type which soon followed, and the deep hold they took upon the popular taste, called into existence many Chrysanthemum societies, and added materially to the strength and importance of that now known as the National Society. The incurved type—attractive as it is—could never have called forth the floral enthusiasm the improved Japanese forms aroused in consequence of the extraordinary diversity they displayed. It is only in recent years that substantial progress has been made with the incurved flowers; the Japanese have gone forward by leaps and bounds.

The Jubilee Celebration finds the Society with some 870 members, nearly 100 of whom are Fellows, and there are in affiliation with it not less than 136 provincial, colonial, and foreign societies. The proposal to commemorate its Jubilee has aroused much enthusiasm, and called forth a degree of financial support of a most encouraging character; its Special Jubilee Fund has reached a sum of £350; in addition it has a sum of £200, offered in the form of special money-prizes, in addition to valuable cups, plate, and medals. It is now trying the somewat hazardous experiment of holding two large exhibitions within the space of four days.

One most important branch of the Society's work has been that of cataloguing and classifying the almost numberless varieties of the Chrysanthemum which have appeared from time to time. Its first Catalogue was published in 1884, followed by an edition brought up to date, which appeared in 1886, and another was issued in 1888. In 1890 appeared the Centenary edition, a work of 108 pages, which, in addition to classifying most of the leading varieties, gave also an alphabetical list of all the varieties its compilers were able to trace. In 1892 appeared a supplement to this, and a second supplement in 1894, both superseded by the Jubilee edition, just issued. The latter is not quite so bulky as the Centenary edition, but is broadly comprehensive, one excellent feature being that the characteristics of the various sections of Chrysanthemums have been materially amplified.

The National Chrysanthemum thus appeals to the flower-loving public on the strength of the work it has already (and is still) accomplishing. It is an active force in horticultural matters, holding four exhibitions in each year, and though no one can regard the Royal Aquarium as in any way a fit place in which to hold flower-shows, yet the subsidy which comes from the connection enables the Society to keep so constantly before the public the Chrysanthemum as an exhibition subject during the last four months of the year. Some day we may hope to see a horticultural hall for the use of all the many societies now existent.

ROYAL HORTICULTURAL SOCIETY.—The next Fruit and Floral Meeting of the Royal Horticultural Society will be held on Tuesday, Nov. 10, in the Drill Hill, James Street, Victoria Street, S.W., 1 to 4 P.M. At 3 o'clock, lectures on "Seed-growing" will be given by Mr. R. FIFE, F.R.H.S., and Mr. JAMES LONG, F.R.H.S.

PROFESSOR C. C. BABINGTON.—In the hall of St. John's College, Cambridge, a day or two since, there was hung a portrait of the late Mr. C. C. BABINGTON, thirty-four years until 1895 Professor of Botany in for the University of Cambridge, and Fellow of St. John's. The painting was executed by Mr. W. VIZARD, of Brighton, and is the gift of Mrs. BABINGTON.

BUITENZORG.—The King of Siam, we learn, on the occasion of a recent visit to these celebrated gardens, conferred the Order of the White Elephant on Dr. TREUB. Dr. TREUB, no doubt, congratulates himself on the receipt of the symbol rather than of the reality.

NERINES. — Mr. H. J. ELWES, Colesborne, Andoversford, R.S.O., Gloucestershire, writes:—"As I am endeavouring to raise a late-flowering race of Nerines which shall be equal in beauty to those which flower early, I should be much obliged if any of your readers who may have any good and distinct hybrids or species in flower during November would send me a freshly-cut truss of flowers by post. There are two species not in cultivation, as far as I know—N. lucida, Herbert, *Bot. Reg.*, t. 497, and N. marginata, Herbert, which some of your readers in the Cape Colony might be able to get, and which would be great acquisitions to the lovers of this beautiful genus."

GRAND YORKSHIRE GALA, FLORAL AND MUSICAL EXHIBITION. — A general meeting of guarantors and life members of the Grand Yorkshire Gala was held at Harker's Hotel, York, recently. Sir JOSEPH TERRY, J.P., presided, and there was a good attendance. The following resolution had been received from the Royal Horticultural Society:—"The Council of this Society, having heard from members of the deputation attending the York Gala of the great kindness and hospitality extended to them by the Lord MAYOR and Lady MAYORESS of York and by the chairman and committee of the Gala, wish to express to his lordship and the Lady MAYORESS and to all the members of the committee their very best thanks and sincere appreciation of the courtesy shown to their deputation." On the motion of Mr. HODGSON, seconded by Mr. HENRY SCOTT, numerous grants were made to the local charities.

RHEA FIBRE.—Hitherto planters have found it difficult to compete with the Chinese in producing Rhea-ribbons and China-grass, the price of labour having hitherto proved a stumbling-block to profitable cultivation. The Chinese method is to strip the stems by hand, and with a ring of Bamboo on the finger they clean the strips of bark so effectively that it at the same time removes the greater portion of the gum. A machine designed to imitate this operation, and so enable the planter to put Rhea-ribbons on the market at a price considerably lower than the Chinese, even at their low-priced labour, has been manufactured by the Ramie Syndicate, Staines, Middlesex. The machine is portable, and can be worked by water, steam, horse, or bullock power. A great advantage is that it can be used on the field. It requires no skilled labour, a couple of boys can run it. It simply requires feeding; the stems are passed into the machine and returned as fibre, requiring only to be taken off and deposited on the drying-racks. When properly dried, there only remains to bale it up and ship it. It is asserted that it will pay the grower in India, West Indies, Australia, and other countries, such as Algeria, Egypt, Straits Settlements, Java, California, the Southern States of America, Mexico, Brazil, Argentine, Venezuela, &c. Where sugar and coffee do not pay, the land can grow Ramie, and once a continuous supply can be depended upon, mills will spring up, and the strong lustrous fibre will become a necessity. It will pay the planter abroad, it will pay the manufacturer here, who will only have one cause for complaint, and that will be that the goods made of Ramie last too long. In the meantime, the plant Böhmeria nivea can be grown in this country, as the following letter from Mr. MCHATTIE shows:—

"We grow a small plantation for our own use. So far as I am able to judge, it would grow and pay for growing, say, in Kent. The frost often cuts it down in spring; however, that does not seem to interfere much with its growth, for it comes up again in after weeks as strong as ever. I should say in the South of France two crops might be obtained in one season, and in India three crops, for it is a rapid-growing plant. I would not advise a large plantation; but I do think it worth trial in our best counties, and I shall be glad to assist anyone who is anxious to make a start.

JOHN W. MCHATTIE,
Gardener to his Grace the Duke of Wellington,
Strathfieldsaye, Sept. 25, 1896."

BRUSSELS INTERNATIONAL EXHIBITION.—Mr. J. DREDGE, Executive Commissioner for the British Section of this Exhibition, states that considerable progress has been made by him in his work, and that the prospects of Great Britain being well represented in all departments are excellent, and applications for space are coming in well.

DOCK-LEAVES AS FOOD FOR PIGS.—Many of the pastures in the Bernese Oberland are so full of Dock and of Bistort that at this season there appears to be little else. Seeing the peasants cutting the leaves, and hanging them to dry under the eaves of their châlets, a dreadful suspicion arose that this might be the basis of Swiss tobacco. An enquiry, however, elicited the fact that the leaves were dried for the benefit of the swine in the winter-time. Docks and Dock-leaves run to waste in this country, though the seeds contain abundance of starch; and, as we have seen, the Swiss have found a use for the leaves.

MICROBIC DISEASES OF PLANTS.—It is only fourteen years since M. HARTIG announced that there

were no microbic diseases of plants; and Anton de Bary, two years after, had already modified that decision by declaring them to be very rare, and explaining this rarity by the generally acid reaction of the vegetable tissues. Nevertheless, in 1885, he mentioned four bacterial diseases of the Pear, Hyacinth, Wheat, and Potato. Ideas have somewhat changed now; the general acidity of plants is no longer admitted, and, further, there are bacteria which do well among acids. Mr. Erwin F. Smith gives a good epitome of the state of the question in the *American Naturalist* (August and September), noting, according to the most authentic works, the bacterial diseases of plants actually known. He commences his investigation with the diseases of the Beetroot, one of which had been already described by Mr. E. Kramer as being caused by a bacillus not yet specified; another has been described by J. C. Arthur and K. C. Golden, and two others by M. Bolley and M. Hiltner. This work is only in its commencement, and Mr. E. Smith renders a valuable service by collating the results already achieved in this branch of science. *Revue Scientifique.*

A Royal Purveyor of Roses.—Messrs. Wm. Paul & Son, of Waltham Cross, who already hold the appointment of Rose growers to the Queen, inform us that they have lately received commands to supply the plants for a new Rose-garden for H.R.H. the Prince of Wales at Sandringham.

Heliopsis scabra, Ladhams's variety.—Recently some flowers of this variety, which had been fourteen days in water, but which were looking comparatively fresh-looking, were sent for our inspection by a correspondent. The plants had been flowering since July, and there was every appearance of their continuing to do so till cut down by frost. Its habit is said to be compact and neat, with the flowers arranged on long branching stems, making it a useful hardy plant. It originated in the Ladhams Nursery, Southampton.

New York Botanic Garden.—A sum of 2500 dollars has been obtained as an endowment fund for this garden, and 250 acres of land set aside by These were so clear and precise, that the collector the municipality of New York. The herbarium and library of Colombia College are to be transferred to the new garden, of which Professor Britton is to take charge.

Uropedium Lindeni. — An amusing story is told relating to the discovery of this plant in a recent number of the *Journal des Orchidées.* According to the story, as told by the late M. Funck, Linden, in the course of his wanderings in South America, entered a cavern, but had hardly done so when a gigantic bear rolled down from the rocks above, dragging with him a huge mass of the Orchid now known as Uropedium Lindeni. Struck with astonishment at the plant, Linden soon recovered his fright at the fall of the bear, which, fortunately for him, retired growling fiercely. Some years after, Linden despatched Funck to South America to collect specimens of the Uropedium, giving Funck all the necessary particulars where to find the cavern, had no difficulty in finding the spot. Advancing carefully, rifle in hand, the collector narrated how he entered the cavern, there to meet with a bear seated on his haunches. The friendly bear extended his paw to greet the visitor, and said "Ah, Mr. Funck, and how is that dear fellow Linden? Has he recovered from the scare I caused him at the time of the discovery of Uropedium Lindeni?" The story is at least as true as some other narratives relating to the discovery of Orchids!

A Lady Florist. — Mrs. Heron-Maxwell, according to the *Daily Mail*, is to be seen every morning at Covent Garden buying flowers for her dainty establishment in Lower Belgrave-street, London, S.W. Mrs. Heron-Maxwell says she loves this department of the business. To use her own words: "Although one has to get up rather early, still, I think that buying the flowers is the nicest part of the whole business; and though some people think Covent Garden is a rough place for women, I don't at all agree with them. The salesmen are so kind and helpful, and never try to take advantage of me—and I have lots of friends amongst the barrowmen. On the whole, I am struck with the kindliness and friendship of one's fellow-tradesmen; there seems to be a sort of creed amongst shopkeepers to help one another, which one doesn't find in all other walks of life." Mrs. Heron-Maxwell records that it is really difficult to buy for her sort of business, and that a wise choice can only be learnt by experience, and even then a certain amount of waste must be expected. It is very curious to note a kind of craze people get for one particular flower. Once learned, this particular plant can be ordered in quantities, and it is certain to be demanded for every kind of decoration. At present Chrysanthemums are the rage.

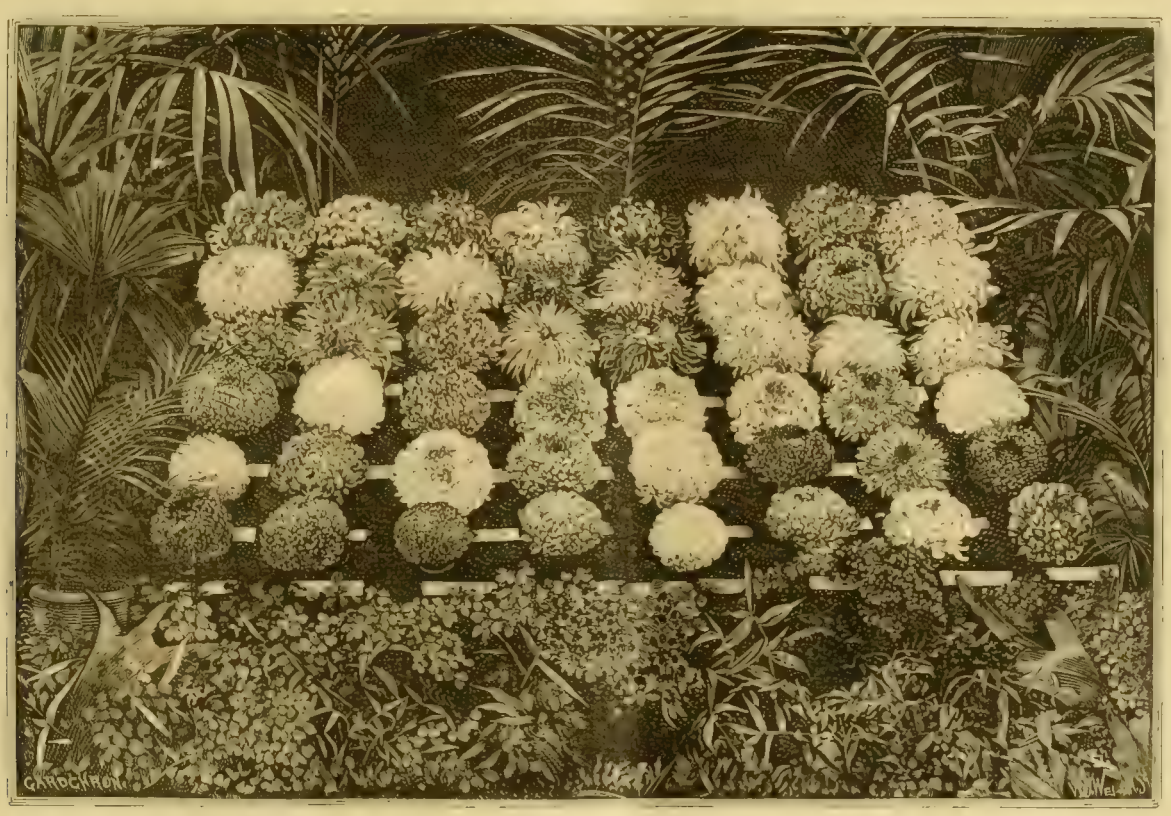


Fig. 101.—A group of Japanese Chrysanthemums.

The Cultivation of Cyclamen. — MM. Alex. Hébert and Georges Truffaut contribute to the *Journal de la Société Nationale d'Horticulture de France* for August, a paper on "The Cultivation of Cyclamen," in which they say that:—1. Under the influence of manures, Cyclamens increase the total weight of vegetable matter elaborated, but this increase relates to the leaves, and diminishes the number of flowers proportionately, thus working for an effect contrary to that desired by the grower. 2. Successful cultivation of these plants can only be hoped for by working, as regards physics, on the soil in which they grow. This soil must, however, contain a sufficient proportion of elementary substances. In practice, the mixture of leaf-mould and sandy-clay succeeds well. 3. If it is thought, owing to poorness of soil, necessary to add complementary manures, our analyses advise the use of a very dilute mixture of nitrate of soda, chloride of sodium, and sulphate of iron. 4. Increase of substances useful to Cyclamen, supplied artificially in superabundance, can yield no

improvement either to the beauty or the quantity of the flowers. Selection tends only to this end, and nutrition improper and in superabundance often modifies disadvantageously in a few months the hereditary characteristics peculiar to the race.

AGRICULTURAL RETURNS.—The Board of Agriculture has issued the customary statistical tables showing the acreage of crops and the number of live-stock in Great Britain in 1895 and 1896. The total number of acres under orchard cultivation in Great Britain in 1896 was 221,254, an increase of between 3,000 and 4,000 acres over the previous year. This increase is even more marked in the case of market-gardens, which in 1896 comprised 96,696 acres, as against 92,837 acres in 1895. Details of this kind are given for each agricultural crop, and each county.

CLEMATIS CRISPA, LINN.—This is a species native of the Southern United States, and but rarely seen here. For a flowering specimen we are indebted to Mr. BURBIDGE. The lobes of the three-parted leaf are stalked and lanceolate; the flowers solitary, lilac, on long, slender stalks, 7 cent. in diameter, apetalous; the sepals forming a cylindrical tube, each sepal oblong below, expanding into a broad ovate-acute or acuminate lilac-coloured blade, the margins of which are wavy or lobulate.

BOTANICAL LATIN GRAMMAR.—A correspondent asks whether there is not a grammar the illustrations and examples of which have a direct bearing on horticulture. Instead, he says, of "hammering away" at paciscor—I bargain; or nummus—a coin; he would have "fodio—I dig"; Viola—a Violet"; and so forth. We fear there is no such book. If our correspondent can secure a copy of *Linnæus' Philosophia Botanica*, it would help him greatly. Linnæus' descriptive language is admirable for its purpose. Would that modern botanists and text-book writers would imitate its terseness and directness.

THE SCOTTISH HORTICULTURAL ASSOCIATION.—An interesting and successful meeting of this association was held on Tuesday, November 3, at 3, St. Andrew Square, Edinburgh, Mr. R. W. E. MURRAY presiding. There was a large attendance of members, and twenty-four new names were added to the roll, among which we hear was the name of Mr. D. T. FISH. An essay on "Glass-structures" was contributed by Mr. JOHN MCINTYRE, Darlington, which excited lively interest. It was mentioned in connection with the forthcoming Chrysanthemum show, Nov. 19 to 21, that it was likely to prove the largest that has yet been held in Edinburgh, inasmuch as the space in the Waverley Market had been more largely taken up than on any previous occasion. Few early Chrysanthemums have been altogether satisfactory this season, though great hopes are entertained that the Edinburgh show may prove the best of the season. Lord Provost MCDONALD is to preside at the opening of the show, and the opening ceremony will be performed by Sir LEWIS MCIVER, M.P., and Lady MCIVER.

A BEAUTIFUL BERRIED BUSH.—Few persons having in them a love for the beautiful, and who have passed in daylight in front of Dr. TROUNCER'S residence at Surbiton, says the *Surrey Comet* of Oct. 24, 1896, but must of late have noticed the singularly striking mass of berries of a rich orange-scarlet colour seen on shrubs of one kind growing in the garden, and projecting high above the outer walls. It is known botanically as Cratægus Pyracantha var. Lalandi. Commonly this plant is grown against walls and houses, being kept hard nailed in and pruned so that it becomes a semi-climber. When so seen berries are produced in great abundance, but the effect is usually formal.

WINCHESTER GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—The fifth annual meeting of the above association was held on Tuesday, Oct. 27. The secretary's report stated that the society was in a flourishing condition, they had a substantial balance in hand, and the number of ordinary members was a little over one hundred, and the honorary members over forty; the average attendance during the year was fifty. Mr. MAYO, who had been chairman for three years in succession, resigned; and Mr. MUNT, gardener to Mrs. WARNER, was elected chairman. Mr. NEVILLE, gardener to F. W. FLIGHT, Esq., Twyford, was elected vice-chairman; Mr. TOWNS re-elected as honorary secretary. During the winter session, lectures will be given by Professors GILCHRIST and FOULKES, under the auspices of the Hampshire County Council.

FLOWERS IN SEASON.—A very bright scarlet-coloured, very fragrant Carnation, named Yule Tide, reaches us from that veteran florist, Mr. JOHN FORBES, of Hawick, N.B., who tell us in the note accompanying it that the plant has received six First-class Certificates this year. As a flower cut from a plant, which the sender remarks has been in continuous flower for a period of thirteen months, it is remarkable for size and substance. As a winter-flowering Carnation it will run Winter Cheer and some other favourites hard for a place in public favour.

THE FRENCH VINTAGE.—Reports from the Western Departments of France are stated to record an unfortunate condition of things, the long-continued rains having played sad havoc in the vineyards. The weather is answerable for many a dreary outlook in vineyards within 20 miles of Paris. Last year we briefly drew attention to the fact, on the authority of a consular-agent on leave of absence, that Hops—and beer—were making way where the Vine had failed. This, for the sake of the workers, is to be regretted—in this connection doubly so.

THE WEST OF ENGLAND CHRYSANTHEMUM SOCIETY'S fifth annual exhibition will take place on November 10 and 11, in Plymouth Guildhall. The committee are making strenuous efforts to secure a record, and to that end are introducing novelties of various kinds. Mr. F. C. SMALE, of Torquay, has been engaged to lecture on both evenings on "The Chrysanthemum at Home and Abroad," with special limelight illustrations. The National Chrysanthemum Society's jubilee medal will be awarded to the best bank of Chrysanthemums in the hall, and no doubt this will lead to even keener competition than last year. As an inducement to further subscriptions, the committee have decided to admit to the lecture all subscribers free of charge.

PRESENTATION TO MESSRS. BACKHOUSE & SON, YORK.—An interesting ceremony took place on Thursday afternoon, Oct. 29, at Messrs. BACKHOUSE & SON'S nursery, near York, when a deputation of the Ancient Society of York Florists waited upon Messrs. BACKHOUSE to present to them a Gold Medal and address as an acknowledgment of their generous assistance to the society in sending collections of plants, flowers, and fruits for complimentary exhibition at the summer shows of the society. The deputation consisted of Mr. Geo. Lamb, treasurer; Mr. J. Lazenby, secretary; Mr. J. E. Wilkinson, and Mr. John Pillmoor, stewards; Mr. Councillor Staines, Mr. R. Mackintosh, and Mr. E. Everard. Mr. J. E. Wilkinson, as senior steward, made the presentation, and addressing Mr. James Backhouse, by whom the deputation was received, said they were deputed by the subscribers to the Ancient Society of York Florists to wait upon the firm with the object of presenting to them a token of the appreciation which they felt of the kindness of Messrs. Backhouse & Son in contributing so generously to the shows which were held during the summer under the auspices of the Florists' Society. They appeared there as representatives of the subscribers of the society, who were desirous of expressing their indebtedness to Messrs. Backhouse for the valuable help which they had rendered to their various shows, and for the disinterested support which they had accorded to the society. He also took the opportunity of testifying to the very great and opportune assistance they received from Messrs. Backhouse, who gave them very valuable support when the Chrysanthemum Show was projected some seventeen years ago. Hence the errand of the deputation. Mr. Wilkinson then handed to Mr. Backhouse a massive and handsome gold medal with appropriate design and inscription, and also read a short address, which he said would be illuminated and framed and presented later on. Mr. James Backhouse, in replying, said what assistance the firm had been able to give had been very willingly rendered, and he hoped that in the future the firm which he then represented would be able to still further the interests of the Society. He thanked them sincerely for the token which they had presented to his firm of their good will. He then invited the deputation to make a tour of the extensive ranges of glass-houses, in which are fine collections of Orchids, Ferns, and plants in great variety.

SIXTY-EIGHT CHERRIES IN A BUNCH.—In the *Gartenflora* for October 15 is a photographic illustration of a bunch, consisting of sixty-eight Cherries, all springing from a common stalk. The bunch is preserved in the museum of the Agricultural high-school of Berlin.

THE FRUIT CROP IN THE UNITED STATES.—The fruit harvest, says the *Echo*, has been enormous in certain districts of America this year. In the Chatauqua region Grapes are so abundant that the price offered barely covers cost of transport, and the greater portion of the Apple crop in places distant from market centres has been left to rot on the ground, or is utilised as food for pigs. It is to be hoped that improved methods of preservation will be introduced whereby excess produce may be kept until a time when the demand is such as to enable it to be sold at a profit.

NEW PUBLICATIONS.—*A Book about Roses*, by S. REYNOLDS HOLE, Dean of Rochester, fifteenth edition (EDWARD ARNOLD), contains a list of the best exhibition and garden Roses. A view of a Rose-hedge in the Deanery garden, and sundry other illustrations, are new features in this most popular volume, which retains its freshness even in a fifteenth edition.—*Year-Book of the United States Department of Agriculture* (1896), contains a number of articles on the application of science to practice which are of the greatest interest to cultivators; an excellent index renders them readily accessible.—*Report of Work of the Agricultural Experiment Stations of the University of California*, 1896, is full of valuable information on soils, water, fertilisers, fruit growing, plant-diseases and like matter. The botanic garden of the University at Berkeley is under the charge of Mr. J. BURTT DAVY. The introduction of the Australian Salt-bush, Atriplex semibaccatum, will, it is said, render productive vast tracts of land which are at present a blot on the landscape. It will also prove of great profit to owners whose farms are marked by alkali spots which have resisted orchard or pasture extension. By means of the Salt-bush, these spots can be covered with verdure, and the resulting forage will aid greatly in maintaining domestic animals. Sachalin has not justified the expectations formed of it. The Foothill Culture Station near Jackson till lately under the charge of our correspondent, Mr. Hansen, who has studied the vegetation of the district, enumerating 800 species as growing in Amador County, ahd among them a large number of species of Oaks.—*An Encyclopædia of Gardening*. By T. W. SANDERS. (COLLINGRIDGE.) A second edition of this useful little book has appeared; its aim is eminently practical—to give in the smallest compass, and with the least expenditure of words, the principal details relating to garden plants which an amateur is likely to want. Mr. SANDERS has condensed into less than 500 pages details which the reader without such help might have to consult numerous volumes. Sometimes brevity leads to obscurity; thus, under Achillea, we find "*Int.* (foreign species) 1596." We suppose one particular species was introduced in the year 1596, but it is not specified, and there are not 1596 species of Achillea.—*Hesdörffers Monatshefte für Blumen und Garten Freunde*. (Berlin: ROBERT OFFENHEIM.) This is the first number of a new periodical devoted to amateur gardening, and illustrated with coloured plates and other illustrations. The contents are varied and interesting.—*Dictionnaire Pratique d'Hor-*

ticulture et de Jardinage, par G. NICHOLSON, traduit par S. MOTTET (Paris: OCTAVE DOIN), has now reached the end of the letter P. It is needless to reiterate here our appreciation of this useful book.—The last number of the *Boletim da Sociedade Broteriana*, published at Coimbra, contains, amongst other things, a classification of the species of Quercus according to the anatomical structure of the petiole. Professor HENRIQUES continues his contributions to the Flora of Portugal. The professor enumerates three species of Pinus, two of Cupressus, four of Juniperus, and one of Taxus, as natives of Portugal.—*Die Tierparasitären Krankheiten der Pflanzen.* Von Dr. A. B. FRANK. (Breslau: TREWENDT.) A second edition of a useful book on the diseases and deformities of plants caused by insect and other animal agencies. It is a book we often have occasion to refer to as containing detailed lists of the insects and other creatures injurious to plants. *Some New South Wales Plants worth Cultivating for Shade and other Purposes.* By J. H. MAIDEN. The title explains the object of this publication. We have often urged our colonial friends to endeavour to develop their own resources rather than sequaciously imitate our Chrysanthemum and other similar culture. How vastly more interesting would be a good collection of the plants mentioned in Mr. MAIDEN's list.—*Fleurs et Oiseaux, Revue Illustrée d'Ornithologie et d'Horticulture.* A publication issued by M. E. DE WAEL, of Boulevard de la Senne, Bruxelles, and devoted to birds and flowers.—*The Nursery Book.* The second title of this book will remove any misconception that might arise as to its object; it runs thus:—"A complete guide to the multiplication of plants." It is, in fact, a third edition of a book by Professor BAILEY, and is published by Messrs. MACMILLAN. The author incidentally mentions the subject of grafting, and shows that the prejudice against it is due rather to improper or faulty grafting than to anything necessarily injurious in the process itself. The first five chapters are devoted to general considerations connected with propagation, the sixth to the special means requisite in the case of individual genera; this portion of the book is alphabetical. A glossary and an index complete a book which should be in every garden library.—*The Book of the Dairy: A Manual of the Science and Practice of Dairy Work.* Translated from the German of W. FLEISCHMANN by C. M. AIKMAN and R. PATRICK WRIGHT. (BLACKIE & Co.) This is not a book which we can review at length in these columns. It must suffice to say that it is a standard book of great excellence, and one which, in view of the great foreign competition to which they are subjected, British, and especially Irish, dairy-farmers should make themselves acquainted with.—*American Grape-Growing and Wine-Making.* By GEORGE HUSMANN. Fourth edition. (New York: ORANGE JUDD COMPANY.) A very complete manual, which will be serviceable in those of our colonies where the Vine is cultivated in the open air. Full directions are given for making wine. The author writes in such a cheery, wholesome spirit that he impresses his readers, and will, no doubt, influence them for good.

PLANT PORTRAITS.

BIFRENARIA AURANTIACA, Lindley; Kränzlin, *Xenia Orchidacea*, t. 281.

BOLBOPHYLLUM SESSILIFLORUM, Wendland and Kränzlin, *Xenia Orchidacea*, t. 290, I.

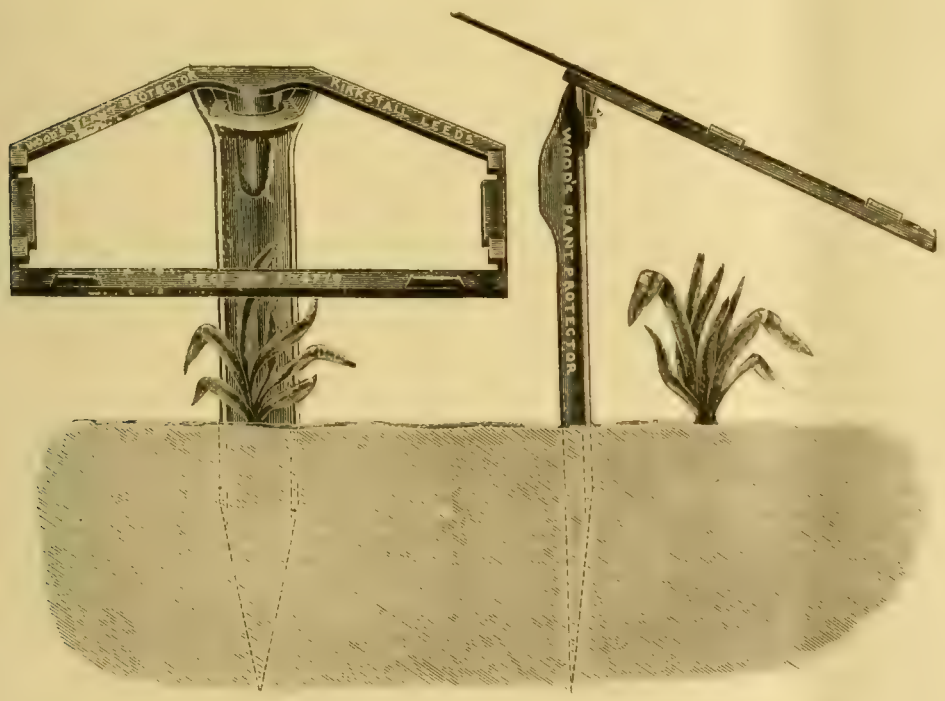


FIG. 102.—WOOD'S PLANT PROTECTOR.

CATASETUM FEROX, Kränzlin, *Xenia Orchidacea*, t. 288, II.

CYPRIPEDIUM CHAMBERLAINIANUM, O'Brien; Kranzlin, *Xenia Orchidacea*, t. 284.

CYPRIPEDIUM WOLTERIANUM, Kranzlin, *Xenia Orchidacea*, t. 282.

DENDROBIUM GLOMERATUM, Rolfe; Kränzlin, *Xenia Orchidacea*, t. 290.

DENDROMECUM RIGIDUM, *Garden*, October 10.

GENTIANA ANDREWSII, *Wiener Illustrirte Garten Zeitung*, t. iii.

GONGORA CASSIDEA, Rchb. f.; Kränzlin, *Xenia Orchidacea*, t. 289.

HABENARIA MEDUSÆ, H. SCHLIEBENII, and H. OCCULTANS, Kranzlin, *Xenia Orchidacea*, t. 286.

HABENARIA SOYAUXII, Kranzlin, *Xenia Orchidacea*, t. 287, II.

PHALÆNOPSIS ANTENNIFERA, Rchb. f.; Kranzlin, *Xenia Orchidacea*, t. 285.

PHILADELPHUS LEMOINEI, Moller's *Deutsche Gärtner Zeitung*, August 20. A cross between P. microphyllus and P. coronarius.

POLYSTACHYA HOLSTII, Kranzlin, *Xenia Orchidacea*, t. 287, I.

PRUNUS AMYGDALUS var. MACROCARPA, *Garden*, October 17.

STENOCORYNE WENDLANDIANA, Kranzlin, *Xenia Orchidacea*, t. 289, I.

TRICHOPILIA MULTIFLORA, Kranzlin, *Xenia Orchidacea*, t. 288, I.

VANDA VITELLINA, Kranzlin, *Xenia Orchidacea*, t. 283.

XANTHORHIZA APIIFOLIA, *Tydschrift v. Tuinbouw*, t. 1.

NEW INVENTION.

WOOD'S PLANT PROTECTOR.

THE frame shown in fig. 102, has been devised by Mr. J. Wood, Kirkstall, near Leeds, with a view to supplying a suitable means for the convenient protection of many plants and bulbs that are not absolutely hardy, and especially such as are injured more by the excess of wet than cold during the autumn and winter months. It is made of cast-iron, in two pieces, which are capable of being locked together by a strong pin and socket. The metal is angled, and the castings have been "barffed" by a patent method to prevent them from rust. The stout upright is 2 inches wide, and 13 inches long. The frame is 11¾ by 11½ inches and by means of a pin is dropped into the socket of the upright, when it becomes ready to receive the sheet of glass, for which convenient grooves are provided. The glass sheets used are 18 inches by 11 inches, or 13 inches by 11 inches.

The object of the inventor has been to produce a protector of durability, and capable of being fixed in a moment.

NOTICES OF BOOKS.

HOW TO STUDY WILD FLOWERS. By the Rev. George Henslow, &c. (The Religious Tract Society).

This is a little book as full of information as, to use a common phrase, an egg is of meat. It is intended, as the title page tell us, for the use of schools and private students. The student is presumed to wish "to know something about our wild flowers, but he does not quite know how to begin to study them. To show how he may be able to do this without other assistance is the aim of the present book." The book is thus intended expressly for the novice. The directions and the information given are, it need hardly be said, excellent. Our only fear is that the beginner may be alarmed and deterred at the outset. At any rate we think it may be well if he refrain from reading the preface till he has made some little progress with the examination of the flowers. Beginners require to have what to them are new phenomena, and specially new ideas, placed before them sparingly and gradually. When they have mastered a few elementary facts and digested a few leading principles, a stronger dose may be given, but at first it seems best to be content with small portions frequently repeated. This method of giving mental nutriment is, it is true, not easily carried out by such accomplished teachers as the author of this book. There is with many teachers a tendency to tell all they know at once, and to condense into a small number of pages an amount of information that might well be spread over a very much larger space. A few carefully selected illustrations leading up from the simple or conspicuous to the more complex and less easily recognised forms seems preferable. A multiplicity of examples necessitates a number of contractions and floral formulas which may prove embarrassing to the beginner, but the study of which, we may assure him, he will find fascinating as he goes on. One excellent feature in the present book is the manner in which the author keeps before the mind of the reader the significance of the facts and phenomena he brings under his notice. The "reason why" is constantly kept in view, and the appearances and phenomena presented by plants are co-related with the conditions under which plants exist, and with their actual requirements. In like manner, the relationships between plant and plant and the evidences of a common ancestry, more or less remote as the case may be, are carefully pointed out. Mr. Henslow appropriately takes many of his illustrations from the experiences and practices of the florist. "If we ask how it is that insect-visited flowers are generally more conspicuous and less fertile in Nature than the insignificant self-fertilisers, the answer resides in the fact that intercrossing is a temporary stimulating process, and tends to make the plants

raised from their seed finer plants in the popular sense of the term. For florists find that when they cross their flowers, those on the seedlings raised from them are often larger and more variously coloured, and the foliage may also be "improved," while even a large number of seeds may at first be produced, but all this tends to detract from the reproductive energy, and soon reduces the degree of fertility; so that florists find that after having crossed and re-crossed a plant with the view of "improving" it more and more, i.e., in a floricultural sense, they soon get to the end of their tether: the "best" flowers at last fail to produce much or even any good seed, and they have to start afresh on some new line." Mr. Henslow's illustration of the abundance of flower in a particular Dendrobium as contrasted with the paucity of seed-vessels, loses some of its force by the consideration of the vast numbers of seeds produced in one pod. Self-fertilisation in plants is not considered by Mr. Henslow to be injurious, and there is no doubt from Mr. Henslow's previous observations and researches that too much importance has been attached to the alleged injurious effects of self-fertilisation. Whether the advantage, which must be admitted, of an occasional cross, has been similarly over-estimated remains to be seen. Mr. Henslow's book is illustrated with woodcuts illustrative of the structural features detailed in the text. For the sake of the next edition we point out that fig. 37, p. 156, more nearly represents Gentiana acaulis than G. pneumonanthe.

The work is one eminently suited for the thoughtful and patient student, and it is one well calculated to stimulate research and to promote a real knowledge of botany.

THE ORCHIDS OF BURMA.*

Too great praise cannot be bestowed on such patient workers in the botany of any district as Captain Bartle Grant, of the Border Regiment, Adjutant Rangoon Volunteer Rifles, has bestowed on the clever compilation under notice, and in which the Orchids of Burma are brought together in a handy volume; described, remarked upon, and their references given, the whole constituting the most complete and accurate work on the subject, available for the identification of species, or for the use of the student who is anxious to go over the ground already opened up and rendered easy by the steady, plodding labours of Captain Bartle Grant, whose reasons for undertaking the work, as given in the preface, at once suggests the usefulness of his finished work to all who have cause to consult its pages. Captain Grant says, "When I commenced the study of Burmese Orchids, I found the want of a book of reference at a moderate price, suitable for a beginner's use, a serious obstacle to my progress." And to provide for the want which no one was better able to estimate than himself, he commenced the long and arduous task which he has so well completed. The Orchids of the Andaman Islands are also included with those of Burma, and both localities have been largely drawn on by importers for some of the most beautiful Orchids in cultivation, such as Dendrobium Wardianum, Vanda cœrulea, V. Amesiana, and V. Kimballiana; but a study of Captain Grant's work reveals the same story that perusal of any complete enumeration of the local flora of any tropical country reveals, viz., that for every species now grown in gardens, there are a dozen equally pretty and interesting yet to be got over—not of the showiest, perhaps, but still good garden plants. To those interested in Burmese Orchids, either in India or elsewhere, Captain Grant's work, which is to be obtained through Bernard Quaritch, 15, Piccadilly, London, will be of inestimable service.

HOW MUCH HE THOUGHT HE COULD EARN.—Presiding at the annual meeting of the Yeovil and District Gardeners' Association on Friday, Judge PHILBRICK, Q.C., F.R.H.S., in the course of his opening remarks, said he had often thought, and sometimes said, that if the worst came to the worst, he could earn 2*s.* a day at propagating.

* *The Orchids of Burma (including those of the Andaman Islands)*, by Captain Bartle Grant. Rangoon, 1895.

HOME CORRESPONDENCE.

THE AUSTRIAN BRIAR.—The "Austrian Briar," or "Harrisoni," Rose, usually flowers but once in a season. Last year, however, three plants of this variety flowered during August and September, and we propagated from them, with the result that all are now (Oct. 19th) in full bloom. *Frank Cant & Co., Colchester.* [With this communication we received a glorious bunch of this highly fragrant and distinct Rose. We congratulate Messrs. Cant on this important "find." ED.]

SCHUBERTIA GRAVEOLENS.—I often wonder why this grand stove climber is not more generally grown. For cut flowers it is almost invaluable, for the long succession of blooms which can be obtained from a freely-grown plant for quite six months. At Easton Park, near Grantham, there is a plant trained on the roof of one of the stoves, which has produced a great quantity of its pure white waxlike, sweet-scented flowers ever since May this year, and will continue to flower for some time longer. Most of the trusses on this plant consisted of from six to nine flowers, and the flowers are much larger than those of Stephanotis grandiflora, which they very much resemble. Another grand old plant, contrasting well with the above in the colour of its flowers, is Ipomœa Horsfalliæ, a plant of which is doing equally well under Mr. Watson's care at Easton, and showing many trusses of its deep rose-coloured flowers. The plant looks likely to flower the winter through. *A. O.*

CELEBRATION OF THE SIXTIETH YEAR OF HER MAJESTY'S REIGN.—As numerous suggestions are under consideration for celebrating the sixtieth year of Her Majesty's beneficent reign, may I venture to bring before the British people a long felt need of the horticultural community? Horticulturists have no common meeting place, no centre, and the establishment of a Home of Horticulture—a Royal Home of Horticulture, if Her Majesty graciously appointed it so—would be an event worthy of this period of our national history. It is quite unnecessary to emphasise the inconveniences inseparable from flower and other similar shows held in buildings not structurally adapted for them, and to do more than refer to the undesirability of holding exhibitions in places to which any exception can be taken. Our institute would be above any objectionable connections. I would suggest the establishment of a Home of Horticulture which should be so designed as to afford facilities for further promoting the interests of other arts, painting, music, &c. It is generally admitted that the best pictures are not always received at the Academy; here they would find a welcome home. On behalf of music, the overflowing non-professional talent might here find ample opportunities for development, even for the assistance of philanthropic enterprises; such a trio might be advantageously united to their mutual benefit, and to the improvement, enjoyment, and advancement of everyone. Having worked out this project somewhat in detail I beg to invite co-operation towards its attainment. The aim is to bring together all horticultural interests to a metropolitan home, presided over by life governors, qualified in the first instance by donation. Every gardener would be eligible for election to the position of life governor whenever a vacancy occurred, the qualification fee being only required from the first board of governors for defraying expenses in the initiatory stage of the society. Suitable premises being found, and furnished in every particular with due regard to the intention and requirements of the establishment, arrangements would be made for a continuous session of exhibitions, lectures, concerts, &c., and an annual convention would be held perhaps in May to consider the year's work, &c. For the convenience of visitors, a properly conducted buffet, with reception and reading-rooms, would form part of the scheme, also a library of books of reference upon horticulture. [The Lindley Library might be made available.] We all know and appreciate the refining influence of beautiful flowers, hence the home to house such in our great metropolis might do a great deal to counteract the degrading influences of music-halls, &c. Let us hope that another Joseph Paxton will come forth and erect a Crystal Palace in one of our central London parks as a home of horticuture for Great Britain. *James L. Wood, F.R.H.S., Cranbrook, Oakleigh Park, Whetstone.*

STRAWBERRIES IN NOVEMBER.—I have sent you a few Strawberries picked from an open border facing south, and have many more in bloom, showing the mildness of the weather. The variety is Vicomtesse H. du Thury. *W. Lewis, gr., East Sutton Park, Staplehurst, Kent.*

MICHAELMAS DAISIES.—Of all the late outdoor autumn flowers, none can compare with the Michaelmas Daisies, Starworts, or perennial Asters. After more than a month of rough weather, including frost of 6°, which blackened and destroyed almost every other outdoor flower, several varieties of the Michaelmas Daisy looked very little the worse. When this is taken into consideration, it is a matter for wonder that these plants are not more planted, although they are beginning to be generally recognised as valuable flowers for the flower garden and herbaceous borders. Where much house decoration is required, what is there at this season so well adapted for filling large vases as the beautiful branching sprays of such Michaelmas Daisies as Ericoides, Robert Parker, Paniculatus, W. J. Grant, Cordifolius, Diana, and others. They are of easy culture in any moderately good soil, as well as in the semi-wild garden, and on the rockery the very dwarf species may be planted; while in positions where the tall-growing varieties can be grown in masses they are very effective. It is in September and throughout October that they are generally most serviceable, especially when other outdoor flowering-plants have their flowers spoiled by frost; those which flower at this time should be planted in larger numbers than the earlier-flowering. Here, in South Bucks, as elsewhere, the past summer was very trying for these plants, although when the rain came, towards the end of August, a wonderful change soon took place in the plants, and growth from this time was all that could be wished for, although finer weather would have been acceptable at the flowering period. One of the best early-flowering varieties is A. Amellus bessarabicus or Amellus major, as I have it there is no difference. It begins to flower rather too early, but it has wonderful lasting properties, the flowering period generally extending into October, and for furnishing armfuls of flowers for house decoration or harvest festivals, it is one of the best, and its masses of dark violet flowers are very effective in the herbaceous border. The plant averages 2 feet in height. Arcturus is a very distinct dark purple variety, 3 to 4 feet high. Of pink-flowered forms lævigatus is a little gem, of compact growth and dwarf habit, averaging not more than 2½ feet in height. Perhaps the best of all as regards colour, which is a beautiful pale blue, is Nancy, which flowers towards the end of September, height 3 feet. Cordifolius albutus, C. Diana, and Paniculatus W. J. Grant are still flowering (October 23); they produce graceful sprays of pale blue or lavender flowers, very useful for cutting, the latter variety branching to the ground, height 4 feet. Robert Parker, growing 5 to 6 feet in height, with larger flowers of soft lavender-blue, is a beautiful variety, the plant lasting in bloom until near the end of October. Archer Hind is another late-flowering variety, still good, with panicles of soft blue flowers; and Maia, also now in flower, is of a darker shade than the preceding. Novæ Angliæ roseus and N. A. pulchellus are taller varieties, distinct in colour, rose and violet. I have as yet omitted the white-flowered varieties, some of which are extremely beautiful, and in some respects of more value as cut flowers than the violet, blue or purple varieties. Perhaps the best of the September-flowering Asters is A. Belgica Harpur-Crewe, which grows to 5 or more feet in height, and branches freely; flowers white with yellow eye. Purity, growing about the same height, is rather later, the flowers are pure white, very good. Janus, white, 4 to 5 ft.; flowers still open. John Wood is another fine white, of dwarfer habit; Versicolor Themis is a good dwarf variety, 2 feet to 3 feet; Esme is the best dwarf white variety (1½ foot), with large white flowers, some still open; this was one of the Rev. C. Wolley Dod's seedlings, and through his courtesy the writer is enabled to grow this charming variety. A small flowering, but extremely useful variety for cutting, is Ericoides (2 to 3 feet), a great favourite for vase-work. The same may be said of Tradescantii, the first flowers of which are opening now; the sprays are very graceful, and the foliage being small, lanceolate, of a deep green colour, giving it a very light appearance—this grows 4 to 5 feet in height. In the above will be found a good selection from the now numerous varieties catalogued. Twelve good ones, arranged as nearly as possible according to the flowering-season, are:—Amellus bessarabicus, Harpur Crewe, lævigatus, Nancy, Purity, Esme, cordifolius, Diana, Robt. Parker, paniculatus, W. J. Grant, N. Angliæ roseus, ericoides, Tradescantii; all may be

easily increased by division. A very good plan is to pot up a few suckers of each variety, which are plentiful about this time, and winter in cold frames, or plunge them outside, to be planted out in spring. The later varieties are very useful grown in pots for conservatory decoration. *H.*

THE SECOND FLOWERING OF CHOISYA TERNATA.—Seeing Mr. Baxter's note on the second flowering of Choisya ternata this season, I may be allowed to state that, in the gardens which I have just left, Embley Park, Romsey, there is a large plant of it in full flower at the present time. I may also say that silicate manure is good for it, a fact which I discovered by its being planted close to a Vine, to which this sort of manure was applied; and some of the Choisya roots got into the Vine-border, with the result that its growth was much influenced for the better, and its flowering extremely fine. The plant was not protected during severe wintery weather, and did not suffer more than some of the Laurels and Rhododendrons, which shows that it is a fairly hardy plant. *John Champion, Hascombe, Godalming.*

THE PLANTING OF PEACHES AND NECTARINES.—The substitution of young trees for old ones is a matter that ought to be provided for a few seasons in advance, so that when the time arrives for grubbing out the old trees, a number of fine trees may be found on the walls wherewith the fruit-wall may be kept replenished. If these young specimens are lifted at this date, and the work is well and carefully done, fruit is produced the first season afterwards. The practice of planting maidens of the Peach, Plum, Cherry, Pear, Apple, &c., on vacant parts of the fruit-walls and espalier fences is a good one, that no gardener should neglect, as in a very few years these trees, with proper care in pruning and training, become useful in filling gaps almost at once. I have just lifted and re-planted three such young specimens, which have been trained for placing in forcing-houses, the varieties being a Pine-apple Nectarine, Goshawk and Late Admirable Peaches. These trees were selected three years ago, and on being lifted were found to possess an immense number of fibrous roots, just the kind one likes to see in a fruit-tree which is expected to yield fruit the first year. These trees will suffer scarcely any check from the transplantation. In planting in light soil in the warmer parts of the country, heavy loamy soil should be mixed with the staple, adding besides this plenty of lime rubbish, burnt earth, bones, or failing the latter, some rotted manure. I always firmly ram the soil when filling the holes if it be in a moderately dry state at the time. The best Peaches and Plums, also Cherries, which have grown at Mereworth, are planted in good soil, which was rammed a good deal at the time of planting the trees. Under this sort of treatment the shoots made are short and sturdy, and fruit-buds always numerous. Those planted under glass are treated in the same manner, and with the best results. Opinions vary as regards varieties to plant, and for mid-season Peaches I fancy there is none better than Dymond, Royal George, Noblesse, and Stirling Castle. As an early variety Waterloo always does well at Mereworth; Bellegarde is excellent under glass, but does not produce its shoots quite so freely as some others, so that very careful attention is needed when disbudding. I planted two years ago an early Grosse Mignonne, but as yet I do not feel well satisfied with its behaviour, and its place will probably be taken by Hale's Early. It would be interesting to hear the experiences of others concerning Early Grosse Mignonne. *H. Markham, Mereworth Castle.*

THE FLOWERING OF BAMBOOS.—Bamboos generally flower rarely, and are supposed to perish immediately after flowering. There are, however, several authenticated exceptions to this rule, Arundinaria Simoni flowering annually at Kew and elsewhere; Thamnocalamus Falconeri, often called Bambusa falcata, also flowers frequently in the temperate-house at Kew, and does not suffer in consequence. This species has been known to flower simultaneously all over large areas, and to die immediately afterwards. The Kew plant was, therefore, considered to be abnormal. I have, however, lately seen in the "Kibble" Conservatory at Glasgow several plants bearing a few flower-culms, and I was assured by Mr. Dewar that it is of annual occurrence there. In the large conservatory at Chatsworth I saw lately a large specimen of Bambusa arundinacea bearing a few flower-branches, and Mr. Chester said he had seen the same plant in flower several times, and looked upon it as a usual thing for the plant to do so. Specimens of this plant were sent to the Kew Herbarium, where the name has been verified. We have, therefore, three species of monocarpic Bamboos proving polycarpic under cultivation in this country. Is it possible that the effect of artificial conditions for a long period has been to modify the habit of these three species in the production of flowers intermittently, or does the same thing happen in the case of wild plants, and escape notice owing to the dense leafage of the barren stems? *W. W.*

THE LAST FLOWERS OF AUTUMN.—Notwithstanding the extreme lateness of the season, I have two Oriental Lilies—speciosum Krætzeri and S. roseum, still in bloom in my garden. I had auratum flowering as late as October 16, with twenty-five flowers fully expanded, and quite fragrant at that time; but the speciosums I have mentioned, and which are characterised by great hardiness of nature, are later still. This species is invariably the last of my Lilies to bloom; and for this reason it is all the more highly prized. Roses have as yet been little affected by the influence of the frost (of which we have had in the south-west of Scotland many degrees for several nights past), and many beautiful varieties, such as Mrs. Sharman Crawford, Mrs. John Laing, Merveille de Lyon, Mr. Cranston's Crimson Bedder, Marie Van Houtte, and Duchess of Bedford are flowering still. So also are the garden Chrysanthemums, which have never ceased blooming since the beginning of July, their season being much longer than usual this year. This is all the more remarkable, because the heavy rains and storms which recently prevailed were exceedingly unfavourable to floral productiveness, and to what is usually termed "perpetuality." There can be no question that during that exceptionally trying period myriads of flower-buds of every description were totally destroyed. I sincerely trust that my Rose trees may soon be quite dormant; very exuberant vegetation at this season is dangerous, and should be as much as possible repressed. *David R. Williamson.*

CYCLAMEN BUDS REFUSING TO OPEN.—Your correspondent who signs himself "C. B. W.," does not mention the use of manures to his plants, now that they should be about to develop their blossoms. My plants are full of flower-buds, and I am applying some weak liquid-manure water from the farm-yard. Our plants growing in the same temperature, and the same kind of house as "C. B. W.'s," and I have never had any Cyclamens which did not open their flowers satisfactorily. *W. B.*

—— Replying to "C. B. W.'s" question as to the reason of white Cyclamen buds not opening, we think this is due to their being grown in 64° of heat on inverted pots without saucers; a hot, dry atmosphere for Cyclamens at flowering time is liable to cause this. We believe that if "C. B. W." will water liberally, and place saucers under the pots, the buds will open freely. The best staging for Cyclamens at this time is a close stage, covered with ashes. *Sutton & Sons.*

CHRYSANTHEMUM BEAUTY OF TEIGNMOUTH.—What a muddle seems to be made of this beautiful variety! With your permission I would like to give its history:—In 1894, Messrs. Hannaford & Son, of Teignmouth, received from a relative in Australia a batch of seedlings. Some of these were placed in the hands of Mr. George Foster, of Teignmouth, to grow, among them being two varieties named Beauty of Teignmouth and Pride of Madford. Upon trial the first-named was found to be a good thing; the other a dull red of small size, and it was discarded. Some fine blooms of Beauty of Teignmouth were placed before the Floral Committee of the National Chrysanthemum Society in the autumn of that year, but were unnoticed mainly owing to the fact that the room in which the Floral Committee sat was a very dark one, where anything coloured could not be distinguished. For the same reason, at the Devon and Exeter show, Mr. Foster was disqualified for exhibiting Beauty of Teignmouth in a splendid stand of thirty-six blooms. The judges, one of which is known all over England, considered it identical with Duke of York, which was already in the stand, and I admit Beauty of Teignmouth can be grown from the early bud to be hardly distinguished from Duke of York, and such was the case in this instance. However, this disqualification was the means of bringing Beauty of Teignmouth into notice. In October of 1895, the Royal Horticultural Society gave an Award of Merit to Pride of Madford, and a fortnight later to Beauty of Teignmouth, which, as certificated, is one and the same thing. In the same season I placed a couple of good blooms of Beauty of Teignmouth before the National Chrysanthemum Society, which were passed. Last week this as Pride of Madford was certificated by the National Chrysanthemum Society, which in the last issue of the *Gardeners' Chronicle* is given as Pride of Madford, an American. It seems hard to get the merits of Beauty of Teignmouth acknowledged. *W. J. Godfrey.*

AUTUMN TINTS.—Although the autumn has been extremely wet, and high winds have prevailed at times, some trees and shrubs at Dropmore have assumed very beautiful colours, although not quite comparable to those of last year. Up to the time of writing (Oct. 16th) not sufficient frost has occurred to injure either flowers or foliage here, and many trees and shrubs are very conspicuous in the woods and shrubberies by their richly coloured foliage. Of shrubs, none can compare with the richly coloured leaves of the Ghent Azaleas of dazzling crimson, red, bronze, and gold, which for house decoration, associated with white or other suitable coloured flowers, are effective and useful. While noting these it may be interesting to remark that those with pink, crimson, red and other highly-coloured flowers usually have the least colour in their autumn foliage, which often dies off of a dull reddish-brown or greenish-brown tint, while the highest coloured foliage is found almost exclusively on bushes whose flowers are of a yellow or orange colour. These are usually highly coloured even when growing in partial shade, although exceptions occur occasionally in these, as sometimes I have found a single stemmed plant among a batch of seedlings with dull green or brown foliage growing in the middle of others highly coloured, and under similar conditions as regards growth and light. The Venetian Sumach, Rhus Cotinus, is a very showy subject, with crimson foliage [In some soils and places this is a soft yellow. ED.]. The single-flowered Viburnum Opulus is handsome, with both crimson foliage and berries also. One of the finest pieces of colour just now among trees is seen in a densely leaved specimen of Pyrus torminalis, branched to the ground, and about 50 or more feet in height. This tree appears even more vivid in its colouring than was the case last year, the leaves being a beautiful bronzy red colour. This species of Pyrus is always a feature in the autumn, as the foliage invariably has high colours, although in some seasons the colouring is higher than in others, but never have I seen it more so than this year. Quercus coccinea, the Scarlet Oak, is also finely coloured now; this tree is well known for the handsome colouring of the foliage in the autumn. Maples have suffered much from the severe storms of wind and rain, for although the foliage of many attained a crimson and gold colour, the leaves were soon stripped off by the rough winds, and the trees are now quite leafless. The wild Cherries, "Geans," form a pleasant feature in the woods and pleasure-grounds dotted among other trees. Besides being handsome pillars of white blossoms in spring, they are also the first among woodland trees to assume the crimson tinted foliage in early autumn: these have also suffered from the rough weather, but to a lesser extent than the preceding, the leaves hanging on the shoots very persistently. The Chestnut and Beech woods are rich in yellow and bronze; and our large trees of Magnolia acuminata are handsome, partly owing to the size of their leaves, the colour of which has now assumed a beautiful golden brown. The Common Birch is beautifully clad with yellow leaves, while the deciduous Cypress is a pyramidal picture of brown and yellow foliage. *C. Herrin, Dropmore.*

NARCISSUS HORSFIELDI FAILING.—A correspondent writing over the signature "Calyx," inquires in the *Gardeners' Chronicle*, p. 435, concerning a failure of the bulbs of Narcissus Horsfieldi. Speaking from an experience of well nigh twenty years, I may say unhesitatingly that N. Horsfieldi is not addicted to the particular kind of malady known to gardeners as "basal rot;" indeed, so far from being general in this variety, it is the reverse, as in all my experience I have never had an instance of it. Judged by the general behaviour of this variety, it cannot be called a bulb of very vigorous growth, although it is one of the most prolific in reproduction by means of off-sets. In cultivating N. Horsfieldi an over-rich soil is not wanted to render it prolific, and it is particularly so when left in the soil for say three or four years. It will then, in either light or heavy soils, assuming always the latter are fairly well drained, surpass the bulk of the trumpet Daffodils. Dutch-grown bulbs, however, while somewhat larger than those grown in England, frequently consist of very soft tissue, the result of being overfed, and the result is well-known to all cultivators of the flower. In fact, this gross feeding is as unnatural as it is unnecessary, and is not

adopted by the best growers for the reason given by your correspondent, viz. "when basal rot starts in bulbs of this nature it would quickly develop." Moreover, it is not those over-large bulbs which produce the largest flowers, but rather those that combine size, firmness and solidity. When it is necessary to manure these bulbs, it is best to put the manure six inches or further below the base of the bulbs, and not to dig it in indiscriminately before planting. And those who require the best value for money would be consulting their interests by dealing with an English firm of repute, making a stipulation for home-grown bulbs. Such as these may be planted in any good and deeply-worked ordinary soil without manure of any kind. Indeed, if "Calyx" adopts this view, and the above suggestions also, he will find that this variety is as strong and sound in constitution as ever. Allowing the bulbs to remain in one spot for three years is one of the best preventatives to over-manured soils, though commercially this is scarcely possible. *E. Jenkins.*

EFFECTS OF THE LATE RAINS.—Those who take the trouble to note down from time to time the progress of the various Kitchen Garden crops, will have found some peculiar and instructive lessons this autumn, many of which are worthy of mention. It will, perhaps, be remembered by many that we had an exceptionally dry time up to the 22nd of August, owing to which there was much difficulty in getting seeds to germinate, or plants to grow with anything like the freedom one would wish. Turnips that were sown at the end of July made but little progress for the first three weeks, but after that date they grew very rapidly, so much so that by the end of September such varieties as Snowball, Stone, and Veitch's Red Globe were a pound each in weight. Cabbage sown at that date made but poor growth for a while, since which, however, they have done remarkably well. Later sowings of both Onions, Cabbage, Lettuce, and Cauliflowers, have scarcely grown at all, and this has thrown gardeners considerably out of their calculations. In ordinary seasons Cauliflower that was sown early in September would by this be large enough for transferring to the cold frames; at the present time they are only just showing the rough leaf. Those who find themselves thus situated would do well to prick the plants out into boxes and keep them growing steadily through the winter, otherwise they will be behind in spring. Although such varieties as Early Forcing or First Crop are useful for sowing in heat at the commencement of the year, and will produce heads before the Walcheren raised from seed sown in the autumn, the latter is a fine main crop variety which, if well grown, never fails to afford satisfaction. Onions, again, may be sown at the present time in pans or boxes, but such sowings entail a considerable amount of labour to produce a crop equal to that obtained from seed sown in the open during August. It is to be feared that the second sowing of Cabbage will in most places prove a failure; particularly will this be so where the soil is heavy and retentive. Where it is more porous the water will have passed through more readily, and therefore not reduced the temperature to such a low degree as is the case on stiff land. The late sowings of Lettuce and Endive have suffered considerably—most of the seed perishing in the ground; while Carrots have been just the opposite, for these have grown with marvellous rapidity of late, as sowings made towards the end of July have produced roots that are ready for use. There is a great difficulty in getting the soil dry enough to earth up the Celery, and unless a change for the better takes place soon, much of it will rot before it is ready for use. All green vegetable crops are very tender, therefore if we should be visited with an early winter they will suffer considerably. Broccoli have made such rapid progress of late, that a small amount of frost would do them considerable damage; preparations should be made for their protection. It would be advisable to check their growth by timely lifting, there being little danger of them suffering from lack of moisture at the roots. Such things as Parsley are full of sap, and would be affected by the first sharp frost; a good quantity ought therefore to be placed in a convenient place, where protection could be afforded should it be found necessary. It is also well to be provided with material for covering Asparagus-beds that are intended for forcing, that the roots may be lifted whenever they are required. Globe Artichokes are also more liable to suffer after so much wet, therefore the ground round their roots ought to be mulched [fine coal ashes are recommended for this purpose. Ed.] to exclude the frost. If these things receive attention in time, there will be less risk of the plants suffering when winter sets in, but when driven off till late, there is often much difficulty experienced in getting the work done. *H. C. Prinsep.*

A PLEA FOR THE BARBAROSSA GRAPE.—I send you a photograph taken last year of one of our five vineries at Thornham, when 260 bunches of Barbarossa Grapes ripened well. Our Vine was planted some twenty-five or thirty years ago, to furnish crimson-coloured leaves for dinner-table decoration, in the good old times when the Prince of Wales, the Dukes of Edinburgh and Connaught, and other grandees used to visit here. I think Vines in many houses are much too near the glass. Some forty-eight years ago I lowered the Vines in the other vineries to a distance of 25 inches from the glass; it is easily done by putting spikes in the rafters with a hook at the bottom of each spike for stout wires to rest on, and the Vines dropped down to them. The Vines are thus much warmer, and the Grapes are earlier fit for cutting. The house in which is the Barbarossa Vine, and which is the subject of the photograph, is span-roofed, 60 feet long, 12 feet wide, and 15 feet to the ridge. The main stem is at about 3 feet distant from the glass at the sides, and rather more than 5 feet from the apex of the roof, so that the warm air plays freely between the leaves and the glass. There are 300 bunches of well-ripened fruit on the Vine this year, half of which we shall place in bottles as soon as the leaves have fallen. This Grape, as most of your readers are aware, is not of such good quality as the Black Hamburgh, but it is an excellent keeper when cut and bottled, and is good even so late as the end of the month of April. The shoots will have rooted in the water contained in the bottles ready for planting if required. Of course, all pot-plants in the house are removed as soon as the Grapes begin to colour. *J. Perkins, gardener to Sir Donald Macfarlane, Thornham Hall, Eye.* [The photograph alluded to by Mr. Perkins, shows a very fruitful old Vine of the Black Barbarossa, whose stem was carried round the sides and ends of the vinery, at a sufficient distance from the upright glass to admit of bearing-shoots 3 feet long being laid in; the central area being similarly furnished with laterals which nearly meet at the tips. The crop was a heavy one and the bunches large, as those of the variety always are under good cultivation. Unfortunately, the photograph is unsuitable for reproduction. Ed.]

SOCIETIES.

NATIONAL CHRYSANTHEMUM.

November 3 and 4.

CHRYSANTHEMUMS have been exhibited at the Royal Aquarium during the present week in greater abundance than ever. The National Society, whose care it is to maintain and increase the popularity of the flower, has done all it possibly could to make the celebration of its Jubilee an event of such importance that it may be remembered for many years. The Special Jubilee Exhibition, which was opened on Tuesday last, was a remarkable one. The competition in most of the classes was uncommonly large, and the result was such that the Aquarium was filled with the display; and in addition the St. Stephen's Hall was only just capacious enough to accommodate the collections of fruits and vegetables that were arranged there. During the afternoon and evening of Tuesday the building became so thronged with visitors, that it was a matter of physical impossibility for anyone desirous of criticising the exhibits to effect his purpose. This extraordinary crush towards the latter part of the day, and the bad light previous to the illumination of the building by the electric light, was sufficient to impress the least susceptible person with regret that horticulturists are still without a hall or suitable building in the metropolis, where this and every other exhibition pertaining to horticulture might be held, under conditions less opposite in character to the spirit of horticulture. In any proposed celebration next year by horticulturists of the completion of sixty years' reign by Her Majesty the Queen, the provision of such a hall should be given a first consideration.

The exhibition, in regard to matters of detail, was specially noteworthy for the popularity attending the Japanese varieties. These were increasingly abundant; for instance, there were a dozen entries in the class for sixty blooms of distinct varieties, and near upon thirty collections in a class for twenty-four blooms. The increase of varieties which produce larger flowers and greater variety in colour and form, is also still maintained. Indeed, the popularity of this section is more pronounced than ever. On the other hand, there was not a single entry in a class for reflexed blooms, and but poor competition in those for Anemone-flowered varieties. We are glad to observe that the single-flowered varieties were well shown in several collections, for their beauty and usefulness entitle them to a greater share of popular favour than they have ever yet been given.

Incurved sorts were present in considerable quantity, but there is little enthusiasm respecting them, and they are unmistakably less popular than in the early days of the National Society. Nor are they exhibited better or even as well as then. The blooms seem more flat, larger, but less perfect in form, even the old Queen and Princess types. The trained specimen plants were equal to any that we remember to have seen, and it was remarked that some of the newer varieties, such as Viviand Morel, Chas. Davis, Col. W. B. Smith, and Gloire du Rocher, have proved to be suitable ones for this purpose, but the old Christines, Margot, Elaine and Sœur Mélanie, are still unsurpassed. As will be seen from our report, there was a good competition in the open class for a group of Chrysanthemums arranged for effect, but on the whole these exhibits were less interesting than on some former occasions.

The arrangements for such a show, re-organized and re-constructed on Thursday, as these lines are passing through the press, must have necessitated an enormous amount of work, and it is creditable to Mr. Richard Dean, the Secretary, upon whom most of this devolves, that they were so satisfactory. On the evening of Tuesday a Jubilee Banquet was held, under the presidency of Sir E. Saunders, at the Hotel Metropole.

PLANTS.

Open Classes.

Groups.—There were five competitors in the class for a group of Chrysanthemums in pots, mingled with foliage plants, to be arranged for effect in a circle of 12 feet in diameter. The 1st prize consisted of a Gold Jubilee Medal and £10, and there were three other prizes.

All of the groups were staged in a line in the gallery directly opposite the centre stage. The small space allotted each, and this being a circular one also, there was not the amount of variety in the method of arrangement adopted that could have been wished. It needed very considerable discrimination to decide the superior merits of one or another.

The 1st prize was awarded to Mr. H. J. Jones, Ryecroft Nursery, Hither Green, Lewisham, a judgment with which we had not occasion to differ. The intention in this case was to include as many plants in the space as possible, and about half of them consisted of novelties of the present year. Yet there was not undue crowding, each bloom could be seen distinctly, and the quality of these was distinctly superior. The face at the base was largely composed of Ferns, including Adiantum Farleyense, also Selaginella, Dracæna Sanderiana, various Crotons, and such like plants. Plants of Cocos Wedelliana relieved the face of the group throughout its circumference, and the summit was crowned by a fine plant of Kentia Fosteriana, which was too heavy for such a position. Mr. W. Howe, gr. to Henry Tate, Esq., Park Hill, Streatham, was awarded 2nd prize, and his exhibit being that of an amateur, was distinctly creditable (see fig. 100, p. 563). The 3rd prize was taken by Mr. W. Wells, Earlswood Nurseries, Redhill, Surrey. The exhibit was arranged to give a light and graceful effect, and this end was secured in a greater degree in this group than in any, and some judges would probably have placed it 2nd, or even 1st. Mr. Thos. S. Ware, Hale Farm Nursery, Tottenham, was 4th; and the other exhibitor was Mr. W. Davies, gr. to W. F. Darnell, Esq., Devonshire House, Stamford Hill, London, N.

Trained Specimens.—There were several collections of these, and most of them deserve special commendation. The principal class was for Nine Trained Specimens, distinct, of any or all sections. The prizes offered were liberal, the 1st consisting of a Gold Jubilee Medal and £15; and there were three others of proportionate value. The 1st prize collection was undoubtedly one of the very finest we have seen. It came from Mr. D. Donald, gr. to J. G. Barclay, Esq., Knott's Green, Leyton; the varieties were Margot, W. Seward, Pink Christine, Col. W. B. Smith, W. Tricker, Chas. Davis, Viviand Morel, Jno. Shrimpton, and Elaine. The 2nd prize was awarded to Mr. J. Brooke, gr. to W. Reynolds, Esq., The Grove, Highgate, and the plants from this exhibitor were of fine quality also; we noticed one specially good specimen of the variety Gloire du Rocher. 3rd, Mr. W. Davey, gr. to C. C. Payne, Esq., Cedar House, Stamford Hill; and 4th, Mr. G. H. Cooper, Lower Sydenham Road, Croydon.

Six trained specimen Pompon Chrysanthemums, distinct, were likewise best from Mr. D. Donald; he had White Martha, William Kennedy, a crimson purple reflexed variety; Frances Boyce, a pink-flowered Anemone Pompon; W. Westlake, Yellow Martha, and Sœur Mélanie. Mr. J. Brooke was 2nd, and included amongst his varieties were Black Douglas, Mr. Anstie, yellow; and Adonis, rosy-lilac. 3rd, Mr. G. H. Cooper.

CUT FLOWERS.

Open.

Japanese.—The first and most important of the cut flower classes was one for sixty blooms of Japanese, distinct. There

were at least twelve competitors, and it was expected that the 1st prize would be won by Mr. Lees, the champion of last season; or by Mr. W. Mease. The judging decided in favour of the latter exhibitor, gr. to Alfred Tate, Esq., Downside, Leatherhead, who was well 1st. The varieties in this collection were:—Back Row: Mutual Friend, a marvellous white; Wood's Pet, International, Jas. Myers, Mrs. J. Shrimpton, Duke of York, Miss Goschen, Madame Carnot, very fine; Edith Tabor, one of the best yellow novelties; Mrs. G. Carpenter, Simplicity, Mrs. C. H. Payne, Mrs. Dorothy Shea, Mrs. W. H. Lees Silver King, A. H. Woods, Etoile de Lyon, M. Pankoucke, Australie. 2nd Row: President Borel, Pride of Swanley, Viviand Morel, Mrs. H. Weeks, Mons. Chenon de Leché, a handsome flower; Mdlle. M. Hoste, Van der Heede, Phœbus, Hairy Wonder, good; Ed. Molyneux, H. L. Sunderbruch, Madame Alf. Chatin, M. Chas. Molin, Colonel Chase, Modestum, an excellent yellow; Western King, Violetta, W. G. Newett, Chas. Davis and Oceana, &c. Front: Mrs. B. Ironside, Pride of Madford, Mrs. Chas. Blick, Thos. Wilkins, Mons. Gruyer, Mrs. F. Jameson, Eda Prass, Henry Jacotot fils, Florence Davis, Sunflower (not large), Guirlande, Robert Owen, Mdlle. Thérese Rey, Mrs. Herman Kloss, Viscountess Hambledon, Lord Brooke, Madame M. Ricoud, Niveum, Souvenir de Petite Ami, and Colonel W. B. Smith. 2nd, Mr. W. H. Lees, gr. to F. A. Bevan, Esq., Trent Park, New Barnet. The flowers in this collection were also good, and most of them were novelties. Edith Tabor, Mrs. W. H. Lees, Madame Rozain, Madamé Ad. Chatin, Baron Ad. de Rothschild, Mrs. J. Lewis, Phœbus, Mutual Friend, Western King, Emily Silsbury, Calvat's Australian Gold (good), Dorothy Seward, International, Miss Elsie Teichmann, Lady Byron, M. Chenon de Leché, are instances, all of which were well represented; 3rd, Mr. A. Haggart, gr. to the Hon. Lucius O'Brien, Moor Park, Ludlow; 4th, Mr. J. W. McHattie, gr. to His Grace the Duke of Wellington, Strathfieldsaye.

Incurved Blooms. Mr. Mease also won the premier award for incurved blooms, and staged sixty very commendable blooms, in not fewer than thirty-six varieties, some of which might be described as excellent, but others were weak. In the back row were Queen of England, of fair quality; Globe d'Or, Empress of India, Golden Empress, C. B. Whitnal, Jno. Lambert, J. Doughty, Major Bonnaffon, Mrs. R. C. Kingston, Lord Alcester, C. H. Curtis, and Robt. Petfield. Second Row: Baron Hirsch, Miss M. A. Haggas, Robert Cannell, Noel Pragnell, M. R. Bahuant, Ami Hoste, J. Lambert, M. P. Martignat, A. Salter, J. Agate, Jeanne d'Arc, Lord Wolseley, and William Tunnington. Front Row: Flora McDonald, D. B. Crane, Princess of Teck, rather weak; Refulgens, Brookleigh Gem, good; Mrs. S. Colman, Princess Beatrice, Mrs. W. Shipman, Empress Eugénie, Mrs. Fulford, Mr. J. Murray, J. Doughty, Mrs. F. Hepper, Violet Tomlin, and Madame Darier.

Of eight other competitors, the most successful was Mr. W. Higgs, gr. to J. B. Hankey, Esq., Fetcham Park, Leatherhead. The flowers were very bright, and but little inferior to those in the collection already noticed. Some of the more attractive in this exhibit were Empress of India, Ami Hoste, Jeanne d'Arc, Chas. H. Curtis, J. Agate, Jno. Lambert, Princess of Wales, and Madame Darier. 3rd, Mr. W. H. Lees; and 4th, Mr. J. H. Goodacre, gr. to the Earl of Harrington, Elvaston Castle, Derby.

Anemone-flowered varieties. There were but two competitors in the class for thirty-six blooms, including specimens of each type. The 1st prize was awarded to Mr. W. Skeggs, gr. to A. Mosley, Esq., West Lodge, Barnet. He had blooms of Duchess of Westminster, Jeanne Marty, Robin Adair, M. Pankoucke, Owen's Perfection, Jno. Bunyan, Mrs. Levin, very fine; Sir Walter Raleigh, Mdlle. N. Brun, Mons. Dupanloup, W. W. Astor, Madame Lowton, Queen Elizabeth, M. Ch. Lebosceqz, Thermidor, Mrs. J. Benedict, Descartes (excellent), Cincinnati, Gladys Spaulding, Acquisition, Glück, and Miss Margaret. There were pretty Pompon Anemone varieties in the exhibit also, of which we noticed Mrs. Wyness, Antonius, yellow; Emily Rowbottom, blush white; Jeanne Hackett, with yellow cushion and white ray florets, and others. 2nd, Mr. J. Justice, gr. to the Right Hon. Sir R. Temple, The Nash, Kempsey, Worcester. There were some excellent blooms in this collection. Madame Montels, Calliope, Antonius, and Delaware, for instance.

Single-flowered Varieties.—Several competitors entered the class for twenty-four varieties of single-flowered Chrysanthemums, three blooms of each large variety, and six of the smaller ones. The 1st prize was won by Mr. G. W. Forbes, gr. to D. Nicol, Esq., Regent House, Surbiton. This exhibit compared very favourably in point of beauty and effect with those of other and more popular types. The large flowering varieties were:—Alphonso, pure white, with yellow disc; Mrs. D. B. Crane, yellow; Miss M. Rennie, light yellow, edged with rose-pink; Ad. Sir T. Symond, yellow; Maud Robinson, red, with yellow centre and disc; Mrs. W. J. Crossley, white, with blush at tips of the florets; Miss Brown, pale pink, with white centre; Jane, pure white; Miss M. Wilde, a very pretty flower of rosy-lilac, with white centre; Lady Churchill, deep brown florets, tubular; and Charming, a chestnut-yellow, very fine. The smaller-flowered ones included Snowdrift, Earlswood Terra Cotta, Scarlet Gem, Sarah Wells, very pale lilac; Frederick Kanth, elegant; Miss Mary Anderson, the best type of single Chrysanthemum The Echo, Mora, Old Gold, and Miss Annie Holden. 2nd, Mr. Jas. Agate, nurseryman, Havant, in whose exhibit we noticed a very dark crimson variety named Gertie Sedgeley, and other good ones; 3rd, Mr. W. Wells, Earlswood Nurseries.

Market Growers Only

This was a class for twenty-four bunches of Chrysanthemums as grown for market. There were only two exhibitors, and the 1st prize was awarded to Mr. Norman Davies, The Vineries, Framfield the flowers in this collection were arranged in flat bunches or sprays, and the varieties were Mrs. Briscoe Ironside, Stanstead White, M. Pankoucke, W. Holmes, Major Bonnaffon, Souvenir de Petite Amie, Miss F. Lunn, Chas. Davis, The Talisman, a fine yellow, handsome bloom; Beauty of Framfield, very deep crimson single; the old Source d'Or, still one of the best; Viviand Morel, Mrs. E. S. Trafford, Eynsford White, Gladys Roult, pure white reflexed; and Pallanza. Mr. F. G. Foster, Brockhampton Nurseries, Havant, who was 2nd, and showed the blooms arranged in round bunches.

SPECIAL JUBILEE PRIZES.

Cut Flowers.

For Twenty-four Incurved Blooms Distinct.—The 1st prize, a solid Silver Teapot, was given by the Ichthemic Guano Co. This was worthily awarded to Mr. T. Robinson, gr. to W. Lawrence, Esq., Hollingbourne, whose best flowers were those of J. Agate, Major Bonnaffon, Brookleigh Gem, Lord Rosebery, Mr. J. Gardener, Lord Wolseley, C. H. Curtis, Lord Alcester, Triomphe d'Eve, and Lucy Kendall (a choice exhibit, and remarkably even and bright); cash prizes followed in this class, the 2nd going to Mr. H. Butcher, gr. to T. Buss, Esq., Lodge House, Smeath Hill, whose exhibit was rather pale in colour, the best being C. H. Curtis (extra fine), W. Tunnington, and John Fulford; and the 3rd to Mr. B. Calvert, gr. to Colonel Houblon, Bishop's Stortford, whose flowers were large and bright.

For Twelve Incurved Blooms Distinct. The prizes were all in cash the 1st award going to Mr. Silas Cole, gr. to Earl Spencer, Althorpe Park, Nottingham, who showed strongly, and with large, even, and well developed blooms, the finest were John Lambert, J. Agate (very fine), C. H. Curtis, M. Bahuant, and Golden Empress. The 2nd prize was awarded to Mr. Jas Wyatt, gr. to James Perry, Esq., Bradenhurst, Caterham Valley, the flowers not quite so even, but strong in the Queen and Empress families, with Violet Tomlin and Madame Darier, both fine in colour. Mr. Jones, gr. to C. A. Smith-Ryland, Esq., Barford Hill, Warwick, was 3rd in this, a very strong class.

For Twelve Japanese Anemone Blooms, distinct, is always an attractive class, when, as on this occasion, the flowers are of good quality. The 1st prize, a Silver Cup, was presented by Messrs. Haig & Haig, London and Dublin, and was awarded to Mr. J. Justice, gr. to Right Hon. Sir Richard Temple, Worcester, who had a superb stand, the blooms large, and in good character, the finest being Enterprise, Sir W. Raleigh, W. W. Astor, Queen Elizabeth, John Bunyan, and Madame Cabrol. 2nd prize in cash, was adjudged in favour of Mr. C. Light gr. to the Rev. A. C. Johnson, Capel, St. Mary, Ipswich, whose best blooms were Nelson, John Bunyan, and Enterprise, and the 3rd prize to Mr. Skeggs, gr. to A. Mosley, Esq., West Lodge, Havant, who had another good stand.

For twelve incurved blooms distinct (open to amateur growers only), the prizes were presented by the Williams' Memorial Fund, and in the form of Medals. The Silver Medal was awarded to Mr. W. Ames, South Ashford, Kent, the best flowers here were C. Curtis, J. Agate, and Lucy Kendall, with D. B. Crane very pretty and distinct, the petals broad and old gold colour; and the Bronze Medal to Mr. Edward Jones, Bower Street, Bedford, who was 2nd in this class with medium-sized even flowers.

For twelve Japanese blooms distinct (open to amateurs only)—The 1st prize, a "Little Samson" heating apparatus presented by Mr. Sam Deards of Harlow, was awarded to Mr. Stredwick, Silver Hill, St. Leonards, for a grand stand of richly coloured blooms, the finest being Chas. Davis, Van der Heede, Silver King, Mons. Molin, Rose Wynne, Mutual Friend, and Viviand Morells. The Silver Medal being judged in favour of Mr. Martin Silsbury, Shanklin, Isle of Wight, whose best blooms were Hairy Wonder, Thos. Wilkins, and Mutual Friend; and the Bronze Medal to Mr. Arthur Stammers, Knowles, Essex, Mutual Friend here was again very fine.

For the prizes offered by the Veitch Memorial Fund Trustees the competition was confined to two classes, viz., one for six blooms of the best novelty in Chrysanthemums not previously exhibited, one variety only (Amateurs), in which the prize was one of £5 and the Veitch Memorial Medal; this was awarded to Mr. Martin Silsbury, "Providence," Shanklin, Isle of Wight, for grand blooms of a seedling of great promise named Lady Isabel; it is a very broad-petalled Japanese, of large size and substance; the colour is white, with blush tints as age comes on; quite distinct, with the form of Lord Brooke, to which it is a fitting companion.

In the corresponding class of the Veitch Memorial Trustees for six varieties of Japanese Chrysanthemums sent out in 1895 or 1896, three blooms of each, the prize of similar value and the Medal was awarded to Mr. H. Lane, 1, Melville Terrace, Sandown, Isle of Wight. This was an excellent stand, the varieties being Phœbus, very fine; Emily Silsbury, pure white reflexed, fine; W. Fife, colour of Viviand Morel, but shorter in the petal; Mr. C. Orchard, primrose-yellow, rather thin, but large; W. Dornay Taillandier, Chestnut colour, fine and distinct; and Pallanza, a deep golden yellow.

For the valuable cash prizes offered by Mr. H. J. Jones, Ryecroft Nursery, Lewisham, for twenty-four Japanese Chrysanthemum blooms, distinct, the competition was exceedingly keen, being, in fact, almost, if not quite unique, no fewer than twenty-eight exhibitors competing. The 1st prize of £8 was awarded, after a close scrutiny, to Mr. Chas. Penfold, gr. to Sir F. Fitzwygram, M.P., Leigh Park, Havant. This exhibit was of unusual excellence, and well set up, the flowers being of extra size and rich in colour. The best were Chas. Davis, Madame Carnot, Edith Tabor, Chenon de Leché (grand), Vander Hede, Viviand Morel, Beauty of Teignmouth, and Eda Prass. The 2nd prize of £6 going in favour of Mr. Messenger, gr. to C. H. Berners, Esq., Woolverstone Park, Ipswich, who came close to the 1st prize board, the finest here being Madame Carnot, Phœbus, Mrs. H. Kloss, Duchess of Wellington, Mrs. C. H. Payne, and Lord Brooke; whilst the 3rd and 4th prizes of £4 and £2 were respectively awarded to Mr. F. Cole, gr. to Sir George Russell, Bart., Swallowfield Park, the best being Boule d'Or (ninety-five), Modestum, and T. Wilkins; and to Mr. G. W. Drake, nurseryman, Cardiff, whose stand was most commendable and of even quality.

For Twelve Incurved Chrysanthemums, distinct, to be selected from the list published by the donors (Messrs. W. & G. Drover, nurserymen, Fareham), the 1st prize was awarded to Mr. J. R. Heasman, gr. to Mrs. Oxley, Fen Place, Turner's Hill, Sussex; the best blooms here were Empress of India, Golden Empress, Madame Darrier, Mrs. S. Coleman, and Princess of Wales—a pretty and even lot. Mr. T. Lockie, gr. to A. J. Thornhill, Esq., Diddington Hall, Huntingdon, was a close 2nd, his best being Jeanne d'Arc, Lord Alcester, and Lady Hardinge; Mr. John Gayner, gr. to Mrs. Anderson, Waverley, Farnham, being awarded the 3rd prize with a good board of even flowers.

For the prizes offered by Messrs. W. Cuthbush & Sons for six blooms of Japanese Mrs. Charles Blick (open), the 1st award was made in favour of Mr. H. Lodge, gr. to Mrs. Menet, Hookerill, Bishop's Stortford, his set of six being much the finest; the colour a pure white, the flowers large, and with the petals of great breadth. Mr. Chas. Blick, gr. to Martin Smith, Esq., The Warren, Hayes, Kent, was 2nd, with what looked like another variety; at any rate, the flowers were quite distinct, being more in the way of mammoth flowers of Avalanche—they were very fine and full.

For Six Blooms of Chrysanthemums not less than Four Varieties, to be selected from Mr. J. Godfrey's nine novelties of 1896, the prizes being offered by Mr. W. J. Godfrey, nurseryman, Exmouth, the following awards were made:—The 1st to Mr. G. W. Drake, nurseryman, Cardiff, the finest flowers being those of Pride of Exmouth, broad in petal, suffused with a faint flush; and Mr. Hume Ling, a large rosy-purple variety, of some considerable merit; and the next to Mr. Norman Davis, The Vineries, Framfield.

For Six Blooms of Edith Tabor (Japanese, new).—The prizes were offered by Mr. R. C. Notcutt, nurseryman, Ipswich, the 1st being won by Mr. Messenger, with three grand flowers, rich deep yellow in colour, broad in petal, and large, this variery is one of great merit, as shown by this exhibitor. The 2nd prize was awarded to Mr. Robert Bassil, gr. to D. H. Evans, Esq., Shooter's Hill, Pangbourne, equal in colour, and of great excellence. (In all, five exhibitors.)

Table Decorations.

For three stands or epergnes of Chrysanthemum blooms suitable for table decoration the competition was very keen, and the exhibits on the whole very suggestive. Mr. F. W. Seale, Vine Nurseries, Sevenoaks, was placed 1st, with three arrangements in every way suitable for the purpose, the centre one, as it should be, being much the larger; the work was lightly and effectively done, with medium-sized flowers (bronze and yellow), with appropriate foliage. The 2nd prize was awarded to Mrs. W. Green, jun., Harold Wood, Essex; this, too, although somewhat bolder and with more colour, was in most respects commendable, the one mistake made was in using three stands nearly of one size.

For one vase of six blooms of any one variety of Japanese Chrysanthemums arranged with any foliage—no vase to be more than 18 inches in height—the 1st prize was awarded to Mr. James Brookes, gr. to W. J. Newman, Esq., Park House, Totteridge, who employed Madame Carnot to good effect. The 2nd award being made in favour of Mr. D. Crane, Highgate, N., he depending on a yellow variety. Two or three other exhibits in this class ran these two exhibitors very closely.

There were classes, too, for vases containing Chrysanthemum blooms, arranged with foliage, &c., to best effect.

FRUIT CLASSES.

These generally were remarkably well filled, the competition being not only keen, but the quality generally was very high. The Grape collection class was a surprise, no less than 166 bunches, mostly of fine form and quality, being staged. No wonder the judges had to take some time in their deliberations.

Collections of Fruit.—Only three lots were staged, exhibitors apparently finding it difficult to make nine good dishes. The best came from Mr. Gleeson, gr. to C. J. Keyser, Esq., The Warren, Stanmore, who had nice Muscat of Alexandria and Mrs. Pince Grapes, a good cluster of Bananas, Pines, Melons, Apples, Pears, &c. Mr. J. Hayes, Castle Ashby Gardens, Northampton, was 2nd; and Mr. J. W. Empson, gr. to the Hon. Mrs. Wingfield, Ampthill, was 3rd.

Grapes.—There were fourteen collections of twelve bunches staged, to include not fewer than four varieties. It was with five only that Mr. W. Taylor, gr. to C. Bayer, Esq., Forest Hill, won the 1st valuable prize, having of whites, fine Trebbiano, and good Muscat of Alexandria, also very perfect Alicante, Gros Colmar, and Gros Maroc. Very close indeed came Mr. Taylor, gr. to Alderman Chaffin, of Bath, who had fine Gros Colmar, Alicante, Gros Maroc, Madresfield Court, Foster's Seedling, Muscat of Alexandria, and a rather small

cluster of Canon Hall Muscat. Mr. Goodacre, gr. to the Earl of HARRINGTON, Elvaston Castle, was 2rd; and Mr. W. Tidy, gr. to W. R. D'ARCY, Esq., Stanmore Hill, was 4th.

In the class for three bunches of any white, eight lots being staged, Mr. TIDY was 1st with capital Muscat of Alexandria; Mr. F. Cole, gr. to Sir G. RUSSELL, M.P., Reading, was 2nd, having fine bunches, though not large berries; and Mr. TAYLOR of Bath was 3rd with the same variety.

Black Grapes in three bunches were represented by seven lots, the best, very handsome Alicante, coming from Mr. TAYLOR of Forest Hill; Mr. TIDY being 2nd with the same variety; and Mr. TAYLOR of Bath was 3rd with fine Gros Maroc. In a class for Gros Colmar, the prizes given by Messrs. W. Thompson & Sons, Clovenfords, these three exhibitors repeated their wins in the same order, all having very fine bunches and grand berries, though in no case too black. In this class eight lots were staged.

Pears and Apples.—These fruits always figure largely at the National Chrysanthemum Society's November Show, but they seemed to be exceptionally good this year. Mr. A. J. THOMAS of Sittingbourne had the best six Pears in Beurré Clairgeau, Beurré Diel, Doyenné du Comice, Pitmaston Duchess, Columbia, and Madame André Leroy. Mr. G. WOODWARD, Barham Court Gardens, Maidstone, was 2nd, having capital fruits of Beurré d'Anjou, Pitmaston Duchess, Emile de Heyst, Fondante de Noix, Beurré Diel, and Doyenné du Comice. Mr. Stowers of Sittingbourne was 3rd.

Dessert Apples were in beautiful form and colour, and of excellent size, and there were a dozen lots of six varieties, the best and most beautiful fruits coming from Mr. W. KING, Gatton Park Gardens, Reigate, who had American Mother, Cox's Orange Pippin, Blenheim Pippin, King of the Pippins, Ribston Pippin, and Cox's Pomona. Mr. G. WOODWARD was 2nd, having also beautiful fruits of Baraack Beauty, Ribston, and Cox's Orange Pippins, Calville Rouge, Melon-Apple, and Brabant Bellefleur. Mr. THOMAS, of Rodmersham, was 3rd, having in his six, good Barchard's Seedling, Claygate Pearmain, Fearn's Pippin, and Glory of England, which is evidently Gascoigne's Scarlet.

Of cooking Apples, eleven lots being sent, samples generally were very fine. The judges seemed to have been taken with the high colour found in Mr. KING's half-dozen dishes, though others materially excelled them in bulk. The varieties were the Queen, Bramley's Seedling, Blenheim Pippin, Cox's Pomona, Peasgood's Nonsuch, and Beauty of Kent. Mr. WOODWARD was again 2nd, having splendid samples of Stone's Pippin, Lane's Prince Albert, Emperor Alexander, Peasgood's Nonsuch, Waltham Abbey Seedling, and Belle du bois. Mr. STOWERS was 3rd, also having remarkably fine samples. In other parts of the building there were very fine and extensive collections of Apples and Pears, from Messrs. W. & J. BROWN, Stamford, Mr. H. BERWICK, Sidmouth, who had capital samples; as also had Messrs J. LAING & Son, Forest Hill, whose fine heaps and dishes were prettily dressed with plants; Messrs. SPOONER & SONS, Hounslow, who largely used flat baskets; Messrs. C. LEE & SONS, Hammersmith; and Messrs. CUTBUSH & SONS, Highgate.

Messrs. D. & W. BUCHANAN, Stirling, had fine bunches of Grapes, and baskets of the same, and Tomatos; also largely exhibiting samples of Vine leaves, richly coloured.

VEGETABLES.

Rarely has there been seen such an array of high-class growers, or such splendid quality, as was found on the tables on this occasion. The splendid prizes offered by Messrs. Jas. Carter & Co., Webb & Sons, Sutton & Sons, Harrison & Sons, Johnston & Sons, &c., as also by Messrs. Dobbie & Sons, proving wonderfully attractive.

Messrs. Jas. Carter & Co's Classes.—The first of these was for ten kinds of vegetables, fifteen collections being staged. Mr. E. Beckett, gr. to Lord ALDENHAM, Elstree, was 1st, having superb samples of Leeks, Intermediate Carrots, Giant Red Celery, Cauliflowers, White Turnips, Potatos, Tomatos, Ailsa Craig Onions, good Beet, and Brussels Sprouts. Mr. Brown, gr. to W. HENTY, Esq., Abbots Langley, was 2nd, having somewhat similar kinds; Mr. C. J. Waite, gr. to the Hon. Col. TALBOT, Esher, was 3rd; Mr. W. POPE, Highclere Gardens, coming 4th; and Mr. BOWERMAN, Hackwood Park Gardens, was 5th.

With nine bulbs of Carter's Record Onion, Mr. BOWERMAN was 1st, Mr. POPE being 2nd, the samples being exceptionally large.

Webb & Co.'s Prizes.—There were fourteen collections of nine dishes, also for valuable prizes, staged in this class. Here Mr. BOWERMAN was a good 1st, having a faultless collection, including grand Leeks, Carrots, Onions, Celery, Beet, Cauliflowers, Potatos, Tomatos, &c; Mr. T. Wilkins, gr. to Lady THEODORA GUEST, Henstridge, was 2nd; Mr. WAITE being again 3rd, and Mr. E. BECKETT 4th.

Messrs. Harrison & Son's Class.—This was for six dishes only, and Mr. W. J. EMPSON was 1st with very nice samples of Cauliflowers, Perfection Carrots, Cocoa-nut Onion, Satisfaction Potatos, Tomatos, and Parsnips; Mr. BECKETT was 2nd, and Mr. WAITE 3rd.

Messrs. Sutton & Son's Prizes.—These were limited to Potatos, eight lots of fifteen dishes being presented in one case. Here Mr. E. S. WILES was a good 1st, having very beautiful bright samples of Abundance, Nonsuch, Satisfaction, Windsor Castle, Perfection, Magnum Bonum, Reading Ruby and Russet, &c.; Mr. W. POPE, whose samples also were capital, was 2nd; Mr. DOWDESWELL, Sittingbourne, being 3rd; and Mr. S. COLE, The Gardens, Althorpe, 4th. In the class for two varieties, Mr. WAITE was 1st, with Windsor Castle and Supreme; Mr. WILES being 2nd.

The Society's Class for six dishes brought a stiff competition, the varieties largely being those mentioned. Mr. E. S. WILES was 1st; Mr. E. CHAPPING, Sittingbourne, 2nd; and Mr. DOWDESWELL 3rd.

Messrs. Johnson's Classes.—There was again good competition for this firm's prizes, for twelve varieties, in which competitors already named figured largely, with capital samples.

Messrs. Dobbie & Sons' Classes.—These were all for single dishes, and a wonderful competition resulted, there being, for instance, some sixty or more half-dozens of Leeks, the majority coming from Scotland; but, oddly enough, Mr. BOWERMAN of the South came 1st with huge specimens, wonderfully blanched. Mr. Foster, gr. to T. F. HALSEY, Esq., near Hemel Hempstead, was 1st for Globe Onions, Mr. BOWERMAN again coming 1st for flat samples. Mr. W. DENDY of Horsham had the best six Beets, and Mr. SCOTT of Haddington had medium-sized, clean, pretty Intermediate Carrots. Mr. E. BECKETT staged the finest, best blanched, and heaviest white and red Celery, Mr. WAITE the best Parsnips; but Scotchmen were the only exhibitors of yellow Turnips, sending most beautiful Golden Ball, the best coming from Mr. LANGROD of Fife; Mr. MACKINNON of Crieff being 2nd. It was specially noticeable that most of the leading prizes in these classes went to the Southeners. A good number of Parsnips and Beets ran rather big and coarse. Evidently some instruction in what constitutes handsome and desirable exhibition samples is still greatly needed. If ordinary exhibitors who visit such a show as this do not learn better from the object-lessons the judging gives them, then nothing will help them.

HONORARY EXHIBITS.

There were non-competitive exhibits of flowers, fruits, vegetables, horticultural sundries, and implements, and of most articles pertaining to horticulture. Below we have noticed all of the important stands in this section.

Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, Chelsea, had a group of Chrysanthemum plants in flower, in which they exhibited numerous novelties of the present season. The plants had been well cultivated, and the group presented a bright and good display.

Mr. NORMAN DAVIS, Framfield Nurseries, Sussex, made an uncommonly attractive exhibit, immediately under the great organ, upon the ground-floor. The cut-blooms were arranged on boards, and in ornamental vases, and deep graceful glasses. The adornment of the group with decorative material and plants represented the best taste (see fig. 99, p. 562); nor was the quality of the blooms other than first-class—Niveum, Modestum, and Western King, in vases and glasses, were superb. Many novelties were also deserving of attention.

A non-competitive exhibit by Mr. H. J. JONES of Chrysanthemum blooms in vases upon stands, and amidst a profusion of ornamental foliage plants and other decorative material, attracted considerable attention. The whole had an artistic and well furnished appearance. The cut blooms upon the stands were of excellent quality, and were representative of novelties.

Messrs. H. CANNELL & SONS, Swanley, Kent, made a great show. One of their tables, of considerable length, presented an exceedingly bright appearance, it being built up high, with an exhibit in the shape of a ridge. On one side there was a display of zonal Pelargonium blooms in sprays, a characteristic feature of Messrs. CANNELL's exhibit at these November shows. On the opposite side was staged a magnificent collection of Chrysanthemum blooms, including a large number of present-day novelties, and arranged one above the other, distinctly, and relieved with pieces of Cyperus, all in excellent taste. Many of Calvat's recent varieties were included, and others of English and American raisers. Novelties that Messrs. CANNELL are sending out include Baron Tait, a seedling from Primrose League, a narrow floretted Japanese, making a very deep flower, and golden-yellow in colour. Mrs. Oporto Tait, also yellow, an incurved Japanese, with fairly broad florets. Miss Ella Curtis, also Japanese, with long florets of bronze or dark buff and yellow. Austin Cannell, said to be a good incurved. Robert Powell, a Japanese of great depth, in colour buff and yellow, and others. A fine display of Queen Charlotte and other varieties of Cannas were from Messrs. CANNELL too, and the old Tom Thumb Pelargonium, and a few very weedy-looking Chrysanthemum plants, said to be a fac-simile of the quality of exhibits fifty years ago.

M. ERNEST CALVAT, the celebrated raiser of new Chrysanmums at Grenoble, France, sent over a few blooms representing his latest novelties, but from those sent an accurate estimation of their value could hardly be made.

Mr. H. SHOESMITH, Claremont Nursery, Woking, exhibited upwards of six dozen blooms of Chrysanthemums, including a dozen exquisite flowers of Mons. Chenon de Leché; Madame Carnot, H. L. Sunderbruch, Viviand Morel, Mutual Friend, and others, were capital.

A very large exhibit of Chrysanthemum flowers was made by Mr. W. J. GODFREY, Exmouth Nurseries, Devon; some of them were shown as bunches, useful for decorative purposes, including Clinton Chalfont, a fine yellow variety. The specimen blooms of new Chrysanthemums represented a great number of varieties. Particularly fine were Australian Gold (Calvat), Mutual Friend, Baron Ad. de Rothschild, Oceana, Pride of Exmouth, Modestum, Miss Elsie Teichmann, Phœbus, and others.

Another exhibit of cut blooms was from Mr. OWEN, of Castle Hill Nurseries, Maidenhead, in which were several seedling varieties of considerable promise, and other new ones now extensively exhibited.

Messrs. CUTBUSH & SONS' stand in one of the galleries included a fine lot of Chrysanthemum plants, also Souvenir de la Malmaison varieties of Carnation, Heaths, winter-flowering Begonias, &c.

Messrs. B. S. WILLIAMS & SONS, Upper Holloway, London, N., had a group of Orchids and foliage plants. There was a nice collection of Cattleya gigas and C. labiata, &c.

Mr. ISAAC HOUSE, Coombe Nursery, Westbury-on-Trym, showed flowers and plants of the Violet California, and Pansy blooms; whilst a group of plants in flower of zonal Pelargoniums, King of Denmark, was from Mr. M. LARSEN, Roebuck Nursery, Enfield Highway.

Mr. W. PIERCY, 89, Beadnell Road, Forest Hill, London, S.E., showed bunches of Chrysanthemum blooms. One of the fountains was well decorated with Chrysanthemum blooms and ornamental foliage plants, by the ICHTHEMIC GUANO COMPANY, Ipswich.

Messrs. D. & W. BUCHANAN, Forth Vineyards, Stirling, exhibited some remarkably fine Gros Colmar Grapes, and prettily-tinted Vine leaves.

Mr. W. M. MITCHELL, Luton, Chatham, Kent, exhibited a "Chrysanthemum Plant Protector." The pot containing the plant is isolated by means of water, to prevent earwigs, &c., from reaching it, and thus obtaining access to the plant. Another invention, to effect the same purpose, was one shown by Mr. H. F. BROWN, 129, Solhurst Road, South Norwood. This is known as "The Island Plant Protector," and consists of an earthenware saucer to contain water, and a deep pan to be inverted, and stood in the former; upon this is placed the pot containing the plant. Messrs. DARBY & SONS, Weston Street, King's Cross, London, exhibited stoves for heating conservatories, &c. Another stand was devoted to specialties of Messrs. LAWS, manure manufacturers, Mark Lane, London.

Mr. P. WATERER, Fawkham, Kent, exhibited a collapsible show board; and Messrs. STILL & Co., 24, Charles Street, Hatton Garden, London, S.E., displayed "Beckett's Exhibition Flower Tube."

The Springthorpe Exhibition Flower Tubes were shown by Mr. G. SPRINGTHORPE, Combe Court Gardens, Kingston-on-Thames.

Very beautiful indeed was the collection of Potatos set up on a huge table by Messrs. SUTTON & SONS, of Reading. They had on view big heaps or baskets of all their best and most productive varieties, including some thirty-two distinct. Of these wonderfully fine were Satisfaction, Windsor Castle, Sutton's Flourball, Magnum Bonum, Sutton's Seedling, Supreme, Reading Russet, Best-of-All, Harbinger, Triumph, and others, including a grand-looking new white Kidney, named Reliance.

Messrs. H. DEVERILL & SONS, Banbury, had, with other vegetables, superb examples of their Ailsa Craig, Cocoa-nut, Rousham Park Hero, Good Keeper, and other Onions, with fine Leeks, Beet, Celery, &c.

Messrs. JAS. CARTER & Co., High Holborn, staged, also on a huge table, a wonderful collection of Gourds, Cabbages, Potatos, Onions, Turnips, Celery, Cauliflowers, &c., making quite a vegetable trophy.

Messrs. W. JOHNSON & SONS, Boston, had a fine and very varied collection of Potatos, capital samples of Up-to-Date, Johnson's Prolific, Satisfaction, Chancellor, Abundance, Snowdrop, Jeannie Deans, and many others.

Messrs. D. DOWELL & SON, Ravenscourt Avenue, Hammersmith, had a display of horticultural sundries garden-pots, &c. Messrs. CARTER, PAGE & Co., 52 and 53, London Wall, E.C., also exhibited a considerable quantity of gardeners' requisites, manures, &c.; and from the AGRICULTURAL AND HORTICULTURAL ASSOCIATION, Ltd., Deptford, London, was a similar exhibit.

Mr. JOS. ARNOLD, 32, St. Paul's Road, Camden Town, London, N.W., exhibited peat, loam, and other requisites for the garden.

Mr. J. GEORGE, Horticultural Sundriesman, had a table well filled with specialties from the sundriesman point of view; and some remarkably fine Grapes that had been produced with the help of Thomson's Vine-manure.

Messrs. WOOD & SON, Wood Green, London, N., had a considerable space devoted to the exhibition of peat, Mushroom spawn, and other requisites far gardens.

Messrs. FENLON & SON, 8, Tudor Street, Temple, London, showed a variety of gas and oil-heated hot-water boilers.

Messrs. R. SANKEY & SON, Nottingham, showed a variety of earthenware flower-pots.

Mr. SAM. DEARDS, 34, Old Broad Street, London, exhibited heating apparatuses.

Greenhouses were shown by Messrs. STEWARD & POVEY, Rhodeswall Wharf, Limehouse, London; and by Messrs. PEARCE & Co., Holloway Road, London.

THE BANQUET.

The banquet in connection with the Jubilee celebration of the society took place at the Hôtel Métropole on the evening of the opening-day. Sir Edwin Saunders, the President, in the chair, supported by Sir Trevor Lawrence, Bart., the President of the Royal Horticultural Society; Messrs. F. A. Bevan, C. E. Shea, C. C. Paine, and R. Ballantine, as representing the vice-presidents; also Messrs. J. H. Veitch, T. Harrison, H. J. Cutbush, H. Turner, H. Williams, Geo. C. Bompas, Leonard Sutton, W. Robinson, Dr. Henry Bond, P. Waterer, &c., the vice-chairs being occupied by Messrs. B. Wynne, R. Dean, T. W. Sanders, and T. Bevan. After the usual loyal toasts, the Chairman proposed success to the National Chrysanthemum Society, remarking that it was originally founded at Stoke Newington, in 1846, and from that point traced the history and development of the Society from 1846 to the present time, dealing with the facts much

as they are set forth in an article upon another page. The toast of affiliated Societies was given by Mr. C. E. Shea, and responded to by Mr. T. Bevan. That of President of the National Chrysanthemum Society was given by Sir Trevor Lawrence, who emphasised the importance of establishing in London a Horticultural Hall, available for the different special societies to hold their exhibitions in. In responding to the toast of the donors of special prizes, Mr. F. A. Bevan strongly recommended the adoption of a more suitable place in which to hold their exhibitions—a sentiment which was warmly cheered by the company. The Press, proposed by Mr. J. Harrison, was responded to by Mr. George Gordon.

Thursday, November 5.

A second competitive show took place on Thursday, and was continued yesterday. The character of the schedule more nearly resembled that used at the annual shows than did the one followed on Tuesday last, in which were included so many special Jubilee features. All of the non-competitive exhibits that were staged on Tuesday were continued until Friday night, but some of them were brightened by the addition of a few extra blooms, &c. In addition to these, so many of the competitive exhibits that were of fruits or vegetables were continued also, and also the five groups in Tuesday's competition. The change was therefore principally evident in the cut flower classes and table decorations, &c., the whole of the exhibits of which were renewed. Upon the whole there was less competition in the classes than on Tuesday, but some specially popular ones were very well and keenly contested.

In the exhibit from a foreign member of the society, the exhibits did not equal expectation. In the special class of F. A. BEVAN'S, Esq., for twenty-four blooms of white Japanese Chrysanthemums, the front row of blooms to be raised 6 inches above the board, and the middle and back rows raised in proportion, there was no exhibit, although there had been one entry made. As the more important classes in Thursday's competition were secured by Mr. W. H. LEES, there has been no champion at this season's festival who, as last year, won almost all the chief honours. There is a conference to be held as our pages pass through the press, at which several papers upon the Chrysanthemum will be read,

CUT FLOWERS.

AFFILIATED SOCIETIES.

COMPETITION.

The first class was the usual one arranged for Horticultural and Chrysanthemum Societies to compete. Each Society exhibits twenty-four blooms of incurved and twenty-four blooms of Japanese varieties. There were five competing collections, and the 1st prize consisting of the Challenge Trophy and £10 was won by the Portsmouth Chrysanthemum Society, the blooms being furnished by Mr. AGATE of the Havant Nurseries, and Mr. Penfold, gr. to Sir F. FITZWIGRAM, Leigh Park, Havant. The varieties of Japanese staged were back row: Viviand Morel, Mons. Pankoucke, Eva Knowles, Mrs. G. Carpenter, Mutual Friend, Phœbus, Van den Heede, and Madame Carnot, extra good. 2nd row: C. Davis, Etoile de Lyon, Mdlle. A. de Gilbert, International (good), Ethel Addison, Phippe Riviore, a good white; Reine d'Angleterre, and Edith Tabor (fine). Front row: M. Ricoud, Wm. Seward, M. Chenon de Leché, Amiral Avellan, Mdlle. T. Rey, Beauty of Teignmouth, Golden Gate, and Madame E Capitant. The stand of incurved blooms included several of much merit, the varieties were, Back row: C. H. Curtis, Lord Alcester, Globe d'Or, Empress of India, Major Bonnaffon, R. C. Kingston, Jas. Agate, Emily Dale. 2nd Row: Jeanne d'Arc, Golden Empress, Baron Hirsch, Queen of England, Violet Tomlin, Miss A. Haggas, William Tunnington, R. Petfield. Front Row: M. Darier, Brookleigh Gem, Lord Rosebery, Jno. Fulford, Prince Alfred, Princess of Wales, Lord Wolseley, and C. B. Whitnell.

The disparity in quality between the above collection and that from the Bromley and District Chrysanthemum Society was exceedingly little. Some of the best Japanese blooms in this collection were Madame Carnot, M. Chenon de Leché, Graphic, Beauty of Teignmouth, Edith Tabor, International, Viviand Morel (exceedingly good colour), Australie, A. H. Wood (not quite at its best), and Sunflower. Amongst the incurveds we noticed fine blooms of Lord Alcester, Empress of India, Mme. Darrier, Golden Empress, C. H. Curtis, and Miss Haggas; 3rd, the Southgate and District Chrysanthemum Society.

Incurved blooms.—The best thirty-six incurved blooms, distinct, in competition for the Holmes Memorial Challenge Cup and £10 was from Mr. W. H. Lees, gr. to F. A. BEVAN, Esq., Trent Park, New Barnet. The varieties staged were:—Back row: Chas. H. Curtis, Mons. Bahuant, J. Agate, Globe d'Or, Robt. Petfield, Major Bonaffon, Queen of England, Perle Dauphinoise a Japanese incurved, as shown), Empress of India, Baron Hirsch, Jno. Lambert, Mrs. R. C. Kingston. 2nd row: Madame Darrier, M. P. Martignat, Ma Perfection (weak), Prince Alfred, Hero of Stoke Newington, D. B. Crane, Lord Wolseley, Mrs. Coleman, Lord Rosebery, Miss Haggas, Jeanne d'Arc, Violet Tomlin. Front row: Princess Teck, Barbara, Lucy Kendall, Mrs. N. Davis, Beauty (weak), Bonnie Dundee, J. Lyne, Jr., Princess of Wales, Mr. Brunlees, Brookleigh Gem, Lady Dorothy and Mrs. Halliburton. 2nd, Mr. W. Higgs, gr. to J. B. HANKEY, Esq., Fretsham Park, Leatherhead. The best blooms in this stand were Miss Haggas, Madame Darrier, Chas. H. Curtis, J. Agate, Mrs. Beale, Empress of India, Princess Teck, Lord Alcester Jeanne d'Arc; 3rd, Mr. F. G. FOSTER, Brockhampton Nurseries, Havant; 4th, Mr. B. Calvert, gr. to Col. ARCHER, Houblin, Hallingbury Place, Bishop's Stortford.

Six Incurved, one Variety.—Here Mr. J. Jones, gr. to C. A. SMITH RYLAND, Esq., Warwick, was an easy first, having some of the finest blooms of C. H Curtis ever seen. The same variety from Mr. F. G. FOSTER, Havant, was 2nd; and fair, Violet Tomlin, from Mr. CALVERT, was 3rd.

Japanese Blooms.—In the principal class for Japanese blooms and in the competition for the Holmes Memorial Challenge Cup and £10 as first prize, the principal exhibitors on Tuesday last reversed their positions, and Mr. W. H. LEES won with forty-eight distinct blooms of much merit. The varieties were: *Back Row*—Mrs. W. H. Lees, Edwin Molyneux, Calvat's Australian Gold, Australie, Mutual Friend (fine), Chas. Davis, A. H. Wood, Pride of Madford, Lady Saunders, Hairy Wonder (large bloom, not first-rate in colour), Phœbus (very good), Etoile de Lyon, Madame J. Bernard, Edith Tabor, Jno. Shrimpton, Madame Carnot (good); *2nd Row*—Modestum, Viviand Morel, Emily Silsbury, Le Moucherotte, Miss Elsie Teichmann, Miss Ethel Addison, Duchess of Wellington, Col. Chase, Reine d'Angleterre (good in colour), Louise, Mrs. C. H. Payne, Mephisto, Thos. Hewitt, Mrs. F. Jameson, International (good), M. Chenon de Leché. *Front Row*—Mrs. H. Weeks, Deuil de Jules Ferry (very distinct in colour), C. W. Richardson, Mons. Ad. Girond, Amiral Avellan, Souvenir de Petite Ami, Mrs. Wheeler, Rose Wynne, Sunflower (good), Mons. G. Montigny, Mrs. J. Lewis, G. C. Schwabe, Mrs. H. Kloss, Oceana, Viscountess Hambledon, and Florence Davis, both of the last named good. Mr W. MEASE was not very far behind, but generally his blooms appeared a little smaller. Some of the best were Mons. Pankoncke, Viviand Morel, Mrs G Carpenter, Miss D Shea, President Borel, Mrs W H. Lees, M. C. Molin, Duke of York, Australie (very fine), Lord Brooke (a deep flower), International, E. Molyneux, (very good in colour), Madame Carnot, a large sized bloom, Mutual Friend, Chas. Davis. 3rd, Mr W. Higgs, gr. to G. B. HAWKES, Esq. Fetcham Park, Leatherhead. There were several very first-class flowers in the collection, that at any other show would probably obtain a first prize. 4th, Mr. L. Dunmall, gr. to P. WATERER, Esq. Hawkham.

Twenty-four blooms in not less than eighteen varieties.—A special prize of a Silver Cup was added in this class, to the 1st prize of thirty shillings. There were six or more competitors, and the collection of blooms that won for Mr. JAS. STREDWICK, Silver Hill, St. Leonards, the first position in the class could not be described as other than a commendable one, the flowers being even in size, and good in colour and quality. The varieties were *Back Row*, Viviand Morel, Mutual Friend, Chas. Davis, Mrs. C. H. Payne, Chas. Davis, Viviand Morel, M. Pankoucke, International, T. Wilkins, Madame de Galbert, Viscountess Hambledon, Phœbus, Miss Dorothy Shea, Beauty of Teignmouth, M. Chas. Molin, Rose Wynne, Silver King, Mr. A. H. Neave, Van den Hiede, Eda Prusse, and R. Dean. The names of the flowers should have been written more distinctly. 2nd, Mr. H. LOVE, Melville Terrace, High St., Sandown, Isle of Wight. This exhibit consisted of blooms of good average quality, but too small to be first-class. 3rd, Mr. GEO. HEAL, Compton, Guildford; 4th, Mr. W. AMIES, South Ashford, Kent.

Twelve blooms distinct.—In addition to the 1st prize of thirty shillings, there was in this class a special prize of a Silver Cup given by Mr. F. H. CLEMOW. There were seventeen competitors in this popular class, and the fortunate exhibitor to whom the 1st prize was awarded was Mr. W. Robinson, gr. to the Rt. Hon. LORD JUSTICE LOPES, Westbury, Wilts. In the back row was a specially good bloom of Madame Carnot, and one of Primrose League, the latter a little too pale in colour probably; Hairy Wonder, Pride of Exmouth, Viviand Morel, Mrs. Hume Long and Pride of Madford were also of extra merit. The remaining varieties were Edith Tabor, Oceana, Commandant Blussett and Lady Ridgeway. A collection of much beyond average merit obtained 2nd prize for Mr. W. Slogrove, gr. to Mrs. CRAWFORD, Gatton Park, Reigate. The varieties Viviand Morel, M. Chenon de Leché, International, Etoile de Lyon, Amiral Avellan, Thos. Wilkins, and G. C. Schwabe were the best here; 3rd, Mr. J. Brookes, gr. to W. J. NEWMAN, Esq., Park House, Totteridge, who included fine blooms of Viviand Morel, Chas. Davis, and Commandant Blussett; 4th, Mr. W. Messenger, gr. to C. H. BERNERS, Esq., Wolverstone Park, Ipswich.

Six Japanese White, One Variety.—The best blooms, those of Madame Carnot, wonderfully fine, coming from Mr. Jas. Gibson, gr. to A. H. WATTS, Esq., Chiswick. Mr. CALVERT coming 2nd with Mdlle Theresa Rey; and Mr. T. H. LODGE 3rd with Mrs. C. Blich.

Six Blooms of any other Colour.—Mr. W. ROBINSON was 1st with splendid Viviand Morel; Mr. FORBES coming 2nd with E. Molyneux; and Mr. J. Watt, gr. to H. BELL, Esq., was 3rd with fine coloured B. Smith.

Six Japanese Incurved were hardly good examples of this section. Mr. Robinson, gr. to Lord Justice LOPES, Westbury, had the best in Louise, Australie, Oceana, Pride of Madford, Miss E. Addison, and one unnamed. Mr. T. CARVER was 2nd, and Mr. Messenger, gr. to C. H. BERNERS, Esq., Ipswich, 3rd.

Six Japanese Blooms, hairy petalled varieties.—There was but one half dozen, coming from Mr. W. Batchelor, gr. to Lieut.-Col. VERNON, Uxbridge, who had Hairy Wonder, Vancanson, Mrs. De Ward, Louis Boehmer, Lady of the Lake, &c.

Reflexed Blooms.—On this occasion there were five collections of large-flowered reflexed blooms exhibited, but at the previous competition on Tuesday last there was no exhibit of reflexed varieties present. The dozen blooms in this instance were required to represent nine varieties at least. Mr. W. Mease, gr. to A. TATE, Esq., added the 1st prize in this class to his other triumphs, and the varieties he showed were Christine, Pink Christine, Cullingfordi, Mrs. Forsyth, Cloth of Gold, Fred Hart, Dr. Sharpe, Phidias, and Crimson King; 2nd, Mr. W. Robinson, gr. to Lord Justice LOPES, whose bloom of Cullingfordi was specially well coloured; 3rd, Mr. R. C. NOTCUT, Broughton Road Nursery, Ipswich. Evidently the interest in these reflexed varieties is on the wane.

Large-flowered and Japanese Anemone, Twenty-four Blooms.—A capital class, the blooms generally being very fine. Mr. H. Prickett, gr. to T. M. HARVEY, Esq., East Barnet, was 1st, with Owen's Perfection, Madame Lawson, Bucher-Toulousienne, Dame Blanche, Queen Elizabeth, Lady Margaret, Caledonia, W. W. Astor, La Deuil, Descartes, Emperor, and Thorpe Junior, amongst others, very fine; Mr. J. Moule, gr. to H. T. WILLIAMS, Esq., Hadley, was 2nd, having Benedict, Mr. Lawson, J. Bunyan, Ernest Callie, and G. Spaulding, good; Mr. Skeggs, gr. to A. MOSLEY, Esq., Barnet, was 3rd.

Twelve Large flowered, Japanese excluded.—Mr. C. Light, gr. to the Rev. C. E. JOHNSON, Ipswich, was 1st, having good blooms of Fleur de Marie, Lady Margaret, Delaware, G. Spaulding, Miss A. Lowe, &c.; Mr. SKEGGS was 2nd; and Mr. MAULE 3rd.

Twelve Pompons, distinct. The trebles made a good class, the best coming from Mr. Caryer, gr. to Mr. W. MESSNER, who had good Toussaint Marie, Rubra perfecta, Prince of Orange, President, Black Douglas, Comte de Morny, Osiris, W. Westlake, &c.; 2nd, Mr. Mills, gr. to F. HOYD, Esq., Croydon, who had some Anemones in his lot; Mr. T. L. Turk, gr. to T. RONEY, Esq., coming 3rd.

Singles, set up in Trebles, made a charming class, and were numerous. Mr. J. MYERS had the best in Purity, Snowwreath, Mrs. D. B. Crane, Bertie Sedgley, Golden Star, Effie, Ewan Cameron, George Rose, &c.; 2nd, Mr. G. W. Forbes, gr. to D. NICOL, Esq., Surbiton; Mr. W. WELLS, Earlswood, being 3rd.

AMATEUR CLASSES.

Six Japanese blooms distinct, a capital class; Mr. A. N. KNIGHT, Ashford, Kent, was best with fine Phœbus, Préfet Robert, Mr. Schwaber, Jules Ferry, Madame Carnot, and Viviand Morel. Mr. SILSBURY was a capital 2nd, having Hairy Wonder, La Moucherotte, Mutual Friend, Thomas Wilkins, Emily Silsbury, and Ethel Addison, all good. Mr. STREDWICK was 3rd.

Six Japanese blooms, one variety. Mr. STREDWICK, St. Leonard's, was a good 1st with Charles Davis; Mr. C. A. WILKINS, Swanley, coming 2nd; and Mr. SILSBURY, 3rd, with Emily Silsbury.

Single-handed gardeners.—With twelve incurved blooms, Mr. W. WILKINS took 1st place, with fair specimens; Mr. W. H. APTHORNE being 2nd; and with six blooms, the positions were reversed, Mr. APTHORNE being 1st; and Mr. WILKINS 2nd.

Mr. APTHORNE had the best six Japanese, including Mutual Friend, Phœbus, Charles Davis, &c.; Mr. EDWARDS, of Cambridge, coming 2nd.

Pot Plants (open).—Although there were many fine trained specimen plants, almost the whole of them were of those shown on Tuesday, and there can be no need to recapitulate their names.

With four trained specimens Mr. J. Brooks, gardener to W. REYNOLDS, Esq., Highgate, was placed 1st, his plants being capitally flowered. Mr. D. Donald, gr. to G. BARCLAY, Esq., who also had grand plants, was 2nd; and Mr. Davey, gr. to C. C. PAINE, Esq., Stamford Hill, was 3rd. Mr. DONALD had the best six standard plants, large flowered; Mr. DAVEY coming 2nd. Mr. DONALD was again 1st in the six trained Pompons, Mr. BROOKS being 2nd.

Mr. DAVEY had the best four trained standards, and Mr. DONALD the best single specimen, a perfect pyramid of La Vierge.

TABLE DECORATIONS.

Table of Bouquets, Wreaths, Sprays, etc.—There were four or more competitors in this class, each of which did his or her best to illustrate the decorative value of Chrysanthemum blooms. Mr. H. C. GARFORD, Floral Depot, Stoke Newington, was the winner of the 1st prize; 2nd position was obtained by Messrs. HARWOOD BROS., Nurserymen, of Balham, and Mrs. W. GREEN, Jun., Harold Wood, Essex, was 3rd, but judged from any standpoint we think the last-named exhibitor should have been second.

Two vases of Chrysanthemums.—There were eight or more competitors for the best two vases of Chrysanthemums, blooms to consist of Pompon or Anemone Pompons arranged with foliage for decorative effect. The 1st prize was obtained by Mr. Mark Webster, gr. to E. J. Preston, Esq. Kelsey Park, Beckenham. In these there was no use at all made of Anemone Pompons, but Mdlle. Elsie Dordan and other Pompons were used with various-coloured foliage to much effect; 2nd Mr. A Meridew, gr. to Dr. PAUL, Camberwell House, Camberwell 3rd Mrs. W. GREEN, Jr., Harold Wood, Essex.

One Vase.—The best vase of six blooms of any variety of Japanese Chrysanthemum, arranged with foliage, etc., was from Mr. R. E. WILSON, 32, Margravine Gardens, West Kensington; blooms of Viviand Morel were those used, and the vase was draped gracefully with elegant Smilax; 2nd, Mr. ED JONES, 51, Bower Street, Bedford.

Ladies' Class.—Ladies were encouraged to compete in a class for a hand basket of Chrysanthemums suitable for a drawing-room table, and arranged with foliage. The victorious lady was Miss E. PENTNEY, Vale Cottage, Hanger Hill, Ealing, who had apparently made free use of the

market variety Source d'Or; Miss SEDGLEY, The Nurseries, Caterham Valley, who was 2nd, eschewed all varieties but Viviand Morel, all of the flowers being fairly well coloured ones. 3rd, Mrs. W. GREEN, Jr., Harold Wood, Essex, who had evidently carried out the idea that variety is charming.

Two Hand Bouquets of Chrysanthemums.—Several of these exhibits were in exceptionally good taste. Mr. Mark Webster, gr. to E. J. PRESTON, Esq., Kelsey Park, Beckenham, who had 1st prize, having two very elegant bouquets, indeed. The 2nd prize was taken by Mr. ARTHUR PENTNEY, and the 3rd by Mr. W. SALMON, Ivy Cottage, Elder Road, West Norwood.

STEYNING CHRYSANTHEMUM.

OCTOBER 28, 29.—A pleasing and successful exhibition was held at this town on the above date. Although this is only the fifth year of its existence, the Society has almost doubled its membership.

The 1st prize and the National Chrysanthemum Society's Medal went to Mr. C. Knowles, gr. to the Rev. Prebendary C. W. A. NAPIER, Wiston, who had a well-grown and arranged group. Mr. G. Hart, gr. to Mr. HEAD, Shoreham, was 1st for three specimen plants; for a single specimen; and he was 1st for twenty-four blooms of Japanese, receiving also the National Chrysanthemum Society's Medal for the exhibit: he was also 1st for twelve incurved varieties. Mr. J. STREDWICK, Silverhill, Hastings, was 1st for twelve blooms of Japanese varieties; as was likewise Mr. R. BOTTING, Henfield, for six of these varieties.

The local Challenge Cup, given for the best twenty-four blooms of large-flowering, in not less than twelve distinct varieties, was won by A. SLAUGHTER, Esq., Jarvis Villa, Steyning, who now retains it, as well as a National Chrysanthemum Society's Silver Medal. This was a bright and fresh stand of blooms. The division open to ladies only, resulted in keen competition. Miss K. WHITE was 1st for a well-arranged basket; Mrs. A. WHITE for a shower bouquet; Mrs. A. SLAUGHTER for a vase filled with Chrysanthemums; and Miss K. WHITE again in front for an epergne. We have seldom seen a prettier and better arranged show, or one where the plants and flowers were of so superior a character.

TORQUAY AND DISTRICT GARDENERS' ASSOCIATION.

OCTOBER 28.—The president, committee, and members of the Torquay and District Gardener' Association are to be congratulated on having arranged the most successful Chrysanthemum exhibition held in Torquay as yet.

As is usually the case in Torquay, the nurserymen contributed largely. The display of Mr. W. B. SMALE of Torquay was one of the brightest, and most tastefully arranged in the hall. It consisted chiefly of well-grown Chrysanthemums, amongst which were many of the newest varieties, including a fine white Madame Carnot, Mutual Friend, Edith Tabor, a yellow incurved Japanese; Belle Arlesienne, creamy pink; Charles Davis, a bronze-yellow; Col. W. B. Smith, terra cotta; Director Kowallek, a grand purple-violet incurved; King of Chrysanthemums, Indian red and old gold, &c.

Messrs. R. VEITCH & SONS of the Royal Nursery, Exeter, exhibited close on thirty dishes of Apples of great merit, as well as Orchids, Primulas, Carnations, Cannas, Violets California, Princess Beatrice, and Princess of Wales, the winter-flowering Begonia, Gloire de Lorraine, and a number of interesting rock and alpine plants.

Messrs. CURTIS, SANFORD & Co.'s choice general collection included Chrysanthemums in variety, Palms, Heaths, Primulas, Bouvardias, Crotons, &c.

Mr. W. ALLWARD sent some very handsome Ferns, amongst them being the new Pteris Wimsettii, and fine specimens of crested Pteris and Nephrolepis, as well as Chrysanthemums, Palms, Cyclamens, Primulas, and which together made an attractive display. The management of the South Devon Fruit Farm sent a fine lot of fruit, which comprised some fine bunches of Muscat and Gros Colmar Grapes, Tomatos, Apples, and Mushrooms, very daintily arranged.

Messrs. JARMAN & Co.'s (CHARD) exhibit, consisted of about fifty dishes of Apples, some extraordinarily fine Potatos, and some equally fine Onions.

Mr. G. PEARCE, of Torre, is well known in the Borough for the superior quality of his products as a market gardener, and his collection at the Bath Saloon did him great credit. It was well grown without being coarse.

Mr. WELLS, nurseryman, Redhill, Surrey, contributed a box of splendidly grown blooms; and Mr. ISAAC HOUSE, Bristol, specimens of the new giant Violet California.

Amongst the honorary exhibitors were Miss LAVERS, of Upton Leigh, and Mrs. WILSON, Luneville, Mrs. RAWSON, Bramhope; Dr. W. FORD EDGELOW, specimen plants of Begonia "Gloire de Lorraine;" Mr. W. BUSHBY, Torwood, Mr. C. KITSON, Collaton, and Mrs. TREVOR BARCLAY. All their exhibits were highly commended.

The cut flowers generally were exceedingly good, both in size, colour, and substance. The Japanese blooms were undoubtedly the most meritorious, the incurved being, perhaps, the weakest section in the remarkably strong classes. The incurved appear to be less appreciated than formerly.

The groups were remarkable for the closeness of competition; they were beautifully arranged, and anyone with any know edge of Chrysanthemums and grouping will support the judges in their awards. To give visitors an idea of how our friends across the Atlantic exhibit their Chrysanthemums, there was a class for cut flowers to be shown with their foliage, in vases. There were three entries in this class, and the blooms in old blue Oriental vases were, in our opinion, a long way in advance of those shown in boxes, although the individual blooms might not have been quite as large.

In the evening a lecture, entitled "The Chrysanthemum at Home and Abroad," was given by Mr. F. C. SMALE before a crowded attendance. The lecture was illustrated with some unique and beautiful lantern-pictures, prepared for the purpose, the photographs having been taken by Mr. S. Bretton, from a rare collection of water colour paintings from Japan, pictures from America, France, and other places. Mr. Smale dealt with the pictures, first describing the system of Chrysanthemum growing in the home of the flower—Japan. Many specimens were shown on the screen hitherto unknown in England, some extremely pretty and graceful, and others which English people would not altogether admire, but nevertheless floral novelties. The Chrysanthemum in America was then dealt with, the lecturer pointing to the advantages and disadvantages of exhibiting flowers in vases, as is the rule in the United States. He said more graceful effects were obtainable, and the foliage could also be shown, but it involved injury in packing the flowers, especially if they had to be exhibited at a distance. Nevertheless, the pictures of American exhibits in dainty vases proved conclusively that the Chrysanthemum could be made much more attractive in that way than when placed on the usual green exhibition box. Mr. Smale then proceeded to deal with the Chrysanthemum in France, the collection of Mr. Jones, of the Ryecroft Nursery, and that of Messrs. Pearson of Nottingham. Not the least interesting feature of the lecture was a description of the pests which attack Chrysanthemums, illustrated according to the Japanese idea.

ASCOT.

NOVEMBER 4, 5.—In the Grand Stand the Annual Exhibition was held, and it was in every respect a success. Cut blooms were the feature of the show. Mr. J. Salter, gr. to T. B. HAYWOOD, Esq., Woodhatch, Reigate, won the premier award for both incurved and Japanese varieties in each case, for twenty-four varieties, the blooms being of high quality.

In the incurved section, Mr. Neville, gr. to F. W. FLIGHT, Esq., Twyford, Winchester, secured the 2nd award; while Mr. T. Denne, gr. to N. S. COOKSON, Esq., Binfield Park, Bracknell, occupied a similar position in the class for Japanese. For twelve incurved, Mr. F. Hereman, gr. to Lady J. KEANE, Rosemount, Sunningdale, won the premier position.

In a similar class for Japanese, Mr. Wilson, gr. to R. C. CHRISTY, Esq., Ribsden, Bagshot, was the chief prize-winner. Mr. W. Lane, gr. to Miss J. DURNING SMITH, King's Ride Ascot, won easily the Hon. Mrs. ASHLEY PONSONBY'S Silver Cup for the best incurved and Japanese blooms in eighteen varieties. To this collection was also awarded the Bronze Medal offered by the National Chrysanthemum Society, for the best exhibit of Chrysanthemums in the local classes. The premier Japanese bloom was Madame Carnot, in Mr. NEVILLE'S stand. In the incurved section, Charles Curtis received a similar recognition, this also belonging to Mr. NEVILLE.

Mr. LANE had much the best exhibit in the class for a collection of Chrysanthemums grown in pots, which were dwarf yet carried good blooms, accompanied with satisfactory leafage. Mr. T. DENNE had the best group of Chrysanthemums, interspersed with foliage plants and Ferns. Mr. W. L., Farmer, gr. to H. P. LESCHALLAS, Esq., Higham, Windlesham, occupied a similar position, with a group of miscellaneous plants. Many other creditable exhibits were staged in the various sections, space however, forbids further details.

MARKETS.

COVENT GARDEN, NOVEMBER 7.

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Anemone, doz. bun.	1 6-	2 6
Arums, p. 12 blooms	4 0-	6 0
Bouvardias, per bn.	6 0-	9 0
Carnations, 12 blms.	1 0-	2 6
Chrysanthemums, doz. bun.	3 0-	6 0
— doz. blooms	1 0-	4 0
Eucharis, per dozen	2 6-	4 0
Gardenias, per doz.	1 0-	3 0
Gladiolus, coloured, per doz. sprays ...	1 0-	2 0
Lilac, wh. (French), per bunch ...	3 6-	5 0
Lilium Harrisi, per doz. blooms ...	4 0-	8 0
— longiflorum, doz. bloom ...	2 0-	3 0
Lily of the Valley, dozen sprays ...	0 9-	2 0
Maidenhair Fern, per 12 bunches ...	4 0-	8 0
Marguerites, per 12 bunches	1 0-	2 0
Mignonette, per doz. bunches ...	2 0-	4 0
Mimosa (French), per bunch ...	1 0-	1 6
Orchids:—		
Cattleya, 12 blms.	6 0-	12 0
Odontoglossum crispum, 12 bm.	2 0-	6 0
Pelargoniums, scarlet, per 12 bun.	3 0-	6 0
— per 12 sprays ..	0 4-	0 6
Pyrethrums, 12 bn.	2 0-	4 0
Roses (French), per doz. blooms ...	1 0-	2 0
— Tea, per doz. ...	0 9-	1 6
— yellow (Maréchal), per doz.	4 0-	7 0
— red, per dozen	0 6-	1 0
— red, doz. bun.	9 0-	18 0
— Gloire, doz. bn.	4 0-	6 0
— Safrano, p. doz.	1 0-	2 0
Stephanotis, per 12 sprays	3 0-	4 0
Tuberoses, 12 blms.	0 3-	0 6
Violets (Fr.) Parme, per bunch	2 6-	4 0
— — Czar, per bunch	2 0-	3 0
— — doz. bun.	1 6	—
— (Eng.), per doz. bun.	1 6-	2 6

ORCHID-BLOOM in variety.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Adiantum, per doz.	4 0-	12 0
Aspidistras, per doz.	12 0-	30 0
— specimen, each	5 0-	15 0
Chrysanthemums, per doz.	6 0-	12 0
— specimen plants, each	1 6-	2 6
Chrysanthemums, per plant ...	1 6-	2 6
Coleus, per doz. ...	2 0-	4 0
Dracænas, each ...	1 0-	7 6
— various, p. doz.	12 0-	24 0
Evergreen Shrubs, in variety, doz....	6 00-	24
Ericas, p. doz. ...	10 0-	12 0
— hyemalis, per doz.	12 0-	15 0
Ferns, small, doz....	1 0-	2 0
— various, doz.	5 0-	12 0
Ficus elastica, each	1 0-	7 6
Foliage plants, per doz.	12 0-	36 0
Marguerites, p. doz.	6 0-	10 0
Palms, various, ea.	2 0-	10 0
— specimens, ea.	10 6-	84 0
Pelargoniums, Scarlets, p. doz. ...	2 0-	4 0
Solanums, p. doz....	12 0-	15 0

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Apples, cooking, in variety, per sieve... ..	2 0-	3 0
— dessert, in variety, per ½-sieve... ...	2 6-	4 0
Grapes, Alicante, 1st quality, per lb.	1 0-	1 3
— Alicante, 2nd quality, per lb.	0 6-	0 8
— Gros Colmar, per lb.	1 3-	1 6
— Gros Colmar, 2nd qual., per lb.	1 0	—
— Muscats, English, 1st quality per lb.	2 0-	2 6
Grapes, Muscat, 2nd qual., p. lb.	1 0-	1 6
— Gros Maroc, per lb.	1 0-	1 3
Medlars, per ½-sieve	2 6-	3 0
Melons, each ...	2 0-	2 6
Nuts, Cob, per 100 lb. ...	25 0-	27 6
Pears, Doyenné du Comice, per ½-sieve ...	7 0-	8 0
— Duchess, per ½-sieve ...	5 0-	6 0
Pine-apples, St. Michael, each ...	5 0-	6 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Cauliflowers, p. tally of 5 doz.	5 0-	7 6
Cucumbers, home-grown, per dz.	2 0-	3 0
Mushrooms, (Indoor) per lb.	1 0-	1 6
Tomatos, home-grown, smooth, per doz. lb. ..	3 6-	4 0
selected ...	4 6-	5 0
— ordinary kinds, do.	2 0-	2 6

POTATOS.

Trade firm and prices about same as last report. *J. B. Thomas.*

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (−) the Mean for the week ending October 31.	Accumulated. Above 42° for the Week.	Accumulated. Below 42° for the Week.	Accumulated. Above 42°, difference from Mean since December 29, 1895.	Accumulated. Below 42°, difference from Mean since December 29, 1895.	Rainfall. More (+) or less (−) than Mean for the Week.	Rainfall. No. of Rainy Days since Dec. 29, 1895.	Rainfall. Total Fall since Jan. 1, 1896.	Bright Sun. Percentage of possible Duration for the Week.	Bright Sun. Percentage of possible Duration since Dec. 29, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	5 −	2	30	+ 164	− 265	0 aver	208	47·3	22	24
1	5 −	5	34	+ 108	− 182	0 aver	174	24·0	17	30
2	7 −	8	34	+ 186	− 183	5 +	156	19·8	24	29
3	5 −	17	35	+ 153	− 190	4 −	154	20·8	49	35
4	7 −	16	39	+ 143	− 208	2 −	151	20·2	38	32
5	5 −	31	15	+ 252	− 227	1 −	140	20·7	58	88
6	7 −	8	34	+ 198	− 176	9 −	181	37·3	39	32
7	7 −	8	31	+ 276	− 218	5 −	167	29·3	17	32
8	7 −	16	28	+ 321	− 165	6 −	149	25·4	51	41
9	5 −	10	25	+ 197	− 187	3 −	192	33·8	34	28
10	8 −	11	30	+ 282	− 160	5 −	164	29·6	29	33
*	5 −	30	0	+ 440	− 109	1 +	165	23·6	36	46

The districts indicated by number in the first column are the following:—

0, Scotland N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

Obituary.

MRS. HEAL.—The many friends of Mr. John Heal, of Veitch's Nursery, will, with sorrow and deep sympathy, hear of the death of Mrs. Elizabeth Heal, who died on the 31st ult., at the age of fifty-four.

ENQUIRY.

"He that questioneth much shall learn much."—BACON.

WE have received letters from two correspondents, one living in the Isle of Man, and the other in Scotland, who are desirous of information regarding the raising and planting of Blaeberries or Bilberries on moorland. Should the seeds be sown and the young plants brought on in a nursery, planting them out when of a size likely to succeed among other moorland vegetation? In one of the cases, the woodland is "full of them," but none is on the moor. There are sheep to contend with here. Perhaps some of our readers will supply the needed information.

Answers to Correspondents

ARAUCARIA IN ILL-HEALTH: *J. C.* Beyond affording fresh soil to the roots at their extremities, and over the entire area in the possession of the roots, there is nothing that you can do to restore the tree to health. The splitting of the bark is simply the result of growth in the stem, and would occur in any case, although it would be more apparent in a droughty summer, followed by a wet autumn.

BOOKS: *Geo. C. The Carnation, its History, Properties, and Management*, by E. S. Dodwell, Derby; W. Bacon, Becket Mill Works.—*R. M. Les Engrais* is published in the French language by Messrs. Rueff & Co., 106, Boulevard St. Germain. We do not know the price.

EARLY WHITE-FLOWERED IRIS: *R. V. H.* Iris Bakeriana, which has white falls, also some forms of I. iberica, I. xiphium var. Blanche Fleur, I. xiphioides var. Mont Blanc, and others of this section, all of which force well. There are white varieties of Iris olbiensis, and an early-flowering species, growing to the height of 1 foot; I. stylosa alba is very early in flowering. These mostly flower in the month of April, but they can be hastened by gentle forcing. No forcing may be done if the plants are not well rooted in pots. They will do well in warm situations, especially suitable being a place at the foot of a wall. We have no experience of planting them out in a Tomato-house, but should suppose that they would succeed, provided they had a light position, and are not forced severely.

MOSS ON LAWN: *W. C.* The growth of moss may be due to lack of drainage, or to tree-shade. If it be the former, means should be taken to drain the land by means of underground drains, which, if trees and shrubs are near, should be made of stones broken Macadam wise, and laid in V-shaped drains to the depth of 9 inches; pipes are no use, as they get stopped by the roots. Having done that, scratch off the moss with a rake, and give the lawn a dressing of loam and fine wood ashes at the rate of six of the former to one of the latter, and on this dressing sow lawn grass seeds. The dressing and sowing will be best done in the spring, it being now too late. Rake in the seeds lightly, and roll the surface when the soil is dryish, and does not stick to the roller. An annual dressing of wood-ashes and a triennial one of loam will keep the lawn in good condition, bare places being restored by sowing seeds. If you like, Trifolium repens and T. minus may be sown with the grasses, these plants covering the ground quicker than the grasses. They die out in great part in a few years, by which time the grasses have spread over the entire surface.

NAMES OF FRUITS.

*** *The applications to name flowers, and especially fruits, are so numerous at this season, as seriously to hamper us in the exercise of our editorial duties. They entail an expenditure of time, labour, and money, of which our readers have little idea. We are most desirous to oblige our correspondents as far as we can, but we must request that they will observe the rule that* **not more than six varieties** *be sent at any one time. The specimens should be good ones, just approaching ripeness, and they should be properly numbered, and carefully packed. We do not undertake to send answers through the post. Delay in any case is unavoidable.*

Drummond & Sons. Your Apple is named Rymer syn. Newbold's Duke of York. *Constant Reader.* 2, Pine-apple Russet; 3, Winter Quoining, or Duck's-bill; 4, Royal Russet; 5, Sturmer Pippin; 6, Cox's Pomona; 7, Adams' Pearmain; 9, Golden Noble; 10, Cornish Gilliflower.—*Fulfords.* Pear, Belle de Bruxelles; 1, not known; 2, Yorkshire Beauty; 3, Cockles.—*W. A. C.* 2, Beurré Diel; 6, Marie Louise; 15, Nouveau Poiteau; 12, Bergamotte d'Esperen'; 16, Maréchal de la Cour; 7, Beurré Charneuses. There were two Pears numbered alike, 13, the melting fine quality fruit is Doyenné du Comice, the other, not melting, is Catillac.—*Carter, Page & Co.* 1, Apple, Fearn's Pippin; 2, Duchesse d'Angoulême; 3, Beurré d'Aremberg.—*W. B.* 1, Besspool? 2, not known; 3, Hormead's Pearmain; 4, Beauty of Kent; 5, Hawthornden; 6, Sturmer.—*H. W.* 4, Beurré Rance; 21, Beurré Bachelier; 10, Passe Colmar; 24, Beurre Charneuse; 20, not recognised.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to be so good as to consult the following number.—J. B. J.* Begonia Ingrami.—*J. Enfield.* 1, Cheilanthes hirta; 2, Elæagnus pungens variegata; 3, Lomatia silaifolia, *Bot. Mag*, t. 1272; 4, Pittosporum variegatum; 5, Leucopogon Cunninghami.—*F. W. B., Burnley.* It is impossible to give the correct name of the shrub without seeing flowers.—*S. L.* 1, Pteris Bausei; 2, Cypripedium cœnanthum superbum.—*W. T. J.* The decay of the Calanthe spikes is most likely brought about by a check wrought possibly by a sudden fall in the temperature. Sometimes the spikes will decay by injudicious use of liquid manure.—*C. Want.* Stapelia variegata.

PAULLINIA THALICIFOLIA: *Paullinia.* Take cuttings of ripened shoots and insert in pots of sandy soil cased with sand under a bell-glass in a bottom-heat of 80°. The more suitable time is March and April, just when growth is on the move. Layering can also be done, if only a few plants are required.

QUICK-LIME IN TOMATO HOUSE: *R. V. H.* It may be laid on as top dressing, ½ to ½ inch thick. There is no necessity to bury it more than a few inches, as the water afforded the border will continually carry it downwards.

STORING DESSERT APPLES: *Enquirer.* There is no mystery about storing Apples, either dessert or culinary varieties, if the following points are observed; and what suits the one is good for the other. The fruit should be very carefully handled when gathered and put into the fruit room; it should be put in one, or for culinary varieties two layers; air should be given till there is no more "sweating" observed, and afterwards the room should be kept dark and close, air being afforded occasionally to dissipate moisture. The best sort of fruit-room is one that is partly under ground, if the land is well drained around it; it should have either 14-inch walls or double walls, that is, two walls of 4½ inch brick work with a 6-inch space between. The roof should be of thatch or tile—if the latter, there should be a boarded or plaster ceiling, and there should be an outer and inner door. The fruit should lay on shelves made of battens about 2 inches wide, or on trays of the same kind of construction, which can be pulled out and are convenient. The temperature should be between 35° to 40°. Before fruit is stored the room should be sulphured by burning 1 ounce of sulphur in a saucer, with the doors closed, and the walls afterwards lime-washed. Never leave decaying fruit or musty hay or straw in the room, or place the fruit on either, although brown or white paper are permissible. A fruit room of this kind will answer equally well for Pears, Nuts, Medlars, Quinces, for retarding or keeping for a time store fruits, Pineapples, and Melons. Any Pears, however, which are approaching ripeness, should be placed, a few at a time, in a warmer place—say with a temperature of 50° to 55°, whereby their flavour is much improved.

TOMATO LEAVES DISEASED: *R. Von der Heyde.* It is Cladosporium fulvum. *Re* the Tomato-mould so often alluded to, and first described in the *Gardeners' Chronicle. M. C. C.*

COMMUNICATIONS RECEIVED.—D. M.—J. B. M. & W.—Dr. King (Calcutta).—D. R. W.—E. C.—E. H. W.—C. B. P.—F. R., Quedlinburgh—D. T. F G M.—F. Heinemann.—A. H. M.—Professor Bailey, Ithaca.—A. B. W.—E. H. W.—W. W.—N. E. B. T. Turton (next week).—E. M.—R. von der Heyde.—W. E. B.—W Fell & Co. W. Weeks, Bromley.—E. H. C. (there is no trace of your communication; can you not send again?).—C. Want.—J. J. W.—H. W. W.—G. W.—J. H.—A. C. F.—W. P.—H. W.—G. W.—G. G.—R. L. H.—W. W.—C. M. C.—J. McI.—J. B.—A. D.—R. D. J.—A. P.—J. A.—T. B.—T. C.—T. T. F.—C. H.—E. J.—A. H.—C. T. D.

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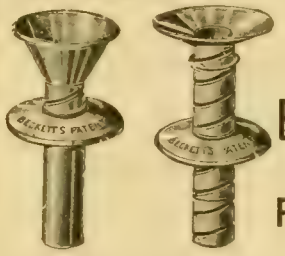
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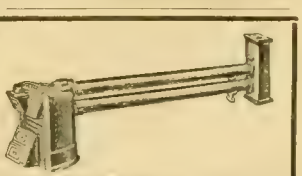
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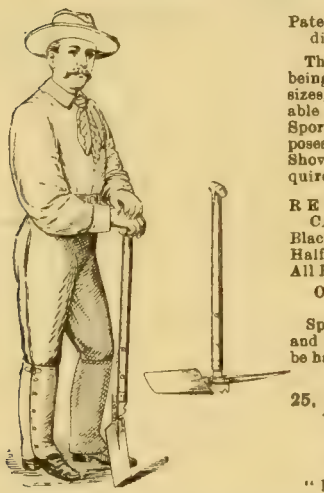
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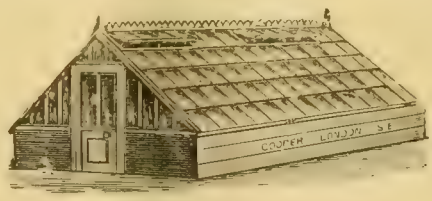
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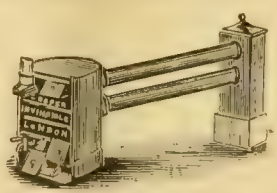
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COARSE SILVER SAND, 1s. 9d per bushel; 15s. per half-ton; 28s. per ton, in 2-bushel bags, 4d. each.
YELLOW FIBROUS LOAM, PEAT-MOULD, and LEAF-MOULD, 1s. per bushel.
SPHAGNUM MOSS, 8s. 6d. per sack.
MANURES, GARDEN STICKS, TOBACCO CLOTH, RUSSIA MATS, &c. Write for Price LIST.
H. G SMYTH, 21, Goldsmith Street, Drury Lane, W.C.

HILL & SMITH,

BRIERLEY HILL, near DUDLEY.

H. & S's BLACK VARNISH,

For Iron, Wood or Stone Outdoor Work.



Forty years' reputation. Ready mixed. Dries in ten minutes with perfect gloss. Is used at Windsor Castle, Kew Gardens, and London and Dublin Parks, and most Landowners. In 18 and 36-gallon Casks only, 1s. 6d. per gallon at works, 1s. 8d. at nearest Railway Station.

REGISTERED TRADE MARK.

Replies please mention this advertisement.

The Success achieved by Exhibitors at past and present Chrysanthemum Shows, notably Aquarium, Nov. 3, 1896, has clearly demonstrated, by examples staged, that the

XL ALL MANURES

are of the greatest importance to those who wish to have fine blooms and superior fruit.

Registered Trade Mark. Registered Trade Mark.

XL ALL LIQUID MANURE.

There's something in it which cannot be obtained in a Dry Manure.

To be used one part to fifty of water, making the cheapest Plant Food in the market.
Read the remarks below of a Champion Grower.
1 pint, 1*s.*; 1 quart, 1*s.* 6*d.*; 1 gallon, 3*s.* 9*d.*; 4 gallons, 12*s.* Cheaper in bulk.

XL ALL PERFECTLY SOLUBLE MANURE (Dry Powder.)

FOR TOP DRESSING or APPLYING IN SOLUTION.

Where there is a Heavy Crop of Fruit or Flowers to finish off—Use this!

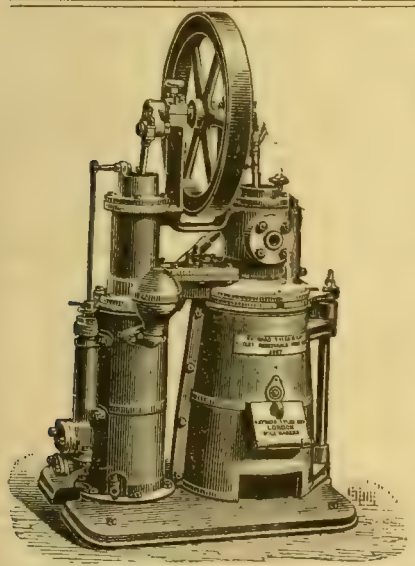
TO OBTAIN A QUICK and BENEFICIAL RESULT.

In 1*s.*, 2*s.* 6*d.*, 5*s.*, and 10*s.* tins. The small quantity necessary will make it a cheap manure.

Mr. W. H. LEES, The Gardens, Trent Park, New Barnet, one of the most successful exhibitors of Chrysanthemum Blooms. This celebrated grower writes:—"I have used your new Liquid Manure on many things this season with highly satisfactory results—especially on Chrysanthemums."

The above and all other XL ALL SPECIALITIES can be obtained from all Nurserymen and Seedsmen, or direct from the Proprietor—

C. H. RICHARDS, OLD SHOT TOWER WHARF, LAMBETH, LONDON, S.E.



WATER SUPPLY

FOR

Gardens and Greenhouses.

NO SKILLED SUPERINTENDENCE, OR DANGER.

THE "RIDER" HOT-AIR ENGINE

Raises 1000 gallons 80 feet high for an expenditure of ONE PENNYWORTH of Fuel.

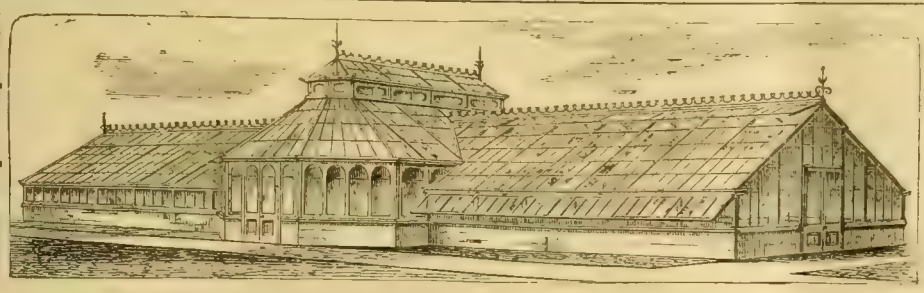
CRANSTON'S NURSERIES say:—"We should be very sorry to be without it now."

SOLE MAKERS:—

HAYWARD - TYLER & CO.,

Address: 63, QUEEN VICTORIA STREET, E.C.

Five 1st Prize Medals recently awarded in open competition.



Five 1st Prize Medals recently awarded in open competition.

R. HALLIDAY & CO.,

HOTHOUSE BUILDERS and HOT-WATER ENGINEERS,

ROYAL HORTICULTURAL WORKS, MIDDLETON, MANCHESTER.

Vineries, Stoves, Greenhouses, Peach Houses, Forcing Houses, &c, constructed on our improved plan, are the perfection of growing houses, and for practical utility, economy, and durability cannot be equalled. We only do one class of work, and that THE VERY BEST.

Conservatories and Winter Gardens designed architecturally correct without the assistance of anyone out of our firm, from the smallest to the largest. **Hot-water Heating Apparatus**, with really reliable Boilers, erected, and success guaranteed in all cases. **Melon Frames, Sashes, Hot Bed Boxes, &c.**, always in Stock.

Plans, Estimates, and Catalogues Free. Customers waited on in any part of the Kingdom.

Our Maxim is and always has been—

MODERATE CHARGES. FIRST-CLASS WORK. THE BEST MATERIALS.

THE GARDENERS' CHRONICLE

PUBLISHER'S NOTICES.

GARDENERS' CHRONICLE TELEGRAMS.—*The Registered Address for Foreign and Inland Telegrams is "Gardchron, London."*

ADVERTISEMENTS.

SCALE OF CHARGES FOR ADVERTISING

HEAD LINE CHARGED AS TWO.

4	Lines	..	£0	3	0	15	Lines	..	£0	8	6
5	„	..	0	3	6	16	„	..	0	9	0
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7	„	..	0	4	6	18	„	..	0	10	0
8	„	..	0	5	0	19	„	..	0	10	6
9	„	..	0	5	6	20	„	..	0	11	0
10	„	..	0	6	0	21	„	..	0	11	6
11	„	..	0	6	6	22	„	..	0	12	0
12	„	..	0	7	0	23	„	..	0	12	6
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AND SIXPENCE FOR EVERY ADDITIONAL LINE.

If set across two Columns, the lowest charge will be 20*s.*
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Page, £8; Half Page, £4 10*s.*; Column, £3.

Advertisements guaranteed to appear on the front page are charged at the rate of 1*s.* per line, head line counting as two lines. No display is allowed.

GARDENERS AND OTHERS WANTING SITUATIONS. *26 words, including name and address, 1s. 6d., and 6d. for every additional line (about nine words) or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, which are charged at the ordinary scale.*

POSITION.—*Advertisers are specially requested to note, that under no circumstances whatever can any particular position be guaranteed for advertisements occupying less space than an entire column.*

Births, Deaths, and Marriages, 5s. each insertion.

NOTICE TO ADVERTISERS.—*In many instances Remittances in Payment of Repeat Advertisements are received without name, address, or anything beyond the postmark on envelope by which to identify the sender; this in all cases causes a very great deal of trouble, and frequently the sender cannot be identified at all.*

Advertisers are requested when Remitting to give their Names and Addresses, and also a Reference to the Advertisements which they wish repeated.

POSTAL ORDERS.—*To Advertisers, Subscribers, and Others.—It is very important in remitting by Postal Order that it should be filled in payable at GREAT QUEEN STREET, London, W.C., to* H. G. COVE, *as, unless the number of a Postal Order is known, and it has been made payable at a particular office, and to a particular person, it is impossible to prevent any person into whose hands it may fall from negotiating it.*

Advertisements for the current week MUST *reach the Office by first post, Thursday morning.*

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements,
41, WELLINGTON STREET, STRAND, W.C.

SUBSCRIPTIONS.

All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months. Post-office Orders to be made payable at the Post-office, Great Queen Street, London, W.C., to H. G. COVE.

Subscribers who experience any difficulty in obtaining their copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint).

ORCHID PEAT.—Dry and prepared, 5s. 3d. per bag, on rail; 15s. per cubic yard, in 12-yard trucks. BROWN FIBROUS PEAT, 3s. 3d. per bag; 10s. per cubic yard.
WALKER AND CO., Poole, Dorset.

EPPS'S A1 PEAT
(SELECTED specially for ORCHIDS),
Also for Stove & Greenhouse Plants, Hardwood Ferns and Rhododendron do. (Trade supplied).
LOAM, SAND, LEAF MOULD, C. N. FIBRE, CHARCOAL, SPHAGNUM MOSS, &c. PEAT sent to all parts of the world at Special Through Rates. Large or small quantities.
EPPS & CO., F.R.H.S., Peat Depôt, Ringwood.

TENTS! TENTS!! TENTS!!!—I have purchased 5000 ARMY TENTS (40 ft. circumference), scarcely used. Complete with poles, pegs, and lines. Cost £6 each. Will send any number, carriage paid, for 28s. each; inferior qualities, 22s. and 24s. each. Cash with order; can be sent on approval. Specially adaptable for sporting and pleasure purposes. TWO JUST SUPPLIED TO BUCKINGHAM PALACE. The following unsolicited testimonial is one out of many hundreds weekly:—
"April 29, 1896. Dear Sir,—Accept my thanks for the tents, safely received to-day. I am very pleased with them.
"F. H. HILL, Duddingston Park, Portobello, Midlothian."
MARQUEES for Flower Shows, Sports, &c.—Made of best Tent Canvas, 30 feet by 16 feet, with Poles, Pegs, Runners, Lines, Mallets, and Bags, all complete, ready for use, cash £14, cost £36.
ANDREW POTTER, Melbourne Works, Wolverhampton.

TECHNICAL HORTICULTURE.
COUNTY COUNCIL LECTURES.
THE COTTAGER'S CALENDAR
OF GARDEN OPERATIONS.
Will be useful to Lecturers and Students in the above subject.
Price 3d.; post-free, 3½d.
41, WELLINGTON STREET, STRAND, W.C.

THE MOST NUTRITIOUS COCOA.
EPPS'S
GRATEFUL—COMFORTING.
COCOA
WITH FULL NATURAL FLAVOUR.

ESTABLISHED 1851.
BIRKBECK BANK,
SOUTHAMPTON BUILDINGS, CHANCERY LANE, W.C.
TWO-AND-A-HALF per Cent. INTEREST allowed on DEPOSITS, repayable on demand.
TWO per Cent. on CURRENT ACCOUNTS, on the minimum monthly balances, when not drawn below £100.
STOCKS and SHARES purchased and sold.
SAVINGS DEPARTMENT.
For the encouragement of Thrift the Bank receives small sums on deposit, and allows interest at the rate of TWO-AND-A-HALF PER CENT. per annum on each completed £1.
BIRKBECK BUILDING SOCIETY.
HOW TO PURCHASE A HOUSE FOR TWO GUINEAS PER MONTH.
BIRKBECK FREEHOLD LAND SOCIETY.
HOW TO PURCHASE A PLOT OF GROUND FOR FIVE SHILLINGS PER MONTH.
The BIRKBECK ALMANACK, with full particulars, post-free. FRANCIS RAVENSCROFT, Manager.

ACCIDENTS OF TRAVEL.
ACCIDENTS,
RIDING, DRIVING, SHOOTING, CYCLING, FISHING, SKATING, &c.
ACCIDENTS OF ALL KINDS
INSURED AGAINST BY THE
RAILWAY PASSENGERS' ASSURANCE CO.,
64, CORNHILL, LONDON.
A. VIAN, *Secretary.*

ROYAL HORTICULTURAL SOCIETY'S
EXAMINATIONS IN GARDENING.
"Coaching" by Correspondence arranged for intending Candidates unaccustomed to write papers. Fees moderate, to suit Practical Gardeners.
COLVILE BROWNE, F.R.H.S., Hextable, Kent.

GARDENING APPOINTMENTS.

MR. T. HUGHES, for more than six years Gardener at Brimington Hall, Chesterfield, Derbyshire, as Gardener to J. A. KNIGHT, Esq., Holne Chase, Bletchley, Bucks.

Mr. T. W. DANCER, late Gardener at Mowbray Lodge, Melton Mowbray, as Gardener to J. G. ANDERSON, Esq., Helvetia, Eltham, Kent.

Mr. JAMES ROBERTSON, two and a half years Foreman at Eastwood Park, Giffnock, Glasgow, as Gardener to J. C. ROBERTS, Esq., Baldon House, near Oxford.

Mr. J. CHAMPION, Head Gardener to Colonel SHAKERLEY, at Embley Park, Romsey, Hants, has removed with that Gentleman to Burgate, Hascombe, Godalming.

Mr. J. H. WALKER, for the past eleven years Head Gardener at "Goldbeaters," Mill Hill, N.W., as Gardener to A. W. MARSHALL, Esq., Buckden Towers, near Huntingdon.

Mr. HENRY JONES, late foreman in Normanby Park Gardens, Doncaster, as Gardener to J. HODGSON, Esq., Nocton Hall, Lincoln.

Mr. G. BROWN, for twenty years Head Gardener to the Marquis of LANSDOWNE, at Tullyallan Castle, N.B., as Head Gardener at Bowood Park.

FOR THE COMING WINTER!!!
WALTERS & CO.'S
WOOD ROLLER BLINDS.
Suitable for Covering Frames, and for the Protection of Half-Hardy Plants and Crops.
1s. 3d. per sq. yard. Roller, 2d. per foot run extra
On receipt of 4s. a sample blind, 4 ft. by 6 ft. drop length will be forwarded.
ORCHID BASKET MANUFACTURERS,
707, High Street, Leytonstone, London, E.

STOVES!—STOVES!
ROBERTS'S (IMPROVED) PATENT.
Terra-Cotta! Portable! For Coal!
Pure and ample heat, 24 hours for about 1d., without attention.
For Greenhouses, Bedrooms, &c.
Pamphlets, Drawings, and authenticated Testimonials sent. Seen in use at Patentee's,
THOMAS ROBERTS, 34, Victoria St., Westminster.

WALSHAW AND SON, Scarborough, THANK the MANY APPLICANTS for the post of Jobbing Foreman, and as they are too numerous to answer separately, beg to assure them that their applications are receiving careful consideration.

PARTNERSHIP WANTED.—A Gentleman with capital, wishes to join an established Nurseryman and Florist in the country. Would manage office and assist in general management of Nursery.—Address, PROGRESS care of Mr. Robson 53, Alkham Road, Stoke Newington, London

WANTED, for America, — HEAD GARDENER, married preferred, middle-aged and strictly temperate. Must have good general knowledge of Gardening, including Orchid Culture and Fruit Growing under Glass. Must also be a good Manager of Men. Wages £200 with house.—Apply, by letter only, to JAMES VEITCH AND SONS, Royal Exotic Nursery, Chelsea, S.W.

WANTED, GARDENER (SECOND), single; well up in Kitchen Garden, Tomatos, Cucumbers, Vines, Palms, and Herbaceous Plants. Excellent character from last employer; by letter only to J. W. BENSON, Esq., Walton Oaks, near Epsom.

WANTED, UNDER GARDENER, with experience of Glass and usual Kitchen and Flower Garden knowledge. Wages, with bothy, 17s.—Enclose copies of references to G. N. MORTEN, The Bank, St. Alban's.

WANTED, a GARDENER and COOK, for quiet, country place (without children); husband as Single-handed GROOM-GARDENER; wife well-trained GENERAL SERVANT, who can cook well. Must be early risers, punctual, and willing.—Address, stating age, experience, wages (live in), and references, BETA, East Court, Gillingham, Kent.

WANTED, a thoroughly practical MAN (Unmarried), as Chrysanthemum, Tomato, and Strawberry GROWER, for Market. Must be steady, industrious, and able to Manage Men.—Apply, with references and wages expected, TURNER BROS., Nurserymen, Hale, Liverpool.

WANTED, a FOREMAN (Outdoors), for a large Nursery.—Give particulars to THOMAS PERKINS AND SONS, Nursery and Seedsmen, 34, Drapery, Northampton.

WANTED, middle-aged MAN in a Market Garden where Mushrooms and Tomatos are grown for Market, under the supervision of employer, one who can make himself generally useful. There are about 15,000 ft. of Glass.—N. J., 41, Wellington Street, Strand, W.C.

WANTED, smart, pushing HANDS, for Potting and Watering.—Age, wage, and experience, to P. JAGGER, Florist, Reigate.

MR. BARHAM, Croxteth, Liverpool, will shortly require THREE JOURNEYMEN.—Characters must bear the strictest investigation. None but total abstainers need apply, by letter only, with testimonials.

WANTED.—To Nurserymen and Florists.—An exceptional opportunity for a smart, INTELLIGENT MAN, competent to Manage very old-established Nursery, with option of purchase.—Address, H. V., Thrupp's Advertising Office, 122, Fleet Street, E.C.

WANTED, a MARRIED MAN for Nursery, to take charge of Glass. Must be well up in growing Tomatos, Cucumbers, Mushrooms, Bedding Stuff, &c., for Market. Testimonials and wages expected; house in Nursery.—E. COLLER, Grande Maison Vineries, Covent Garden Market.

WANTED, a YOUNG MAN, about 20, in the Houses, under the Foreman.—JAMES WALTON, Hornpark Nursery, Lee Green, S.E.

WANTED, ASSISTANT, for Retail Seed, Bulb, and Fruit Trade. Must be good at Cut Flower-work. One with a knowledge of Nursery Stock and Book-keeping preferred.—Apply, in own handwriting, stating experience and references, to W. GOARING, Hayward's Heath. Wages to commence at 20s. per week.

SEEDSMAN.—WANTED, a thoroughly experienced and energetic MAN, to Manage and Push the Seed and Cut Flower Departments in connection with a first-class Nursery Business in the North of Scotland.—Apply, stating particulars, salary expected, &c., to F. O., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, W.C.

WANTED, NURSERY CLERK, one who is capable of dispatching and invoicing goods; must also be able to correspond and understand the trade generally. Apply personally to—R. NEAL, The Nurseries, 319, Trinity Road, Wandsworth Common.

WANTED, a well-educated and steady YOUTH, in the Office, and to help with Seed Orders, &c., when required.—Apply in own handwriting, stating age and wages required, and giving references, which must be good, to C. R., *Gardeners' Chronicle* Office, 41, Wellington Street, Covent Garden, W.C.

WANTED, an INVOICE CLERK.—One used to the Trade. Quick Writer.—Apply, stating age, reference, and wages required, to WATKINS AND SIMPSON, 13, Exeter Street, Strand, W.C.

WANT PLACES.

TO GARDENERS AND OTHERS SEEKING SITUATIONS.

Advertisers are cautioned against having Letters addressed to initials at Post-offices, as all Letters so addressed are opened by the authorities and returned to the sender.

The pressure upon our space at this season of the year is so great, we are compelled to state that advertisements received after 6 P.M. *on Wednesday will, in all probability, be held over to the next week.*

B. S. WILLIAMS AND SON beg to intimate that they have at present in their Nursery and upon their Register some excellent Men, competent either to fill the situation of HEAD GARDENER, BAILIFF, FOREMAN, or JOURNEYMAN. Ladies and Gentlemen requiring any of the above will please send full particulars, when the best selections for the different capacities will be made.—Victoria and Paradise Nurseries, Upper Holloway, N.

Gardeners, Farm-Bailiffs, Foresters, &c.
DICKSONS, Royal Nurseries, Chester, are always in a position to RECOMMEND MEN of the *highest* respectability, and *thoroughly practical* at their business. All particulars on application.
Telegraphic and Postal Address—"DICKSONS, CHESTER."

EXPERIENCED SCOTCH GARDENERS.—A few very superior reliable men of excellent ability on our books. To anyone requiring such, and supplying us with requirements, we will be pleased to submit particulars.—AUSTIN AND MCASLAN, 89, Mitchell Street, Glasgow. Established 1717.

F. SANDER AND CO. can recommend several highly qualified and energetic HEAD and UNDER GARDENERS, of excellent character and proved ability; men thoroughly fitted for all the various duties of their profession. For all particulars, please apply to—
F. SANDER AND CO., St. Albans.

THOMAS BUTCHER can recommend several HEAD and UNDER GARDENERS of first-rate character and proved ability. Gentlemen seeking such may have particulars free.—Apply to THOMAS BUTCHER, Seed Merchant and Nurseryman, Croydon.

RICHARD SMITH AND CO. beg to announce that they are constantly receiving applications from Gardeners seeking situations, and that they will be able to supply any Lady or Gentleman with particulars, &c.—St. John's Nurseries Worcester.

GARDENER (HEAD), age 30.—Mr. EARL, Head Gardener, Somerhill, Tonbridge, can highly recommend his Foreman, E. Leach, as above; first-class experience with Orchids, fruits, &c., and the usual requirements of a good garden; five years in present situation.

GARDENER (HEAD); age 31.—Mr. DAWES, Templenewsam Gardens, near Leeds, can with confidence recommend THOS. BELL, his present Foreman, to any Lady or Gentleman requiring the services of a good man.

GARDENER (HEAD), age 27.—Mr. LEES, Head Gardener to R. QUINCEY, Esq., Oakwood, Chislehurst, Kent, can with confidence recommend P. HEATH to any Lady or Gentleman requiring the services of a trustworthy and hard working man; life experience in large establishments; references from previous places.

GARDENER (HEAD). — A Gentleman can strongly recommend, as Head Gardener where two or three are kept, a Young Man, who has been Foreman in a big garden for six years where nine are kept.—Apply, MAJOR CHOLMONDELEY, Condover Hall, Shrewsbury.

GARDENER (HEAD); age 30.—G. TAYLOR, Gardener, Byram, Ferrybridge, Yorks, can with confidence recommend his present Foreman, A. HAVERCROFT, to any Lady or Gentleman in want of a Gardener, thoroughly efficient and trustworthy.

£3 BONUS given to anyone who is the means of the Advertiser getting a good situation as HEAD GARDENER Has good character and testimonials.—X. Y., *Gardener's Chronicle* Office, 41, Wellington St., Strand, W.C.

GARDENER (HEAD). — Age 32, married; life practical experience. Inside and Out. Highly recommended as hard-working and trustworthy man.—The GARDENER, 27, North Road, Highgate, London, N.

GARDENER (HEAD); age 29.—Mr. CRUMP, Steward to the Misses GOLDSMID, Tongswood, Hawkhurst, desires to recommend his General Foreman to any Lady or Gentleman requiring the services of a steady, persevering, reliable man.

GARDENER (HEAD); age 34, married.—A GENTLEMAN will be pleased to recommend his present Gardener, who has been with him nearly six years, to any one requiring the services of a practical, trustworthy man.—F. SANSOME, Gardens, Shenton Hall, Nuneaton.

GARDENER (HEAD), where several are kept.—Age 31; sixteen years' practical experience in all branches, including Orchids. Highly recommended by present employer. Excellent testimonials from Burford Lodge, Blenheim, &c.—T. BEESLEY, Wargrave Manor, Twyford, Berks.

GARDENER (HEAD).—Married; a thorough practical all-round Gardener, with life practical experience in all kinds of Fruit, Flowers, and Vegetables. Nearly sixteen years in present situation. Leaving through reduction.—W. CARTER, Harrowins, Queensbury, Bradford, Yorks.

GARDENER (HEAD WORKING).—Age 35, A GENTLEMAN wishes to highly recommend his late Gardener; thoroughly experienced in all branches. Married, no family.—W. P., 8, Chestnut Road, Horley, Surrey.

GARDENER (HEAD WORKING).—Age 36, married, no family; experience in all branches. First-class references.—GARDENER, Clatford Villa, Church Road, Teddington, Middlesex.

GARDENER (HEAD WORKING).—Age 34, married, one child, age 6 years. Thoroughly experienced in Vines, Orchids, Stove, Greenhouse, Fruit, and all routine of Gardening. Highest references.—A. COLEMAN, care of Mr. Triggs, Holbeton, Ivybridge, Devon.

GARDENER (HEAD WORKING).—G. W. FORBES, Regent's House Gardens, Surbiton, Surrey, wishes to highly recommend his Foreman, who has been here the past four and a half years, to any Lady or Gentleman requiring a practical Fruit and Plant Grower, also Chrysanthemums and general Gardening, and who is in every respect highly trustworthy.—Address as above.

GARDENER (SINGLE-HANDED).—Good all-round man, not object to Cow. Wife good Dairy and Poultry Woman. Middle age, no family. Good character.—W. J., 9, Martenhoe Terrace, Groveley Road, Castle Hill, Maidenhead, Berks.

GARDENER (SINGLE-HANDED, or with help). —Age 25; twelve years' practical experience in all branches. Highest references. Abstainer.—S., 19, Lordship Road, Stoke Newington, N.

GARDENER (SINGLE-HANDED). — Age 27, married, no family; good experience in general Garden Work.—W. ELLIS, Alverstone, Woking.

GARDENER.—Age 35, married; good character. Understands Fruit, Flowers, Vegetables, Grapes, &c.—W. LOWE, Arabian House, High Beech, Loughton.

GARDENER.—WM. MORGAN, for the last ten years Head Gardener to the late Sir WM. GILSTRAP, Fornham Park, Bury St. Edmund's, is open to engage with any Lady or Gentleman requiring the services of thoroughly practical man.—Snailwell, Newmarket.

GARDENER (SECOND, SINGLE-HANDED, or with help).—Age 28, married, no family; fourteen years' thorough experience in good all-round Gardening. Understands Vines, Tomatos, Cucumbers, &c., under Glass. Good character.—J. MINGAY, 20, Gruneisen Road, Church End, Finchley.

GARDENER wants situation as SECOND, where two or three are kept.—Age 23; experienced with Glass, Kitchen Garden, and Flower-borders. Good reference.—DYER, Falfield, Gloucestershire.

GARDENER (UNDER).—Seven years' experience; last place four years. Good character. Disengaged.—F. WYLES, Shiplake House Lodge, Henley-on-Thames.

GARDENER (UNDER), Inside or Out.—Thoroughly competent and trustworthy. Strongly recommended from present and previous situations. Bothy preferred.—J. SPARROW, The Gardens, Ballard, Kingston Hill, Surrey.

GROWER or GENERAL, age 26; eleven years' experience among Soft Wood, Foliage Plants, Roses, Fruits, Ferns, and Bulb-forcing. Good characters.—BAKER, Post Office, Cheshunt, Herts.

PROPAGATOR and GROWER of Vines, Cucumbers, Tomatos, Mushrooms, Chrysanthemums, Ferns, Hard and Soft-wooded Plants, for Market. Good references.—H. HEWITT, Purley Farm, Purley, Surrey.

TO NURSERYMEN.—PROPAGATOR and FERN-RAISER. Age 24; eleven years' experience in London Nurseries. Well up in Ferns and Soft-woods. Good references.— FICUS, 1, St. George's Cottages, Lower Edmonton.

MUSHROOM GROWING, In or Out.—Spawn Making, Tomatos, Cucumbers, &c. Easy distance; London preferred.—W. BUTLER, Post Office, Burton-on-Trent.

To Nurserymen.

FOREMAN, or GROWER. — Age 28; fourteen years' experience in leading London and Provincial Nurseries in raising and Growing Ferns, Palms, and general Market Stuff. Also experience as Salesman in Covent Garden Market. Good references.—S. SELLARS, 27, Trulock Road, Northumberland Park, Tottenham, London, N.

FOREMAN, age 26; life experience; last four years at Kirklees Park, Brighouse, Yorks, two and a half as Foreman. Derby District previous.—Address, GEO. REID, Little Eaton, Derby.

FOREMAN. — Age 28; twelve years' experience, Inside and Out. Table Decorations. Good references. — G. LEWIS, Little Faringdon, Lechlade, Gloucestershire.

FOREMAN.—Age 25; ten years' experience. Well up, both Inside and Out. Good references. — Apply to W. G., Ashton Hayes, Chester.

FOREMAN. — W. BENNETT, Gardener, Talygarn, Llantrisant, Glamorgan, will be pleased to recommend WILLIAM FOSTER to any Gardener requiring a thorough practical and trustworthy man. Well up in Fruit and Plant growing. Three years in present situation as Foreman.

FOREMAN.—Ten years' practical experience in first-class places. One year and a half as Foreman. Can be highly recommended. — W. SWANSBOROUGH, Warfield Hall, Bracknell.

FOREMAN (Inside).—Age 23; nine years' practical experience Inside and Out Five years present situation. Excellent references.—A. UNWIN, Anston Hall Gardens, Sheffield.

FOREMAN, age 27.—Mr. MARKHAM, Mereworth Castle, Maidstone, will be pleased to recommend his late Foreman, Thos. Harris, who has been with him over two years. Thirteen years' excellent experience in good establishments.

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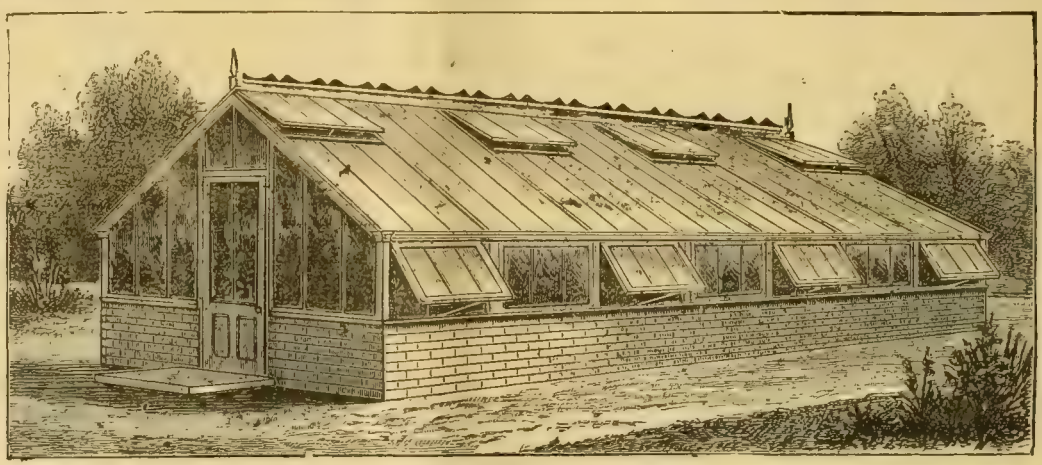
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Editorial communications should be addressed to the "Editor;" Advertisements and Business Letters to "The Publisher," at the Office, 41, Wellington Street, Covent Garden, London, W.C
Printed for the Proprietors by Messrs. BRADBURY, AGNEW, & Co. (Limited), Lombard Street, Precinct of Whitefriars, City of London, in the County of Middlesex, and published by HARRY GILLARD COVE, at the Office, 41, Wellington Street, Parish of St. Paul's, Covent Garden, in the said County.—SATURDAY, November 7, 1896. Agent for Manchester—JOHN HEYWOOD.

The Gardeners' Chronicle

ESTABLISHED 1841. No. 2916.

No. 516.—Vol. XX. { Third Series. } SATURDAY, NOVEMBER 14, 1896. [Regt. as a Newspaper. { PRICE 3d. Post-free, 3½d.

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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

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DENDROBIUM HYBRIDS and CHOICE VARIETIES; also ODONTOGLOSSUM ALEXANDRÆ, guaranteed the true Pacho type, the large round massive-flowered perfect type admitted the finest of all.

ODONTOGLOSSUM ROSSII MAJUS, CŒLOGYNE CRISTATA, &c.

LÆLIA PURPURATA.—The remainder of the plants from our last Sale, found growing with the Lælia elegans and white intermedias, then sold.

Also 9 cases of LÆLIA ELEGANS and L. PURPURATA received direct for Unreserved Sale (another property).

TO BE SOLD BY AUCTION BY

MESSRS. PROTHEROE AND MORRIS at their Central Auction Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, November 20, at half-past 12 o'Clock, by order of Messrs. F. Sander & Co., St. Albans.

On view morning of Sale, and Catalogues had.

DUTCH BULBS.

SALES EVERY DAY (Saturdays excepted).

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., EVERY DAY (excepting Saturdays), at 12 o'Clock, large consignments of NAMED HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other BULBS from Holland, received direct for Unreserved Sale. Lotted to suit the Trade and Private Buyers; together with white ROMAN HYACINTHS, paper-white NARCISSUS, SNOWDROPS, special TULIPS, &c.

On view morning of Sale, and Catalogues had.

Southwick, Sussex.

Within 2½ miles of Brighton (West).

IMPORTANT SALE of MARKET-GARDEN LAND.

MESSRS. WM. WOOD, SON & GARDNER will SELL by AUCTION, at the "Old Ship" Hotel, Brighton, on THURSDAY, November 26, 1896, at 4 o'Clock P.M. sharp, very highly desirable MARKET GARDEN HOLDINGS of about 4½ acres each. Rich soil. Easy reach of capital Markets.

Particulars and Conditions of Sale may be had of W. F. VERRALL, Esq., Solicitor, Worthing; and of Messrs. WM. WOOD, SON, AND GARDNER, Land Agents and Surveyors, Crawley, Sussex.

Central Auction Mart, Bristol.

GREAT UNRESERVED SALE of FIRST-CLASS DUTCH BULBS, in large and small lots; a consignment of FLOWERING and ORNAMENTAL SHRUBS, including 50 named Hybrid Rhododendrons, Azalea mollis, Dwarf Standard, and Climbing Roses, Conifers in variety, &c.

MESSRS. DUROSE SUTTON AND Co. will SELL the above by AUCTION, on WEDNESDAY NEXT, November 18, 1896 (the first day of the Bristol Chrysanthemum Show), at 12 o'Clock precisely.

On view morning of Sale. Catalogues of the Horticultural Auctioneers and Valuers, 1, Queen Anne Buildings, Bristol; and at Frome, Some set.

Central Auction Mart, Bristol.

SALE of ESTABLISHED and IMPORTED ORCHIDS, including Odontoglossum crispum, O. citrosmum, Lælia præstans (true), a variety of ORCHIDS in Flower or Bud, &c., from Messrs. W. L. Lewis & Co. Also Dendrobium Phalænopsis Schroderianum, Lælia anceps alba, and other Orchids, established and imported, another property. And 50 EUCHARIS AMAZONICA, and 4 large plants of PANCRATIUM FRAGRANS.

MESSRS. DUROSE SUTTON AND CO. will SELL the above by AUCTION on THURSDAY NEXT, November 19, 1896 (the second day of the Bristol Chrysanthemum Show), at 12 o'Clock precisely.

On view morning of Sale. Catalogues on application.

WANTED to BORROW, for three or four years, £300, at 5 per cent. Security of a first-class LEASEHOLD NURSERY BUSINESS offered. 4 Acres, and Glass, Sheds, &c.—Address, S. M. W., 41, Wellington Street, Strand, W.C.

HOUSE REQUIRED by THOS. CHRISTY, F.L.S., to RENT, close to a Railway Station, within thirty minutes of City, Brighton, or South-Eastern Railway preferred. A house, with four sitting-rooms, library, seven good bed-rooms, besides servants' rooms, bath-room, hot and cold supply (state whether house is lighted by gas or electricity), servants' offices, conservatory, and about 200 feet run of glass-houses, including propagating pits for economic plants, or with full rights for erecting same; five acres of land, facing south, high ground, gravel soil preferred; house for gardeners, stable, cow-house; good water service; tennis lawn, full size. Catalogues useless if unmarked.—THOS. CHRISTY, F.L.S., Malvern House, Sydenham, or 25, Lime Street, E.C.

As the owner of Malvern House property desires to cover it with small houses, I shall be much obliged if any Gentleman will assist me to find a suitable place to move my collection of Economic Plants to, early in 1897.

FLORIST'S BUSINESS and NURSERY for SALE, in Main Road, W. (Corner Shop). Large, well-fitted Show Conservatory, with Dwelling-house attached. Returns, £1100. Rent, £130. Price, £650. Splendid chance for practical man.—Apply to MCCORQUODALE AND CO., Auctioneers and Valuers, 27, Charles Street, St. James', S.W. (removed from 19, Cockspur Street, S.W.).

TO SELL or LET, SMALL NURSERY, in best Suburban Villa District of Glasgow, 450 square feet of Glass. Heated for Forcing (pipes). Capital opening for Jobbing or Market Man.

Mr. WHITE, Connel Cottage, Bridge of Allan.

SMALL NURSERY and FLORIST'S BUSINESS, old established; small market town, Midland counties. A seedsman wishes to DISPOSE OF THIS BRANCH of the Business. 1½ acres ground, low rent. Satisfactory reasons. Price £100, for Greenhouses, Frames, Plants, Trees, Shrubs, &c.—Address first, FLORIST, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, London.

FOR DISPOSAL, SEED, FLORIST, and FRUIT BUSINESS, in a large Market Town, North of England. Excellent Double-fronted Shop, with Warehouse, well fitted up with Drawers, Cases, &c., and all necessary fittings for Seed Trade. A large trade is done in Cut Flowers, principally Wreaths. Rent only £35 per year. This would be an excellent opening for any one with moderate capital, wishing to go into the Agricultural Seed Trade.—Apply, R. E. W., 41, Wellington Street, Strand, W.C.

RIVERS' MONARCH PLUM. (Natural Size).



2500 OF THESE PLUMS ARE INCLUDED.

150,000 FRUIT TREES

OF ALL KINDS ARE CATALOGUED FOR

Mr. W. HORNE'S GREAT

CLEARANCE SALE,

On the Premises, Ferry Hill, Cliffe, near Rochester, Kent (adjoining Cliffe Station, South-Eastern Railway), on

WEDNESDAY NEXT, November 18, at 11 30, by

Messrs PROTHEROE & MORRIS.

consisting of 7,000 Standard, Half-standard and Maiden Apples, Cherries Pears, and Plums; 40,000 strong 2-yr. Potts, Whinham Lads, and Roaman Gooseberries; 4,000 3 yr. Apples, on English Paradise in 80 varieties; 40 000 Baldwin and early Black and Red Currants; few thousand Carter's Champion Black; 50,000 Raspberries; 30,000 Conover's Colossal Asparagus; 100,000 Royal Sovereign, Paxton, and Noble Strawberries; 50,000 Hardy White Cos Lettuce. Also a few lots of Early Rivers' Nectarine; New Pears, Lectier and Conference; New Asparagus, Barr's Mammoth New Vegetable, Stachys Tuberifera; New Raspberry, Superlative, &c. Mr. W. Horne will cart all lots to rail free of charge. Catalogues of the Auctioneers, 67, Cheapside, London, E.C.

H. J. JONES'

GREAT CHRYSANTHEMUM SHOW

IS OPEN AT

RYECROFT NURSERY, HITHER GREEN, LEWISHAM.

ALL VISITORS ARE HEARTILY WELCOME.

PRELIMINARY CATALOGUE POST-FREE ON APPLICATION.

MIDLAND COUNTIES. — Exceptional opportunity. Lucrative FLORIST and CUT FLOWER BUSINESS, in important Town. Compact Freehold Property. Several Greenhouses and Dwelling House. Cause of selling, ill health. Every investigation allowed. Personally inspected and recommended. Price, Freehold, including Greenhouses, Stock, &c., about £3500. Large portion may remain.—Full particulars of PROTHEROE AND MORRIS, Estate Offices, 67, Cheapside, London, E.C.

HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.C. Prompt cash.

ORCHIDS.—200 for Sale, Cool and Intermediate, mostly showing flower.—Apply, H. L., 231, Sydenham Road, Sydenham, London, S.E.

COVERT, at per 1000; Broom, common, 2-yr. seedlings, 4s. 6d; 1½ to 2 feet, 16s.; 2 to 3 feet, 20s. Gorse or Furze 2-yr. seedlings, 5s., 45s. per 10,000; do., 1 to 1½ ft., 15s.—SAMUEL SMITH, Slaghills Nursery, nr. Matlock.

PEACHES and NECTARINES. — Dwarf-trained young fruiting trees, which have kept up a continuous supply of fruit since middle of July to present date in cold orchard house. Names and price from—FREDERICK PERKINS, Regent Street, Leamington Spa.

Strawberries at Reduced Prices.

GEORGE BUNYARD AND CO. beg to say they are now offering the best sorts, in fine plants, at reduced rates. CATALOGUES free. Royal Nurseries, Maidstone.

GIANT BERLIN LILY OF THE VALLEY.

W. ICETON'S well-known GIANT BERLIN LILY OF THE VALLEY.—100,000 Planting Crowns at 12s. 6d. per 1,000, 1 and 2 years; also a few thousand retarded Crowns. Price on application to—W. ICETON'S, Putney, S.W.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

30,000 CHRYSANTHEMUMS.

Three hundred and fifty varieties. Only the newest and best. List free. HEAD GARDENER Perly Cross, Teignmouth, Devon.

RASPBERRY CANES. — Northumberland Fillbasket, Carter's Prolific, Norwich Wonder, Falstolf. Well-rooted planting canes. Price and sample on application. JAMES W. TODMAN, Platt, near Wrotham, Kent.

Herbaceous and Alpine Plants.

CUTHBERTSON'S Illustrated and Descriptive CATALOGUE of over 1000 species and varieties post-free. MICHAEL CUTHBERTSON, The Great Scotch Herbaceous Grower, Rothesay.

ASPARAGUS for Forcing.—Five years old, splendid roots, 12s. 6d. per 100; extra fine, 6 years old, 15s. per 100. On rail, cash with order. My Asparagus always makes top price at Covent Garden. J. J. CLARK, Market Gardener, Goldstone, Brighton.

SHRUBS, &c.—Arbor-vitæ Amer., 3 to 4 ft., 20s. per 100. Azara microphylla, 2 to 2½ ft., 4s. per doz. Cotoneaster microphylla and C. Simonsii, 2 to 3 ft., 12s. per 100. Escallonia macrantha, pots, 2 to 2½ ft., 30s. per 100; E. White, 6s. per doz. Fuchsia Riccartonii, 20s. per 100; Black Amer. Spruce, 2½ ft., fine, 12s. per 100; Pampas Grass, extra, 8s. per doz. Honeysuckle, strong, 12s. per 100; Hypericum calycinum 12s. per 100. Griselinia littoralis, bushy, 2 to 2½ ft., 8s. per doz. Hollies, varieties, 1½ to 2 ft., 6s. per doz.; Jasmine, white and nudiflorum, 6s. per doz.; Colchic Laurel, 1½ ft., 12s. per 100; do., 2 to 2½ feet, 14s. per 100. Rotundifolia, 1 foot, 8s. per 100. Lilac, white and purple, 2 ft., 4s. per doz. Olearia Haastii, 2 ft., bushy flower-buds, 6s. per doz. Prunus Pissardi, 4 ft., 6s. per doz. Acer Negundo, variegated, 3 ft., 6s. per doz.; Yucca gloriosa and filamentosa, 6s. per doz. GARLIES MITCHELL, Nurseryman, Stranraer.

EXHIBITIONS.

SHEFFIELD CHRYSANTHEMUM SOCIETY.

ANNUAL SHOW, Corn Exchange, Sheffield, NOVEMBER 13 and 14, 1896. Open class Prizes, £15. For Schedules, free, apply—WM. HOUSLEY, Secretary, 177, Cemetery Road, Sheffield.

TWICKENHAM HORTICULTURAL AND COTTAGE GARDEN SOCIETY.

The TWENTY-EIGHTH ANNUAL AUTUMN EXHIBITION of CHRYSANTHEMUMS, FRUIT, VEGETABLES and TABLE DECORATIONS, will be held in the Town Hall, Twickenham, on TUESDAY and WEDNESDAY, November 17 and 18, 1896. Grand Military Concert each evening. Extra Prizes in nearly all Classes.

All competitors must give notice in writing on or before TUESDAY, November 10, 1896, of the class or classes in which they intend to compete, to the Hon. Secretary, of whom Schedules and all particulars may be obtained.

EDWARD F. GREEN, Hon. Secretary. Strafford House, Twickenham.

LEEDS PAXTON SOCIETY'S CHRYSANTHEMUM SHOW.—At the Town Hall, Leeds, Nov. 24 and 25, 1896. £180 in Prizes, including Four Silver Challenge cups. Schedules may be had of the Hon. Sec.—JAMES CAMPBELL, The Gardens, Methley Park, Leeds.

SOUTH SHIELDS and NORTHERN COUNTIES CHRYSANTHEMUM SOCIETY.

The above Exhibition will be held on November 25 and 26. JUBILEE PRIZES.

Schedules on application to BERNARD COWAN, F.R.H.S., Hon. Secretary, Harton, South Shields. Established in 1882.

SPECIAL NOTICE.

THE NEXT BIRMINGHAM CHRYSANTHEMUM SHOW

WILL BE HELD ON

NOVEMBER 10 AND 11, 1897.

BEGONIAS of the newest and most superb type, including many rare varieties. Double and Single, for Conservatory or Bedding. See B. R. Davis' Descriptive CATALOGUE, free. A handsome coloured plate of Six Double Varieties and a Treatise on Cultivation, free for 1s.

B. R. DAVIS, Yeovil Nurseries, Yeovil, Somerset.

PELARGONIUMS, Best Market Sorts named, strong, healthy, well rooted, in 3-inch pots, 18s. per 100, packed free for cash with order.

A. SIMPSON AND SON, Heworth Nurseries, York.

SEAKALE! SEAKALE! SEAKALE!—Magnificent selected Crowns for forcing, 4s. per 100, 30s. per 1000. Net cash with order.—J. DIXON & SON, Spencer Park Nurseries, Wandsworth Common.

HYACINTHS, fine named, from 2s. per dozen. TULIPS, fine named, from 2s. per 100.

DAFFODILS, finest Trumpet sorts, mixed, 3s. per 100; 28s. per 1000 (worth more than double). All other Bulbs equally cheap and good. Send for Price List to MORLE AND CO., The Conservatories, Finchley Road, N.W.

FERNS AND DECORATIVE PLANTS!—(TRADE):—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 12s. 100; ditto, large, in 48's, 10 best selling sorts, 6s. doz.; strong seedlings, 6s. 100, 50s. 1000; Adiantum cuneatum, in 48's, for cutting, 6s. and 8s. doz.; ditto, for making large plants quickly, 16s. and 20s. 100; Cyperus, Aralias, Grevilleas, Solanums, in 48's, 6s. per doz.; Marguerites, Chrysanthemums, and Erica gracilis, Solanums, in 48's, 9s. per dozen; Palms, Ficus, Dracænas, Crotons, Bouvardias, Erica hyemalis, Cyclamen, in 48's, 12s. per dozen. Lists free. Packed free. Cash with order.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

OWEN'S ENGLISH CHRYSANTHEMUMS

Hold highest positions at Exhibitions and Elections of 1896, surpassing all British firms.

Catalogue and culture 7d., post free R. OWEN, Maidenhead.

TO PLANTERS.

DOUGLAS SPRUCE

(Abies Douglasii).

In view of the growing demand for this splendid Forest Tree, we hold immense stocks at exceptionally low prices for qualities offered.

DICKSONS NURSERIES, CHESTER

50,000 EUONYMUS, Green and Golden, all splendid bushy plants.—GREEN: 12 in. to 15 in., at 30*s.* per 100; 15 in. to 18 in., at 40*s.* per 100; 18 in. to 21 in., at 55*s.* per 100; 21 in. to 24 in., at 75*s.* per 100; 25 in. to 40 in. at special prices.
GOLDEN: 5 in. to 12 in., at 3*s.* to 8*s.* per dozen. Cash with order. J. J. CLARK, Goldstone, Brighton.

GARDEN and OLD-FASHIONED ROSES.—25 strong plants for 22*s.* 6*d.* Distinct varieties, such as have been exhibited in such fine form during the past season, including Bardon Job, Janet's Pride, Copper Austrian, Gustave Regis, Single Yellow Austrian, Pepita, Laurette Messimy, Crimson Rambler, York and Lancaster, Persian Yellow, Rose de Meaux, &c., forming a very charming collection of the best old-fashioned and garden Roses. New Rose list, post free.
GEO. COOLING AND SONS, The Nurseries, Bath.

STRAWBERRIES, Strong runners.—Royal Sovereign, 2*s.* 6*d.* per 100; Sir Joseph Paxton, 1*s.* 6*d.* per 100; Vicomtesse H. de Thury, 1*s.* 6*d.* per 100.
RASPBERRY CANES.
Carter's Prolific, 3*s.* per 100; Semper Fidelis, 3*s.* per 100; Hornet, 3*s.* per 100. Special quotations for large quantities.
Carriage paid on orders of £1 value.
JOHN CHIVERS, Histon, Cambridge.

PRIZE COB FILBERTS.
MR. COOPER, F.R.H.S., is the largest grower in the kingdom of the above for sale. Plantations near Reading. Price Lists and Pamphlets on application to—
Mr. COOPER, Calcot, Boscombe, Hants.

PALMS and DECORATIVE PLANTS.—ARECA LUTESCENS, thumbs, 18*s.* per 100; 60's, 35*s.* 48's, 18*s.* doz.; 32's, 30*s.* doz.
ASPARAGUS PLUMOSA, 60's, 60*s.* per 100; 48's, 120*s.* per 100; true Nana, 24*s.* doz.
CYCAS REVOLUTA, well established, with good leaves, 5*s.* and 7*s.* 6*d.* each.
FICUS ELASTICA, 48's, 12*s.* doz.; 32's, 18*s.* doz.
KENTIA SEEDLINGS, from 10*s.* per 100; thumbs, 30*s.* per 100; 60's, 50*s.* per 100.
LATANIAS, 32's, from 60*s.* doz.; 24's, from 90*s.* doz.
LIVISTONIA ROTUNDIFOLIA, 48's, 48*s.* doz.; 32's, 72*s.* doz.
PHŒNIX RUPICOLA, thumbs, 21*s.* per 100; 60's, 50*s.* per 100; 48's, 24*s.* to 36*s.* doz. Cash with order.
W. ICETON'S, Putney, S.W.

CHRYSANTHEMUMS.
OUR YEARLY INCREASE in the sale of both Plants and Cuttings arises certainly from the fact that all varieties (1400) are planted out and grown in open pure country fields, cut down early, not allowed to flower, large clumps removed, and replanted near the glass and light. Stock from these are perfect, and the secret why all those we supply carry success wherever they go, striking easily, growing quickly, and producing larger flowers. As a proof, they have made Mr. MEASE the Champion of the Champions.
We cordially invite all to
"COME AND SEE"
the oldest, finest, and best kept collection in the world. Splendid illustrated CATALOGUE post-free to coming customers. A list of all varieties exhibited at the last Aquarium Show free.
H. CANNELL & SONS, SWANLEY.

ROSES, RHODODENDRONS, &c.
ROSES, Bush, extra-fine plants, leading sorts, our selection, 42*s.* per 100, 7*s.* per dozen.
" Climbing, Tea and Perpetual do., 70*s.* per 100, 10*s.* per dozen.
" Dwarf Standard do., 12*s.* per dozen.
" Standard and Half-standard do., 15*s.* to 21*s.* per doz.
RHODODENDRONS, Seedlings, from 6*s.* per dozen.
" Hybrid, named, from 12*s.* per dozen.
AZALEAS, ANDROMEDAS, and KALMIAS, from 12*s.* per doz.
HONEYSUCKLES, JASMINES, and other Climbers, from 6*s.* per dozen.
SEAKALE, extra-strong, for forcing, 10*s.* 6*d.* per 100.
FRUIT TREES, ORNAMENTAL TREES, EVERGREEN and CONIFEROUS SHRUBS.
BULBS of every description for Forcing and Planting.
Packing free, for Cash with Order. Descriptive Catalogues free on application.
W. FROMOW AND SONS, Windlesham Nurseries, Bagshot, Surrey; also Chiswick, Hounslow, and Acton Green.

MELON SEED.
Our fruit has won Two Silver Medals (Royal Horticultural Society) &c., Two First Prizes, Certificate of Merit.
Sucrin de Tours, 3*s.* 6*d.* per packet.
Hero of Lockinge ... ... } 2*s.* 6*d.* per packet
Earl's Favourite... ... ... } 2*s.* 6*d.* per packet
American Pineapple... ... } 2*s.* per packet
Vert Grimpant, &c., &c.... } 2*s.* per packet
A packet of each of these varieties, 10*s.*
And other good Market and Table Fruits.
Gardeners' Chronicle June 13, 1896:—"Messrs. E. J. Sarjeant & Co. exhibited excellent fruits of Hero of Lockinge, and fruits of Sucrin de Tours, scarlet-fleshed variety, with uncommonly deep cork-like netting, ½ inch deep." (Silver Banksian Medal).
Order early. Only a limited quantity.
E. J. SARJEANT & CO.,
BROUGHAM ROAD, WORTHING.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free.
P. McARTHUR, The London Nursery, 4, Maida Vale, London, W.

HOLLIES, Green English, from 1 to 3 feet. Well-rooted, perfect plants; will move any distance. Samples and price from—
FRED. PERKINS, Regent Street, Leamington Spa.

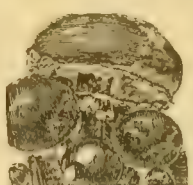
SUPERLATIVE RASPBERRY
(Bunyard's true stock).
The finest Raspberry ever sent out.
Per dozen, 3*s.*, post-free, 3*s.* 9*d.*, per 100, 18*s.*; extra strong, 6*s.* per doz. Price per 1000 on application.
For description see Strawberry Catalogue.
Illustrated Fruit Catalogue, six stamps.
GEORGE BUNYARD AND CO., Royal Nurseries, Maidstone.

POLYANTHUS.—Mixed, 5*s.* per 100; Gold-laced, 6*s.* per 100. AQUILEGIAS, mixed, 1*s.* 6*d.* per dozen. CHRYSANTHA, 1*s.* 6*d.* per dozen. SWEET WILLIAMS, 5*s.* per 100. CANTERBURY BELLS, 5*s.* per 100. FOXGLOVES, mixed, 5*s.* per 100. PANSIES, best mixed strains, 5*s.* per 100; Bedding, White, Yellow, Purple, 5*s.* per 100. All the above are good strong plants, all transplanted. Free on Rail. Cash with Order.
P. BOULTON, Beechenlea Nursery, Swanley.

FOR SALE.—500 LILIUM HARRISI, in 48-pots, strong; 1500 ARALIA SIEBOLDI, 48's and 60's; 500 BOUVARDIA HUMBOLDTII CORYMBIFLORA, in 48's. 1000, in 60's; 2000 CALLAS; 1000 EULALIA JAPONICA VARIEGATA; 1000 OPHIOPOGON JABURAN VARIEGATUM; SIX SPECIMEN PLANTS of IMANTOPHYLLUM MINIATUM.
Prices on application.
GEO. BLUNDELL, Oak Villa Nursery, Friern Barnet.

SHRUBS and CONIFERÆ.—Picea nobilis, 4 to 5 inches, 6*s.* per 100; P. Nordmanniana, 2 yrs., 1 yr. transp., 7*s.* per 100. Escallonia macrantha, 10 to 12 in., 8*s.* per 100. Honeysuckle, strong, 6*s.* per 100. Laurestinus, 8 in., 8*s.* per 100. Thuia Lobbii, 15 in., 30*s.* per 1000; do, 2 ft., 60*s.* per 1000. Abies Douglasii, 2 yr., 9 to 10 inches, 35*s.* per 1000; do., 1½ to 2 ft., per 1000, £5; extra-fine, do., 2 to 2½ ft., £6; do., 3 to 3½ ft., 20*s.* per 100. Cedrus deodara, 2 to 2½ ft., 6*s.* per doz.; do., 12 to 15 in., 3*s.* per doz. Cup. macrocarpa, 2 to 3 ft., 6*s.* per doz. Picea nobilis, 2 ft., 8*s.* per doz.; P. Nordmanniana, Pinus cembra, 1½ ft., 16*s.* per 100. Thuia Lobbii, 2 to 2½ ft., 10*s.* per 100. Thuiopsis dolobrata, 4 to 4½ ft., extra fine, 24*s.* per doz.
GARLIES MITCHELL, Nurseryman, Stranraer.

NEW VIOLETS.
Amiral Avellan, very large, royal purple flowers; Princesse de Galles, the largest and sweetest Violet. These are the greatest novelties in Violets since I introduced the popular Marie Louise. Established plants in pots, 12*s.* per doz, 90*s.* per 100. California, very large, sweet-scented, free flowering, good plants, 6*s.* per doz., 40*s.* per 100. General Nursery Stock on application.
FREDERICK PERKINS,
NURSERYMAN, REGENT STREET, LEAMINGTON SPA.



CUTBUSH'S MILL-TRACK MUSHROOM SPAWN.—Everyone can readily grow Mushrooms, and by using this Spawn will ensure success. All growers speak in high praise of the quality. Numerous Testimonials. None genuine unless in sealed packages, and *printed cultural directions* enclosed with our signature attached.
Price, 6*s.* per bushel, 1*s.* extra for package; or, 1*s.* per cake, free per Parcel Post.
WM. CUTBUSH AND SON, Nurserymen and Seed Merchants, Highgate Nurseries, London, N., and Barnet, Herts.

ORCHIDS — ORCHIDS.
Clean, healthy, well-grown plants at reasonable prices; many large specimens and rare varieties.
CHOICE DENDROBES A SPECIALTY.
PLEASE WRITE FOR LIST.
JAMES CYPHER. EXOTIC NURSERIES, CHELTENHAM.

FRUIT TREES.
We hold a large and varied stock of the above, in first-rate quality, and at reasonable prices.
DESCRIPTIVE CATALOGUE ON APPLICATION.
S. SPOONER & SONS,
HOUNSLOW NURSERIES, HOUNSLOW.

ROSES.—ROSES.
ALL THE BEST KINDS.
WELL-GROWN, WELL-ROOTED PLANTS.
IN VIGOROUS HEALTH.
CATALOGUES FREE.
DICKSONS NURSERIES, CHESTER.

THE ROYAL GARDENERS' ORPHAN FUND
NOTICE.
THE NEXT ELECTION of CHILDREN to the Benefits of this Fund, consisting of an allowance of 5*s.* per week until they attain the age of 14 years, will take place EARLY in FEBRUARY. All applications must be made on a proper printed Form, copies of which may be obtained gratis of the Secretary, or any of the Local Secretaries. Such Forms must be correctly filled up, duly signed, and returned to this Office by WEDNESDAY, December 15, 1896.
A. F. BARRON, Secretary.
Royal Gardeners' Orphan Fund, Chiswick, London.
November, 1896.

Young Gooseberry Trees.
N. AND F. SALMON beg to offer strong 3-yr.-old trees of their renowned WHITE LION in quantities. Price on application.—N. AND F. SALMON, The Grange, Heston, Hounslow.

GRAND NEW VIOLET.—The Californian. Largest, sweetest, most prolific, longest stemmed. A great acquisition. Well-rooted plants 6*s.* per doz.; 40*s.* per 100; carriage paid, cash with order.
ISAAC HOUSE, Westbury-on-Trym, Bristol.

ONCIDIUM CRISPUM, IN SPIKE.
Fine, healthy unflowered plants,
5*s.*, 7*s.* 6*d.*, 10*s.* 6*d.*, and 15*s.* each.
W. L. LEWIS AND CO., Southgate, London, N.

CHRYSANTHEMUM CUTTINGS.—Splendid healthy stock of Old and New Varieties. LIST sent on application. The following four new varieties, one Cutting of each sent post-free for 2*s.* 6*d.*:—Pride of Exmouth, Edith Tabor, Mrs. H. Weeks, Mons. Chenon de Leché.
T. SIMMONDS, Mamhead Park Gardens, near Exeter.

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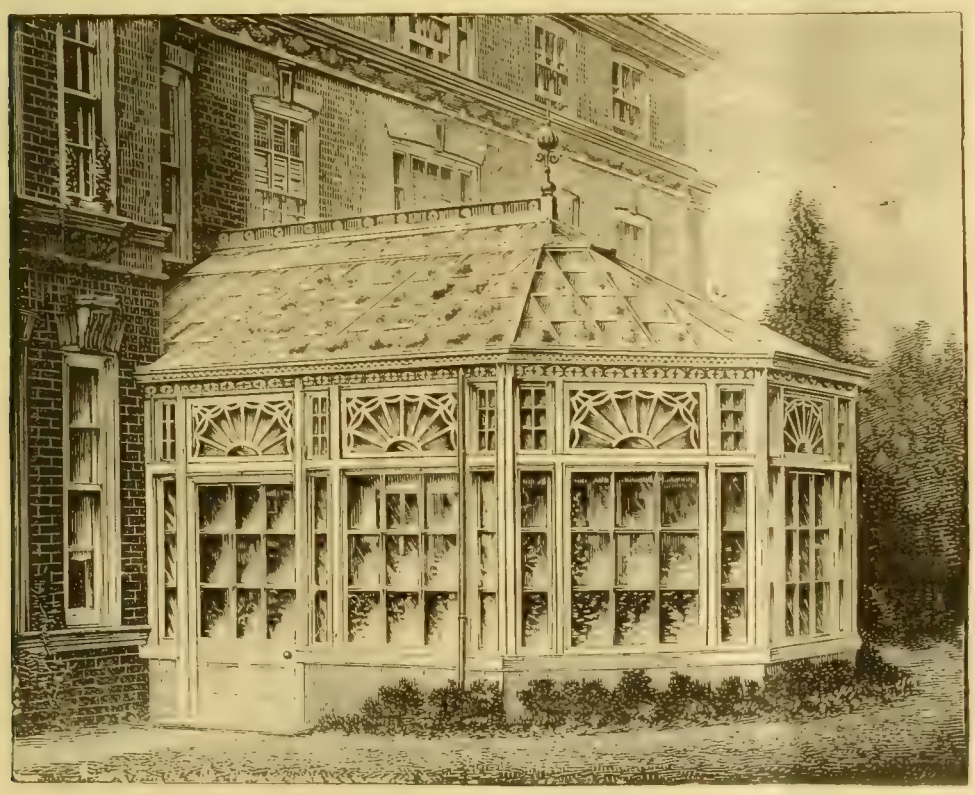
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THE

Gardeners' Chronicle.

SATURDAY, NOVEMBER 14, 1896.

THE ROSE GARDEN IN AUTUMN.

THE season which has been so unfavourable to the rosarian has continued its evil character far into the autumn; in previous years growers have been generally able to gather a fair quantity of Roses (of course in proportion to the number of their plants) till towards the middle or end of November, but these have been mostly from Tea Roses, which certainly deserve much more the title of Perpetual than the class that bears that name; but the deluge of rain with which we have been visited during the last two months has seriously damaged our hopes in this respect. During the months of September and October we have had here (in East Kent) about 13 inches, and as our average for the year is about 26 inches, it may be well imagined in what a water-logged condition the ground is, and how sappy the wood is; so that should sharp frost come, the effect will be very serious. As I always prune my plants at this season—by pruning I mean the cutting out of old wood so as to give the plants more air and sunlight—I think this is a season in which the practice will tell more favourably than in some others; it will be very difficult for the wood to ripen, but it will have a better chance of doing so under such conditions.

It will now be desirable, as soon as possible, to fill up vacancies, and to make new plantations where necessary. The number of new varieties is not very great, but there are some of the older sorts which the grower may desire to dispense with and substitute new ones in their place, although the result of our shows this season leads us to question very much whether we shall be justified in so doing; when we see such old flowers as Duchesse de Morny gaining the Medal at the great National show as the best H.P. But the following Roses, which have been tabooed by the Catalogue Committee of the National Rose Society, and will, therefore, most likely not be found in their next edition, may, I think, be safely dispensed with:—In H.P.'s, Devienne Lamy, Madame Lacharme, Marie Cointet, and Mrs. Baker; in Teas and Noisettes, Bouquet d'Or, Elise Fugier, Madame Bérard, Mons. Furtado among exhibition Roses; among garden Roses, H.P.'s Bruce Findlay, Comtesse Cècile de Chabrilland, Henri Ledechaux, Maréchal Vaillant, Miss Hassard, Mrs. Harry Turner, Princess Mary of Cambridge, and William Warden; in Hybrid Teas Lady Henry Grosvenor, and Souvenir de Wooton; and among Teas and Noisettes, Emilie Dupuy, Goubault, and Luciole, although there are some of these that growers who have walls or fences may like to retain, such as Bouquet d'Or and Madame Bérard.

Of the new Roses the following may, I think,

be safely recommended as I think likely to prove valuable, some for exhibition, and some for gardening purposes. Amongst Hybrid Perpetuals, Captain Hayward, which has been exhibited in such good form by Mr. George Mount and others this year, that any doubt as to its being sufficiently full can no longer be entertained; Clio, Helen Keller, Marchioness of Londonderry, Mrs. R. G. Sharman Crawford, which promises to be a formidable rival to Mrs. John Laing; amongst Hybrid Teas, Charlotte Guillemot, Marquise Litta, Mrs. W. J. Grant; and amongst Teas and Noisettes, Maman Cochet, Muriel Grahame, and Sylph.

Of garden Roses, the following will, I think, give satisfaction:—Lord Penzance, Lady Penzance, Flora McIvor, and Jeannie Deans, the best of Lord Penzance's Hybrid Sweet Briars; Crimson Rambler, Paul's Carmine Pillar (single), Marchioness of Lorne, Clara Watson, Duke of York, Alister Stella Gray, Beauté Inconstante, G. Nabonnand, and Madame Pierre Cochet.

I think that this list will include the most reliable of the new Roses; there are some others which promise well, but we must wait awhile until their merits are better proved.

Another subject that must engage the attention of Rose-growers is that of mulching: there are two ends which are sought to be gained by this, the protection of the plants against frost, and the giving of nutrition to the roots. The practice amongst those who exhibit Roses is to mulch heavily at this season of the year those plants from which exhibition Roses are intended to be cut, and there are various excellent reasons given by those who advocate and those who oppose the practice; but as the practice seems to be almost universally adopted, I presume that I may recommend that it should be done—it is my own plan in my small way, and I see no reason to regret it. This very wet autumn makes it, I think, the more necessary, for the shoots are so full of sap that they will suffer generally from hard frost if we get it. It is a good plan before putting on the manure (which I do not think should be too short) to draw some earth round each plant, and then place the manure over this; but I hardly know how in the present condition of the ground this is to be done, and if we wait much longer the frost may catch us before we are aware of it, and therefore as soon as we get anything like dry weather the operation ought not to be retarded. I remember once an eminent rosarian recommended leaves as a protection, but I tried them and found that the first high gale scattered them all over the garden; others recommend encasing Tea Roses in straw envelopes, but as this is calculated to encourage premature growth I should certainly not recommend it. Moreover, one does not care about protecting the upper growth of even Teas, for when pruning takes place in the spring all this is cut away, therefore so long as the collar of the plant is secured from frost it will be safe, as strong shoots spring up about or near the base, and will soon fill up the bed. In what I have said now about protection, I have had in my mind dwarf plants only, as the great majority of the plants grown by amateurs are of this character. When standards or half-standards are grown, I think the better plan is always to put some light material, such as bracken, among the growth, but it is very difficult in severe frost to preserve them in any way, and I have seen more than once whole quarters of most promising plants completely destroyed. With regard to Roses upon walls, a different course is to be adopted; most of these are grown on walls facing south, and they are exposed to great variations of temperature when there is much sunshine. It is therefore desirable to cover up the whole plant with matting, or some other material, which can be removed from time to time when there is no risk of frost, because it is not desirable that the plants should be made tender by over-much care.

There is one other subject about which some amateurs are anxious at this time, namely, that of obtaining stocks for budding next year; those who want to grow standards or half-standards will be on the look out for the Briar-man, and will make incursions into the neighbouring woods and hedgerows for the purpose of obtaining plants of the Dog-rose. Those who wish to grow dwarfs will probably not care to take the trouble of making cuttings of the Manetti or Briar, but will obtain their plants of both these and the seedling Briar from some neighbouring nurseryman—the sooner the better, now—and when obtained, they should be planted in shallow trenches, so that they can be more easily worked by-and-by. If space be not a matter of too great consideration, better to give room to the plants, putting them 6 or 8 inches apart; this will be better both for the grower and the plants themselves. All these operations will, of course, be retarded by such weather as we are now experiencing, but it is far better that it should be so than that they should be carried out when the ground is in an unsuitable condition. *Wild Rose.*

BASING PARK, HANTS.

WHAT seems to be in these days of quick railway transit, a sort of out-of-the-way rural district, just such as a light railway might most efficiently serve, is all that portion of East Hants which lies between the Alton and Winchester, and the direct Portsmouth railways of the South-Western Railway Company. For somewhere in the centre of this district lies the charming estate named Basing Park. It is a noble place, not to be confounded with Basingstoke. This park is the residence of W. Nicholson, Esq., is situated about midway between Alton and Petersfield, being nearly 9 miles from each, and it is not unknown to gardeners, because the head gardener, Mr. W. Smythe, now one of the patriarchs of his profession, is very well known to a wide circle, and has been there some twenty-one years. He has often wielded his pen effectively as a contributor to the *Gardeners' Chronicle*. The mansion which has a fine bold frontage, looking from an elevation over much charming scenery, is flanked at one end by a fine conservatory, 70 feet long, and in the centre 25 feet wide. It is furnished with Palms, Ferns, Camellias, Fuchsias, Abutilons, indeed flowering and foliage plants in great profusion, giving to the large area a very gay aspect, whilst from the roof hang Tacsonias, in diverse colours, and in rich profusion. These climbers were chiefly from a batch of seedlings Mr. Smythe raised seventeen years ago. Hydrangea Hortensia, both blue and pink, were flowering profusely. It was mentioned that the blue tint was obtained by giving the plants occasional waterings with alum solution. Outside, the lawn slopes away gracefully, and upon it are many fine trees; especially good are various Coniferæ, Sequoia gigantea, 75 feet high, and with a huge bole, 3 feet from the ground, 14 feet 6 inches round. Araucarias are very fine, so also Sequoia sempervirens, Cryptomeria japonica elegans, Cedrus Deodara, Abies Nordmanniana, and Abies Lowiana, fruiting finely, &c.; also Weeping Beech, and many beautiful trees. In this respect the place is undoubtedly rich. Shrubs also thrive luxuriantly, notwithstanding the nearness of the chalk. In a secluded spot a large hardy fernery makes a very interesting garden feature. Parterre bedding is modestly done, but not close under the windows, where a broad expanse of turf seems to be most appreciated, but somewhat remote. A special feature was Basing Park Begonia, raised some years since by Mr. Smythe through crossing B. Weltoniensis with one of the large-flowered tuberous varieties. The plants grow 20 inches in height, bloom profusely, having pendent flowers of a magenta hue, and are remarkably persistent, whilst it quite defies harm from rain. In every direction the extensive pleasure-grounds are full of interest, and are admirably kept.

The glass-houses are extensive. One unheated orchard-house is 300 feet long and 12 feet wide; this structure has the back wall covered throughout with Peaches, Nectarines, Apricots, Plums, and Figs. Plums, cordon-shaped, are trained up the rafters. A low wire-arched trellis the whole length is covered with Peaches, Nectarines, Apricots, &c.; and behind are semi-bush Pears and Plum-trees. All these crop heavily every year, and the produce is immense. Certainly it is here a most valuable orchard-house. Grapes are largely grown in a range of six houses, each about 35 feet long, and 15 feet wide. The earlies are filled with Hamburghs and Foster's Seedlings, planted over twenty years, and still doing well. The crop was ready the first week in May. Then comes a house of Muscat of Alexandria, Madresfield Court, and Alnwick Seedling, with good crops. Then a longer houseful again of Black Hamburghs, Foster's Seedling, Raisin de Calabre, here very fine; and Gros Maroc. The fourth house is filled with Black Alicante and Gros Maroc, here much liked; the fifth is full of Muscat of Alexandria, a good crop; and the last is planted with Black Alicante, Mrs. Pince, Lady Downes, and Muscat of Alexandria, for later cutting. Then there are numerous plant, Cucumber, and Melon-houses, and Pine-pits for these fruits, chiefly the Smooth Cayenne, which are well grown; and recently a useful addition in the shape of a range of span-houses for forcing purposes has been added. Very noticeable in one of the plant-houses were seedling-plants of Clerodendron fallax from seed sown in February last, and now 20 inches in height, carrying huge leafage, and which will, when in bloom, have splendid trusses of scarlet flowers. Such plants, with Poinsettias, also largely grown, are most valuable for giving colour in the winter. As elsewhere, Tomatos have to be largely grown. Ladybird, a selection from Perfection, seems to be the favourite, for it is here an abundant cropper.

It is very interesting to note that outdoors, and especially on old trees, there have been heavy fruit-crops. Apples and Pears especially have been most plentiful, in spite of the poorness of crop elsewhere. The chief exception to this rule is found in a number of huge and exceedingly aged fan-trained Pear-trees, that, covering an arched trellis, form a leafy tunnel through the kitchen-garden, having beneath a broad walk. The trees seem now to be too old to be productive. In front of the great orchard-house stand some old stunted standard Apple-trees, kept specially for covering with the Canary Creeper in summer, when they form beautiful objects.

The kitchen-gardens have become somewhat dense with fruit trees, although some excellent vegetables are grown. Other ground in a large paddock has been enclosed several years, and now forms a fine vegetable garden, where everything seemed to be doing well. A striking feature of the place is a noble avenue of Araucarias, though, as is invariably the case with these trees, growth has not been even. It is noticeable that in some cases the male trees, easily distinguished from the females, by the denser character of their cone production, are the finest, and in other cases females are the strongest. Many of the trees, however, are very fine specimens. This avenue leads from the home-park to the fine new church lately erected by Mr. Nicholson, the spire of which now forms a notable landmark. Mr. Smythe is yet remarkably vigorous and energetic, and does his work wonderfully well. He does not get many visitors, but those who see the place will admit that its keeping does him great credit. *A. D.*

METHODS OF PLANT PROPAGATION.

(*Continued from p. 491.*)

Primula sinensis.—This species of Primula, so wonderfully improved of late years by the florist in the variety and brightness of its colouring, and the size of its flowers, is rather a difficult subject to raise from the seed. The seeds are of a hard, horny nature, and require a long time to germinate, unless they are quite fresh. Indeed, a good rule for all the Primrose tribe, is to sow the seed as collected, using soil similar to that recommended for the Calceolaria, but coarser, and enriched by the addition of decayed cow-manure, passed through a fine-meshed sieve. The soil should be made firm in the pots or pans, and after sowing the seed, it should be afforded water copiously. The pots, &c., should be left to drain, and then covered with fine dry wood moss, or sphagnum-moss, so as to ensure a constant even state of moisture and shade, merely removing the moss from time to time to ascertain if small slugs, wood-lice, &c., or other creatures are to be found in it.

Some gardeners do not use moss to cover the seed-pots, but employ a piece of glass or tile, the latter having its advantages, as it keeps the seed in darkness—a favourable situation for all seeds, and does not admit slugs woodlice, &c., which gnaw off the plants as soon as they appear, and the seeds being uncovered with soil are devoured, together with the germ. As soon as the seed is found to have germinated, the tile, moss, &c., must be removed, and a sheet of glass substituted, which may be tilted half an inch at one side, so as to afford ventilation to the seedlings, and a slight amount of shade afforded during bright sunshine, and only then. If glass be used to cover the seed-pans at the first, it should be covered by a piece of brown paper or a little moss, removing it as in the case of the opaque coverings when germination has taken place. Suppose that the seeds were sown in warmth of 70° in February or March, preferably in a hot-bed, the seedlings must be removed in a week to somewhat cooler quarters, and be kept close to the roof-glass, and the glass covering the seeds should then be removed. Sowings in May—and these are the best for procuring flowers for seed-saving purposes—present fewer difficulties, the seed germinating readily, and the dangers arising from insufficient ventilation, such as damping-off, and etiolation (drawing) are less; although the same care is needed in preparing the soil, sowing, shading, &c. These late spring sowings need not be made in a hot-bed, a temperature of 60° sufficing for germination; and during the summer greenhouse treatment, or such as is afforded by a cool-pit or garden-frame, suits the plant.

Primula japonica, a fine perennial Primrose, introduced from Japan by Mr. W. Bull, is an excellent plant for the rockery or alpine garden. The crowns should be slightly protected with cocoa-refuse or other like material in the winter. It is a difficult plant, however, to raise from seed, requiring usually great patience on the part of the gardener. I purchased some of the first plants distributed, and was fortunate in saving plenty of good seed, while I hybridised it with all the species of Primula then obtainable, including Himalayan forms, and P. sinensis, but was not successful in getting any hybrids. Six



Fig. 103.—Clematis montana and Iris acuta, a synonym of sibirica. Sent by Mr. S. Kerry, Hatfield Priory, Witham. (See p. 590.)

The flowers of the Clematis white; and those of the Iris lilac-blue, and bright violet veins on a light ground.

panfuls of seed were sown most carefully, and after waiting for twelve months for the seedlings, five pans were turned out, and one was left in an open pit facing north. The following autumn was rainy, and chancing to pass the pit where this pan stood, I was delighted to see the soil literally covered with seedlings of minute size. Therefore if you want to raise P. japonica, give it plenty of time.

All species of hardy Primroses are difficult to deal with. In these I include the alpine Auricula, but the seed of this species, if it be sown in shallow pans or boxes, and placed in a cold frame facing the east, will germinate freely, provided it is fresh; or the seed may be sown in shallow drills in the open ground, on a cool border any time from June to August.

Cyclamen.—This plant, though belonging to the Primrose family, has large, fleshy seeds, produced in seed-vessels which, before maturing, project above the foliage, but later the peduncles twist themselves into a close spiral, bringing the ripening seed-vessels close to the soil, and no doubt in its natural habitat, into the soft soil or humus commonly found in shady places, when the seeds germinate. Let us take a hint from this, and prepare our pans or boxes by making the soil firm, then sowing the seed, and covering with sifted leaf-mould mixed with a small quantity of fresh loam. When the little corms have reached the size of Sweet Pea-seed, they should be carefully pricked out into boxes, avoiding thereby breaking or injuring the roots; water copiously, and shade for a day or wo. On no account permit the soil ever to get dry. Keep the plants growing freely in intermediate-house, and when they have developed five or six leaves, they may be potted into small 60's. The final shift into 48's should be made as soon as the roots reach the sides of the pot. The soil used for this shift should consist of leaf-mould one-half, and well-decayed cow-dung; fresh loam, and a little sharp sand, forming the remaining half. June to August is the best time to sow seed of the Cyclamen.

The *Begonia*, so greatly improved and varied of late by the skill of Messrs. Laing, Cannell, T. Ware, and several continental nurserymen, has become a florist's flower, and plants, true to the characteristics of its parents, may be raised from seed with facility. The seed is best treated like that of the Calceolaria, a slight covering of sifted leaf-mould being given the seed when sown, and the sowing should be made in the winter or early spring. It is advisable to employ gentle heat in raising seedlings. If the seed was not sown very thickly, the seedlings may be left till the tubers have become as large as Peas, and then potted into 60's. These tubers, unlike the corms of the Cyclamen, may be allowed to dry-off in October or November, and rested till the following spring, in a dry state. This is easily secured by laying the pots on their sides under the stage in the vinery, or other cool dry house, or preserving the tubers in flower-pots in cocoa-nut fibre or sand.

The Streptocarpus, so wonderfully improved from the two old forms, S. uniflorus and S. Rhexi, is another subject which requires special treatment and skill to raise successfully, owing to the exceeding fineness and lightness of the seeds. This is produced in a twisted fruit or pod, from which the genus takes its name. Prepare your box or pan as for sowing the seed of the Begonia, then pour the contents of the seed-packet on to a white card, and with the end of a lead-pencil or a camel's-hair pencil push off the seed a few at a time on to the moistened soil, covering it slightly with finely-sifted leaf-mould and silver-sand. Put a bell-glass or piece of glass over the pans, and plunge half-way in gentle hot-bed. Remove the glass from time to time, and wipe off the moisture, or it may cause damping-off. As soon as large enough to handle, prick off the plants into boxes or large pans, shading them for a day or two, and then afford plenty of light and gradually more and more air. Do not let the plants crowd one another, but pot them into single pots as soon as their leaves touch each other, shading them from the direct rays of the sun for a while, and letting them flower in the small pots first, when the poor forms can be weeded out and the good ones potted on.

Ericas may be easily raised from seed sown on the surface of lumps of sandy peat dusted over with fine silver-sand, and then covered closely with a bell-glass; but the soil and sand should be thoroughly sterilised by being baked in an oven, or the spores of moss and Liverworts, almost always present in surface-soils, will germinate and rapidly choke and kill out the little Erica seedlings. Every gardener knows that seed, taken from a florist's variety, will not often produce the same exactly, there being a constant tendency to revert to the original type; but this should make propagation by means of seed the more interesting, as there is always the hope that some good novelty may arise. *Experience.*

(To be continued).

CLEMATIS MONTANA, ETC.

ON p. 589 is an illustration (fig. 103) that has been re-produced from a photograph kindly furnished by Mr. S. Kerry, Hatfield Priory, Witham, which shows the pretty decorative effect produced by the easily-cultivated floriferous Clematis montana. Most species of Clematis have the best appearance when but slightly confined by ties or trellis-work, and allowed to ramble at will; and our illustration shows a plant with its shoots trained on pieces of wire or string, fastened to a water-spout at the top, and at the bottom to the wall, or a strip of wood nailed to it. The border skirting the dwelling is planted with clumps of the very common Iris sibirica, a species with linear leaves, about 18 inches long, growing in tufts of five or six. The flowers have a lilac-blue limb, and falls much veined with bright violet on a light ground. There are many forms of the species differing in the colour of the flowers. Flowering as it does at the same time as the Clematis, the effect would, doubtless, be very pleasing.

BELGIUM.

IN Brussels, at L'HORTICULTURE INTERNATIONALE, there are now in bloom a fine Cattleya Rex, C. superba, remarkable for exceptional brilliancy of colouring; Cœlogyne Massangeana, with ten floral racemes, the longest measuring over 27 inches; numerous species and varieties of Vanda are also in full flower; Oncidium Lanceanum is coming into bloom; there is a new importation of Oncidium, which contains exceptionally fine specimens.

MM. LUCIEN LINDEN ET CIE., at Moortebeke, have some Cattleya labiata and Trianæi with wonderfully-luxuriant foliage, showing both good cultivation and good air. There are certainly at least 7000 or 8000 spathes of C. labiata which will be in full flower about the middle of November.

M. STEPMAN, of Messemacker, has some exceptional Asparagus Sprengeri coming largely into use for decorative purposes, and Cypripedium montanum covered with bud.

In the houses of M. FLORENT PAUWELS, at Deurne, near Antwerp, are some well-flowered plants of Odontoglossum bictonense; another variety of this species with large flowers with a purplish rose lip; Odontoglossum Roezli, with large flowers, newly imported; Vandas and Aroids; a curious Dendrobium cruentum, and Vanda suavis and tricolor. The Phalænopsis are still flourishing; many P. amabilis are notable for richness of bloom. Cypripediums do well, there are excellent varieties of C. Veitchi, C. grande, with three fine flowers; Epidendrum prismatocarpum, quite a mass of numerous blossoms; Acineta superba and Cattleya Pinelli. I noted also a cutting of Acalypha macrophylla more than 3 feet high, and with very large leaves; Nepenthes Burkei, with a dozen pitchers; Anthuriums flowering well, A. Leeraer de Beucker, a good variety, is noteworthy for the abundance of its flowers. I would also mention thriving seedlings of Cypripedium and of Odontoglossum.

CHEMISTRY OF THE STRAWBERRY-PLANT.

(Continued from page 490).

THE following table illustrates the average composition of the ash of the Strawberry-fruit when fully ripe.

Percentage Composition of the Ash of Strawberry-fruit.

	Per cent.
Potash	41·07
Soda	8·48
Lime	14·21
Magnesia	1·37
Iron oxide and alumina	5·89
Phosphoric acid	13·82
Sulphuric acid	3·15
Silica	12·01
	100·00

These figures illustrate the fact that while the ash of the Strawberry-plant contains about 6 per cent. of phosphoric acid, the ash of the fruit contains nearly 14 per cent.; the average amount of potash in the four varieties of plants is 26 per cent., against 41 per cent. in the fruit. Dr. Goessmann, Director of the State Experiment Station, Amherst, Mass., U.S.A., has found that the constituent potash averages nearly 54 per cent. in the ash of Strawberry-fruit.

Soda averages but 1 per cent. in the plant, while in the fruit this ingredient reaches over 8 per cent. The lime is only about one-half as much in the fruit as it is in the plants, while magnesia ranges about 5 per cent. more in the plants than in the fruit. The comparatively large proportion of silica and of oxide of iron and alumina in the ashes, both of plants and of fruit, are interesting from a scientific standpoint, but need not be considered here, as they are elements supplied in abundance by every fertile soil.

The quantity of Strawberry-fruit obtained per acre varies enormously, ranging from 75 bushels to 300 bushels, or even more. A good average yield of Strawberries will probably weigh 10,000 lb.

According to Pierre an acre of Strawberry plants (above-ground growth) and fruit, will consist of the following constituents:—

Constituents.	Plants.	Fruits.	Total.
	Lb.	Lb.	Lb.
Dry substance	4268	1054	5322
Nitrogen	89	16	105
Ash (mineral matter)	414	49	463

That is to say, 1 acre of Strawberry plants and fruit will require more than 2 tons of organic matter, 100 pounds of nitrogen, and nearly 500 pounds of mineral ingredients to sustain them during growth.

The same author quotes the ashes of the Strawberry plants and fruit as containing the following constituents.

Mineral Constituents derived from the Soil in the Growth of Strawberries, in pounds, per Acre.

Constituents.	In Plants.	In Fruit.	In Total.
	Lb.	Lb.	Lb.
Potash	89·1	19·7	108·8
Soda	6·4	0·9	7·3
Lime	102·7	7·9	110·6
Magnesia	16·1	0·7	16·8
Phosphoric acid	35·3	5·4	40·7
Silica, iron oxide, &c.	43·3	5·3	48·6
Other elements	120·9	8·8	129·7
Total ash	413·8	48·7	462·5

Of the essential elements, it is here made clear that the chief demands for the development of the Strawberry plant are upon the available potash and nitrogen in the soil. The phosphoric acid stands third, the ratio of potash to phosphoric acid being about three to one. Most fertile soils contain lime in a sufficient quantity for Strawberry culture without any artificial application.

In a plantation of Strawberries the plants are usually ploughed under at the close, thus returning the substances formerly abstracted and assimilated from the soil; the only real loss, theoretically, of plant-food, when this is the case, is that contained in the fruit.

The loss of plant-food that the soil sustains through the gathering of the fruit, is not, compared with some other garden crops, an excessive one. At the same time, it is to be remembered that the soil has to provide, in addition to those elements required by the fruit, the fertilising constituents as given in the foregoing table, though, as already pointed out, the greater part of the latter will eventually return to the soil (always provided that only the fruit is taken away).

A soil to be well manured must contain a large excess of available plant-food over and above the amount that can be utilized by the Strawberry crop, since it cannot be supposed that the roots will be able to absorb, by virtue of their disposition in the soil, more than a comparatively small proportion of such fertilising ingredients.

The Strawberry is usually considered an "exhausting crop," yet, as far as the real loss of plant-food through gathering the fruit is concerned, the facts, looking at them superficially, scarcely bear out this opinion. To replace or restore to the soil the substances so removed by the fruit, would not in itself appear to require a very heavy application of manure. It is found, however, as a matter of practical experience that, to make Strawberry culture successful, the soil must be fed very liberally. High manuring for Strawberries is an essential condition for successful growth. We may advance several reasons why such is necessary, and why this practice does not conflict with what has already been said, and shown by the foregoing analysis.

The growing season is short, and more especially the fruiting period. During a comparatively brief time there is a large demand for immediately available forms of nitrogen, phosphoric acid, and potash, and especially in the first and last of these elements; a demand that must be met if the best results are to be attained. Even the richest soils contain only small amounts of such plant-food that is readily assimilable, and hence the necessity for the presence in the soil of a large quantity of manure that will easily yield up its fertilising ingredients. This is found to be the case more particularly when the rainfall during the fruiting season is below the average. Then the benefit of good liquid-manure, or of assimilable fertilisers applied in solution, is apparent. The amount and kind of fertiliser required depend very largely upon the season and the character of the soil. For pot-culture of Strawberries available plant-food is more especially needed, owing to the limited area for root-distribution. *J. J. Willis*
Harpenden.

THE RUSTS AND MILDEWS OF CEREAL CROPS.

The most important and the most comprehensive work upon the above subject has recently appeared under the title of *Die Getreideroste.** The authors, Dr. J. Eriksson and Dr. E. Henning, have done their work most thoroughly, and are to be complimented on the completion of their painstaking investigations. That an octavo volume of 460 pages should be written concerning only six species of parasitic fungi, illustrated by twelve plates containing 143 coloured figures, would a few years ago have been considered impossible. The importance from an economic standpoint, however, of these parasites, has produced a good deal of literature; no fewer than twelve pages of the above work are occupied by an enumeration of the various books, memoirs, monographs, and papers on this subject which have appeared during the last 100 years in various parts of the world. The history of the Wheat-mildew dates from remote antiquity, but, of course, it is only during the last half century that its literature has become so alarmingly extensive. The principal diseases, known as Wheat-mildew and Wheat-rust, are due, as everybody knows, to less than half-a-dozen fungi. Of these, by far the most important is what we call, in England, Wheat-mildew, or as the authors designate it, black-rust—Puccinia graminis, a parasite which attacks not only Wheat but also Rye, and to a less extent, Oats, Barley, and various grasses. Every botanical student is now taught that this fungus passes one part of its life on the Wheat-plant, and another upon the Barberry; but the authors have gone a step further into its life-history, and find the old Puccinia graminis to be a collective species. All forms of it have their æcidiospores on the Barberry, but the uredospores are not in every case capable of transmitting the fungus to all the species of grasses and cereals on which the Puccinia occurs. For instance, the uredospores taken from Rye readily enough infect healthy Rye plants, but are inoperative upon Oats and Barley; and those from Oats produce no effect when applied to Wheat and to Barley. From the result of a long series of cultures, the writers come to the conclusion that the old Puccinia graminis includes at least five different forms, namely, 1, Secalis, on Rye, Barley, and Twitch (Triticum repens); 2, Avenæ, on Oat; 3, Tritici, on Wheat; 4, Airæ, on Aira cæspitosa; 5, Poæ, on Poa compressa

We are at once met by the question:—Are these five distinct biological species, or are they only forms or varieties which have acquired, so to speak, a taste for their respective host-plants to the exclusion of other graminæ? a question easier asked than answered, for much can be advanced on both sides.

The next most familiar Wheat-disease is what we have been in the habit of calling Puccinia rubigo-vera—the early spring-rust. The authors have, however, shown that this really consists of two species, which they call the yellow-rust and the brown-rust. The yellow-rust (P. glumarum, Schum.) is well distinguished in its uredo stage by having its uredospores upon broad yellowish stripes on the leaves; by the individual sori being yellow, and the teleutospores principally confined to the leaf-sheaths and haulms, where they form minute black lines. Of this species, the æcideal form is unknown. It is the more injurious to the Wheat-crop since it is apt to attack the glumes, and when it does, it distorts and dwarfs the kernel.

The brown-rust (P. dispersa, Eriks. and Henn.) has its uredospores in scattered dark orange or yellowish-brown sori, its teleutospores are found mostly on the under-surface of the leaves, and its æcidiospores occur on Anchusa vulgaris. The teleutospores of these two species resemble each closely in size, in colour, and in form, but, according to the authors, the promycellial spores of P. glumarum are yellow, while those of P. dispersa are colourless. Both germinate in autumn. During the present year (1896) both species have been observed in Norfolk, but P. dispersa has been by far the most abundant during July and September, although earlier in the season the uredo of P. glumarum was sufficiently common.

The next most important Puccinia is P. coronata, the crown-rust; it mainly affects the Oat-plant, and to us in Great Britain is economically unimportant. The authors also regard this as a collective species, having its æcidiospores upon the two Rhamni, R. cathartica and R. frangula.

One half of the book treats of what the authors call the secondary causes of Wheat-rust and mildew. These couple of hundred pages have a much wider range of interest, as they appeal to the Wheat-grower rather than to the botanist. The influence of situation and drainage, the physical and chemical condition of the soil, the previous crop, the seed-corn, the mode of sowing, the influence of the weather, of the neighbouring vegetation, and the susceptibilities of the different varieties of Wheat, are all treated of in detail and at considerable length. With regard to the chemical constitution of the soil, the fact that potash favours the early ripening of the crop, while an excess of nitrogen delays it, is shown to be of importance, as in the former case the disease is retarded, while in the latter it is favoured. During the years 1890–93, 134 varieties of Wheat were tested at the experimental station near Stockholm as to their susceptibility to the three rusts before mentioned, and their respective disease-resisting capabilities shown in a tabular statement. At the same time, some thirty varieties each of Oats, Barley, and Rye were similarly examined, while such questions as the influence of the number of stomata, and the thickness of the epidermis on the susceptibility of different varieties were carefully gone into. The last chapter is devoted to the various protective measures available for combating or preventing these diseases. *Charles B. Plowright, M.D., King's Lynn, Nov.* 2, 1896.

* *Die Getreideroste*, by Dr. Jakob Eriksson and Dr. E. Henning (Stockholm, 8vo, pp. 463, with 13 coloured plates.)

NOTES FROM THE ROYAL BOTANIC GARDEN, EDINBURGH.

Ruellia macrantha is a plant which should be grown wherever decorative plants are much in request at this season, nothing being more effective than a good number of this plant, each bearing large showy flowers. Several plants of this species have been flowering here in an intermediate-house for a long time. By means of a succession of cuttings struck at different times, plants of all sizes have been obtained, which range from 3 feet or more in height downwards. These plants will continue to flower for a considerable period of time.

Ipomœa purga.—As a climbing plant for the greenhouse, Ipomœa purga makes an extremely pretty show at this season. Although nearly, if not quite hardy here, its flowers are produced too late out-of-doors to come to perfection. Here it has long survived in a cold frame, its long, climbing growths annually appearing in the spring. In the cool economic-house a plant is trained over the roof, and is opening its deep purple-coloured flowers, these appearing generally singly upon axillary peduncles, but this is compensated for by the large number produced, which, when observed against the shining-green glabrous foliage, have a pretty effect. It is the true Jalap plant, and is, perhaps, better known by its synonymous name of Exogonium purga. It is a native of Mexico.

Anemopœyma racemosa.—Like the above plant, this is far from being a common one in gardens; it is, however, deserving of a place amongst the climbers grown in the stove. When established, the stems climb by strong tendrils to a considerable length. The foliage is of a dark-green tint, and leathery in texture. The racemes, which are axillary, carry a considerable number of light-yellow tubular flowers, of a handsome appearance. Like most of the genus, it is a native of Brazil, and the best method of cultivating it is to plant it out in a border and train the growths under the glass, where thorough ripening can be ensured.

Myrtus Luma.—A fine attractive specimen of this nearly hardy shrubby species is in full fruit at the present season. The berries are produced in great abundance, and resemble somewhat those of Black Currants, but they are borne in greater profusion. In a cool greenhouse it is well worth a place as a flowering and fruiting plant. This species makes a good companion to M. Ugni, with red fruit. Both are natives of Chile, and easily cultivated as greenhouse plants.

Theobroma cacao.—While mentioning fruiting plants, I must note the occasion of this, the "Cocoa plant," producing one of its large fruits in the economic-house in the gardens. The plant is a large one, and occupies a central position in the bed, and is about 12 feet high. Many attempts have been made to fertilise flowers without success, and the fruit the plant is now carrying appeared just at the base of the stem, and is now nearly 4 inches long. Although of easy culture as a stove-plant, its fruiting is not a common occurrence.

Angræcum Scottianum.—A good plant of this species is now flowering in the Orchid-houses here, its spurred flowers attracting attention. The straggling terete stems usually hang over the basket-sides, thus showing more advantageously the pretty white flowers.

A. bilobum.—This is another pretty Angræcum now in flower. It is of small growth, with leaves about 4 inches long, deeply lobed at the apex, with brown spots upon the surface, and a brownish margin. The flowers are white, and upon the reverse of the sepals a browish tinge is noticeable, while the pedicels are also of that colour. The treat-

ment found suited to this west tropical African plant, as well as to A. Scottianum, is a very warm moist temperature, with abundance of moisture at the roots.

Masdevallia cucullata.—This is a very distinguishable plant on account of its almost blackish-purple flowers, which are borne upon scapes singly, and appear amongst the foliage. The tail is about 1½ inch in length, and yellowish-green at the tip. First discovered by Linden in 1842, near Bogota, it was not until 1883 that this species was successfully imported by Messrs. Shuttleworth & Co. In its native habitat it is said to be named "The Widow," perhaps on account of its sombre-coloured flowers. Where Masdevallias are grown this species deserves a place.

Barkeria elegans.—At this season of the year all flowers are welcome, and plants of the above are very useful for decorating purposes. The long racemes of whitish flowers, with a lip having a large reddish-crimson blotch upon it, are attractive. Barkerias are said to be found upon low twiggy bushes, near water, in their native habitat, Mexico; and certainly the roots look as if such a medium to cling to would suit them well. *R. L. Harrow, Royal Botanic Garden, Edinburgh.*

CHRYSANTHEMUM CHAT.

(*Continued from p. 558.*)

CHRYSANTHEMUMS AT CHISWICK.—It seems, and is indeed very appropriate, that at the garden of the Royal Horticultural Society the Chrysanthemum should be well cared for. Exactly half a century ago, Robert Fortune was sent to China by the Society on a plant-collecting expedition, one that resulted in his despatching to this country many horticultural rarities, and amongst them were two small-flowering varieties of Chrysanthemums, grown and held in great esteem by the florists of the Island of Chusan. Towards the close of the year, one of these new flowers was staged at the Society's rooms in Regent Street, and named the Chusan Daisy, the first Pompon then introduced. But this is not, by any means, the Society's first record in dealing with the flower. At Chiswick in 1824, there were twenty-seven varieties cultivated, and two years later the number grew to forty-eight. At the present time there are about 800 plants at Chiswick, representing over 400 varieties, the general condition of which reflect credit on the superintendent, Mr. S. T. Wright. To specify a few amongst the many noted on a recent visit. Amongst the incurved may be mentioned: Empress of India, white, very large and fine. Lord Rosebery, long medium-sized petals, of a silvery-mauve shade, lined white; never recurves, and requires no dressing. Miss M. A. Haggas, in this we have the long-looked-for Golden Princess; it is a light golden yellow sport from Mrs. Heale, properly fixed. Mrs. G. Rundle may be justly described as the most beautiful white Chrysanthemum in cultivation. A new variety, named Alfred Lyne, is white tipped with pink. A fine addition to the incurved class is Mrs. Robinson King, deep golden-yellow sport from Golden Empress. Robert Cannell, having large flowers, bronze-red, with under petals distinctly gold-coloured, every petal broad and bold, a fine variety. Lord Wolseley, a sport from Prince Alfred; it resembles its parent in general form, but is larger, of more substance, and of a bronzy hue—distinct, and good. Good also were Baron Hirsch, D. B. Crane, Jeanne d'Arc, Mrs. James Murray, and Lord Alcester.

The Japanese varieties form a good selection. We may specially note, perhaps, the finest in this section yet introduced:—Edwin Molyneux, colour deep rich maroon-red outside, petals when expanded of the richest golden tint; petals immense, both in width and length. Beauty of Exmouth is a beautiful variety, the blooms, pure ivory-white, are large, with a very refined appearance; petals of good substance, gracefully curling and twisting. The well-known Avalanche, white, is quite worth a note; and the old White Elaine is still good. President Borel, rosy-purple; Mrs. E. G. Hill, clear pearl-pink. A useful exhibition variety is the new Herbert J. Cutbush, a unique flower, with long petals, of medium width; colour deep red, heavily striped yellow. William Seward, a magnificent deep rich blackish-crimson flower, florets exceedingly long, resembles in shape Sunflower; the florets, however, are firmer, and the whole flower considerably heavier. Duke of York, one of the finest in this section; the colour of the reverse of the petals, which is the principal part seen, is of a deep pink ground colour, heavily shaded bright silver—a decided acquisition. A beautiful white is Madame Carnot. The old but still good James Salter, delicate pink, is by no means to be despised; and the same remark applies to Lady Selborne, pure white, a sport from James Salter. A noble, high-built flower of splendid substance is Eda Prass, lilac, turning to blush; Eynsford White is well named—it is a fine flower. *J. B.*

MESSRS. JAS. VEITCH AND SONS.

Like all other garden plants, the Chrysanthemum is grown in considerable numbers by this extensively known firm at Chelsea. The collection differs, however, in one characteristic from most of those belonging to the trade that we have already noticed. Messrs. Veitch do not raise seedlings each year, and as one sees the plants, fresh from viewing Chrysanthemums elsewhere, it is noticed that the varieties represented are known ones, and there is an absence of a great number of "promising" and "unpromising" novelties, that one usually has to inspect and criticise. Still, if this work is not taken up, another task seemingly as difficult, is the endeavour to obtain all novelties of repute and value, and at the same time, keep the number of varieties grown from becoming unreasonably large. This weeding-out and rejecting, in fact, is much the same in the case of such a collection as it is to the amateur grower, who wishes to keep abreast of the times. Previous to the exhibition of the National Chrysanthemum Society, there was a good display arranged in one of the houses, and visitors to the establishment at that time had an excellent opportunity to see blooms of the popular kinds. The flowers have been rather below than above the average in point of size this season, and a few have opened less kindly than on some previous occasions. It is with some difficulty that plants which make part of their growth in the late summer, and have to develop their buds during September and October, are cultivated for exhibition blooms in such a populous district as Chelsea, but the task is a heavier one when September and October prove so unpropitious as they have been this season. It is interesting to hear, in view of the contiguity of the place to the metropolis, that one of the very best varieties during the present season has been Mrs. H. Weeks. It is an extra large flower, of the Japanese type, white, faintly tinted with pink; the florets are of great width, and the flower when well grown is an unusually deep one. Modestum has given satisfaction also, and may be said to be one of the very best of the season's novelties. It has been described in these pages more than once; so have Australian Gold, Lady Byron, Mutual Friend, Nyanza, and M. Chenon de Leché. King of Chrysanthemums (Japanese), we have only seen good in a few instances; it is a very large flower, of a chestnut tint, but inclined to be a little rough. Le Moucherotte, Oceana, Simplicity, Madame Rozaine, Mrs. Geo. West, and Amiral Avellan, were others of the newer ones noticed. The last named variety has many admirers, and is considered a good yellow Japanese. From our own point of view, there are others of nearly the same colour which excel it. The excellent Australie that was exhibited well at the Aquarium shows, was not quite in character at Chelsea. The bloom when at its best is a superior incurved Japanese, all the florets of which incurve until the silvery reverse of each is alone seen. An incurved flower, by name Ideality, has been little evident this season; it was noticed at Chelsea, where it appeared to be of moderate promise. A glance was taken of a few of the other houses, where Bouvardias, Heaths, winter-flowering Begonias, and other species were in flower, but the blooms of the Begonias, and of the Orchids, will fall a prey, in more or less degree, to the next dense fog.

CATTLEYA × LE CZAR.

(?CATTLEYA LABIATA × C. GRANULOSA)

OUR illustration (fig. 104, p. 593) gives a representation of a very fine natural hybrid Orchid, exhibited by Messrs. Linden, l'Horticulture Internationale, Parc Leopold, Brussels, at the Royal Horticultural Society on October 27, when the Orchid Committee awarded it a First-class Certificate. Reference to our illustration of Cattleya × Victoria Regina in the *Gardeners' Chronicle*, June 25, 1892, and comparison with the illustration now given will serve to show that, although there is a certain resemblance, there are yet many points of difference, and these, from a florist's point of view, are decidedly in favour of Messrs. Linden's plant. The sepals are light lilac, with a greenish tinge; the petals lilac-rose, with very fine purple veining. The base of the lip is blush-white, the erected tips of the side-lobes purple; the long isthmus joining the base to the front lobe of the lip, and which seems to indicate C. granulosa so markedly, is dark red, with some orange markings; the front lobe bright crimson-purple, with a delicate lavender-coloured margin. It is a very fine Cattleya, and evidently a free grower.

NOTICES OF BOOKS.

THE FLORA OF DUMFRIESSHIRE, ETC. By G. F. Scott-Elliot, &c. (Dumfries: Maxwell & Son.)

IN order to give a trustworthy criticism of a book of this character, the reviewer should have at least as intimate a personal knowledge of the flora as the author himself. As this is a state of things not generally attainable, it is only possible to fall back on generalities. The topography is specially the work of Mr. Scott-Elliot, who is an accomplished traveller, and can consequently condense into a few pages details that, to a less experienced observer, would demand a much larger space. Mr. Scott-Elliot is also responsible for most of the information relating to insect-visitors. Various specialists have given their aid in the subjects of meteorology, geology, and the assistance of many others in furnishing particulars as to the habitats of particular plants is duly acknowledged. We are pleased to find that, not only is the topography of each species given, but that the particular conditions under which each grows are noted, e.g., in the case of Thalictrum minus, we are told it occurs "on moist ground on whinstone soils or mud in sun or half-shaded and wind-sheltered places, in narrow ravines." An excellent map and indexes of the insects and plants mentioned are very important features of the work, which no student of the botany of the border counties can afford to ignore.

OFFICIAL CATALOGUE OF THE NATIONAL CHRYSANTHEMUM SOCIETY, Jubilee Edition (London: E. W. Allen, 4, Ave Marie Lane; and Richard Dean, Hon. Sec, Ranelagh Road, Ealing).

THE society, whose latest catalogue now lies before us, rendered a signal service to the Chrysanthemum-growing fraternity when it first resolved, twelve years ago, to publish an official catalogue of the varieties of the popular autumn flower for the use of its members and exhibitors. Several editions, with intervening supplements, have appeared since then, and when we remember that 135 affiliated societies are bound by the terms of their affiliation to accept the catalogue as their standard on all disputed questions of classification and nomenclature, it will readily be seen how needful it is that frequent and careful revision should be made.

The Jubilee Edition in form resembles its predecessors in many respects, but great changes, almost amounting to a complete revolution, will be found in those leading sections beloved by exhibitors, viz., the Incurved and Japanese. Most of

the varieties recognised as indispensable on the showboard at the date of the last revision have disappeared, and a multitude of more modern varieties have taken their place. Some slight alteration has taken place in the titles of the selected lists, for we find they now consist of Incurved, Japanese Incurved, Hairy, Reflexed, Large Anemones, Japanese Anemones, Pompons, Pompon Anemones, Singles, and Earlies. The group known as Japanese Reflexed, owing to difficulties in distinguishing the differences between them and the ordinary Japanese, has been abolished, and the varieties forming that somewhat artificial division have been merged under the heading of Japanese in Section II.

The alphabetical list in the new issue is a continuation of the one given in the 1890 catalogue, and we notice that the committee has adopted a new method of arrangement. Instead of the varieties being registered under the initial letter of the first word in personal names, the reader must now seek for them under the first letter of the surname. Thus, Charles Davis will no longer be found under C, but under D; and Mdlle. Thérèse Rey under R instead of M. This may prove at first a little difficult to some who have grown used to the old method, but on the face of it will seem to be the only rational method of cataloguing, and is a system already adopted by Chrysanthemum cataloguers in other countries. There has been no change made in the description of the selected varieties for show; the name of the flower comes first, followed by the raiser's name in brackets, then the date of distribution is given, after which comes the description of colour, form, peculiarity of floret, season, height, and a note of such as have been awarded Certificates by the Floral Committee.

From a literary point of view, a valuable contribution will be found in Mr. Harman Payne's bibliography of the Chrysanthemum, which contains a list of all the books and pamphlets, both English and foreign, that have been published during the past sixty years or more. These number eighty-three, and do not include anything of the nature of a trade catalogue. Many of them are of great rarity, and perhaps, from a cultivator's point of view, of little practical value, but they are interesting as illustrative of the manner in which the flower has been dealt with by horticultural writers in different parts of the world. The price of the new Jubilee Edition is 1s.



Fig. 104.—Cattleya × Le Czar: supposed natural hybrid. (see p. 592.)

COLONIAL NOTES.

JAMAICA.

THE *Bulletin* of the Botanical Department for September, 1896, contains a useful article on the cultivation of Oranges, Lemons, Citrons, &c., in Sicily and Calabria. Mr. JENMAN continues his synoptical list of the Ferns of Jamaica.

CEYLON.

Mr. John Christopher Willis has been appointed, on the recommendation of Kew, to succeed to the post vacated by Dr. Trimen as Director of the Botanical Department, Ceylon, and whose subsequent death we recorded in our last issue. Mr. Willis is M.A. of Gonville and Caius College, Cambridge, and held for three years from 1890 the Frank Stuart Studentship for botanical research. At the time of his appointment he filled the posts of Senior Assistant to the Regius Professor of Botany in the University of Glasgow, and of Lecturer in Botany at Queen Margaret's College in that University. Mr. Willis left England for Ceylon on August 21 last. Mr. Willis is the author of a manual and dictionary of flowering-plants and Ferns, which is shortly to be published by the Cambridge University Press, in the biological series of the "Cambridge Natural Science Manuals." Morphology, natural history, and classification will all be treated of, and the two illustrated volumes will contain a glossarial index of English names, economic products, technical terms, &c.

CALCUTTA.

Mr. George Herbert Cave, a member of the gardening staff at Kew, has been appointed by the Secretary of State for India in Council, a gardener on probation on the staff of the Royal Botanic Gardens at Calcutta. Mr. Cave had served as sub-foreman in the Propagating-pits. He left London for Calcutta on September 18 last. *Kew Bulletin.*

THE WEEK'S WORK.

THE HARDY FRUIT GARDEN.

By G. WOODGATE, Gardener, Rolleston Hall, Burton-on-Trent.

Bush Fruit.—The bushes, espaliers, and cordons of Gooseberries and Red and White Currants may now be pruned if finches are not troublesome. A great point in pruning the bushes is to keep the centres open, and the branches so arranged and sufficiently far apart, that space is allowed for the lateral growth. If it is the practice to shorten these lateral shoots about midsummer, as was then advised, the buds at the base of them will now be prominent, and all the smaller side-growths should be pruned back to within half-an-inch of their base, which will still leave numerous fruit-buds. Do not keep any fruit-spurs which have got of great length, but remove them entirely; their place will soon be taken by younger ones. The shoots left on the main branches should also be stopped close, if for the extension of the crown a bush has reached its allowed limit; whilst those on young bushes should be left from 6 to 8 inches or more in length, according to the habit of growth of the variety, stubbing-back all other shoots to half-an-inch. Cordons may need, if old, a new shoot or two laid in, and the old ones, or some of them, removed, which is perhaps a better method of growing Gooseberries and Currants than the single-stemmed plant, as it admits of shoots being laid-in if some should die off, or have to be removed. All side-shoots or laterals must be spurred-in at the winter-pruning, and half cut-back in July. Cordons and espaliers should be extended by laying-in new shoots to form branches in time, and secondary shoots of various lengths left all over the area to be covered in the case of the latter. In pruning the Black Currant, remove the dead branches, and those which bear but little fruit, and cut away some of the branches which crowd each other, so that light may reach the centre of the bush. Be careful to collect all prunings of the Black Currant and burn them forthwith, in case the bud-mite should harbour on them; then afford the soil a good dressing of soot, and point it in lightly with the fork; and when the ground is frozen and will carry a wheelbarrow, dress it with farmyard-manure, giving the bushes a good dressing to the distance that the roots extend. Wood for making cuttings of these bush-fruits may now be selected, which should be straight, and from 12 to 15 inches in length. When these are made into cuttings, remove all the buds, excepting those within 3 inches of the upper end, and insert them 6 inches deep, in rows, at 1 foot apart, and 6 inches between the cuttings, making the soil firm about them.

Trained Apples, Pears, Plums, and Cherries may have their branches unfastened from the walls, and the needed pruning performed. It is then a good time to re-point the walls if this be needed, thus destroying the favourite hiding places of insects. If some Portland cement be mixed with the lime used frost will not affect it. I would advise that where possible, the walls should be wired, which will preserve them, besides facilitating the training of the trees. In fixing the wire for fan-trained trees let it run two courses of bricks apart, and get it close to the wall, or nearly so, as it always becomes slack in time. For horizontally-trained Apple and Pear-trees the wires may be fixed 1 foot apart, and the wire should be fairly stout. Where anything has to be done to the walls, the trees, after being loosened and pruned, should be tied up in convenient-sized bundles, and supported by stakes some distance away from the wall.

Fig-trees should be protected from frost either by unfastening the branches from the wall, tying them up loosely in bundles, placing these on the ground, and covering them with clean straw and mats; or they may be thatched as they stand with straw, Asparagus-tops, &c., and cover the border with littery manure.

THE KITCHEN GARDEN.

By CHARLES HERRIN, Gardener, Dropmore, Maidenhead.

Broccoli.—As these have nearly completed their growth, means should be taken to harden and protect the stems against severe frost. Owing to the sort of weather we have experienced for the last two months, the growth of leaf has been luxuriant, and it is as a consequence soft, and in a condition to be readily injured by frost. If the land is well exposed (not inside garden walls), and not over rich, the plants will be in a better condition to withstand severe weather, whilst those in the rich soil of the garden will succumb in large numbers. If growth is luxuriant, the present is a suitable time to stay further growth by heeling over the plants; but before the work is begun, all decaying or yellowing leaves should be stripped from the stems. Begin by taking out two spadefuls of soil from the northern side of each plant in the first row, and with a spade or fork from behind gently lift the plant slightly, and press the stem over into the hollow thus made, taking a similar amount of soil from the next row of plants to cover the stems after they are pressed down, slightly treading it or beating it with the back of the spade to make it firm, and so on from row to row until the whole quarter is finished. The soil should bury the stems up to the leaves, as it is at this point that the frost most injures them. Treated in this manner the Broccoli heads will be rather smaller than would be the case had they not been lifted, but if they are moderately strong, the heads will be large enough for the best table, whereas if left without heeling over and protecting the stems, the losses may be great, especially after a wet autumn, as the past has been.

Broad Beans.—Where it is not convenient to raise the earliest crop of Broad Beans in pots in a warm-house for spring planting, the present is a suitable time to make a sowing in the open ground. The ground should be dug over, and a dressing of well-rotted manure incorporated with it; the ground should be consolidated in some way when dry on the surface, and the seed sown forthwith. Due allowance should be made for failure of some of the seeds, by sowing thicker now than would be required in warm weather; and if eventually the plants are crowded, they may be thinned or transplanted in early spring. Sow in double drills a few inches apart, these to be distant 3 feet if more than one double line is required. The Seville long-pod, or if a smaller Bean is liked, the Early Mazagan, a very hardy variety, may be sown.

Digging and Manuring.—Any ground unoccupied by crops should be trenched or dug simply one spit deep whenever the weather is favourable. Some idea of the position to be assigned to the various crops should be formed before the digging and manuring are commenced, and the land prepared accordingly. That ground which is intended for root crops will be the better for not having a heavy dressing of rotten manure, and for these roots it is advisable to choose a piece of ground that was well-manured for some previous crop; and in the digging to work-in a dressing of wood-ashes or charred refuse and soot, and if it be too rich in humus, quick-lime may be added. Trenching or digging two or more spits deep is generally of great advantage in the kitchen garden, but care should be taken not to bring to the surface the infertile subsoil, or in the case of heavy land, that which in its nature approaches clay. If the land is not in good heart to the depth of 3 spits, or 2; as the case may be, the soil lower than these should be opened-up with a pick or fork, and left in position. It does such subsoil much good to mix with it lime, wood-ashes, and charred refuse; and the rougher parts of the garden rubbish-heap and half-decayed manure, the best manure being put below the top spit. Gas-lime, if used, should be scattered thinly over the surface, and be left a few weeks before digging it in; it is a valuable fertiliser and cleanser of the soil, and is valuable as a dressing where clubbing affects the Brassicas. The land should be left in a rough state, to be acted upon by the weather. In some cases, where the land is very heavy, it may be advisable to defer digging until the spring, or a short time before sowing and planting become necessary.

PLANTS UNDER GLASS.

By JNO. MCINTYRE, Gardener, Woodside, Darlington.

Epiphyllum truncatum.—Any of these useful plants which may be set with flower-buds should be placed in the forcing or other warm-house so that they may expand their flowers by the end of next month. Epiphyllum truncatum varieties always look well when grown as standards grafted on stocks of Pereskia, and are then excellent subjects for filling vases. Grown in small pots from cuttings, the plants make good subjects for filling baskets, edgings to stages, table decorative-material, &c.

Salvia patens and S. splendens, if cultivated for winter flowering, may, as regards a part of the stock, be pushed into flower by the aid of warmth, and being gross feeders, they will be benefited by the regular application of liquid-manure.

Euphorbia jacquinæflora.—A charming winter-flowering plant, and one which, when well grown, produces large quantities of flower-sprays, useful in a variety of ways, either when on the plant or cut from it. The plant does well planted in borders in a warm house, where its long shoots can be made to cover walls and trellises, and clothe pillars. I have sometimes observed the plant on the walls of vineries, but there is the drawback that it cannot be flowered so early in winter, although it comes in later on. To grow this species of Euphorbia, choose two parts peat, one of sand, and one of lime-rubbish. Where a wall is not available, the plant should be cultivated in a pot, the growths being pinched repeatedly during the season of growth, to induce bushiness. Afford a good heat at this season, and the sprays will be large.

Euphorbia pulcherrima (*Poinsettia*).—If the plants are cultivated in a warm pit in the manner recommended in a previous Calendar, they should now be ready for removal to the show-house, where, dotted about amongst plants with large foliage, they will brighten the house for several months. This species may also be placed in a conservatory which is kept at intermediate temperature, and from this house they may, when required, be passed into the dwelling as decorative objects. Continue the use of some good fertiliser until such time as the bracts are fully developed.

Chrysanthemums, now at their best, should be guarded from damp, which has given much trouble to gardeners this season. The plants should be well supplied with water at the roots, and even if the water be given to them early in the morning, it is almost impossible at this season, even with fire-heat, to get the atmosphere of the house dried up whilst daylight lasts. Damping is in my opinion the outcome of the plants and buds not being sufficiently ripened previous to housing. Mildew is very common this year, and will be best kept in check by dustings of flowers-of-sulphur. The present is a good time to look over the collection with the view of discarding such varieties as are inferior, or which do not succeed. This work of selection is absolutely necessary, so many new varieties coming out every year. Some of the recent introductions are so much in advance of the older varieties, that weeding out must be done if it be only to keep pace with the times. Particularly is this the case with the Japanese. Before discarding a variety it should have been

grown for three years, as the bought-in young plants are seldom satisfactory the first year. Any of the earlier plants which have done flowering should be cut down, and encouraged to form shoots for cuttings, and those that are shy to throw cuttings should be placed in warm quarters till shoots emerge at the base of the stem.

Potting Materials.—Lay in sufficient store of potting materials under cover to serve through the winter.

THE ORCHID HOUSES.

By W. H. White, Burford, Dorking.

Cœlogyne Sanderiana.—The rare Cœlogyne Sanderiana, now in full growth, enioys the temperature of the Cattleya-house, where it should be placed, so as to be afforded plenty of light, and supplied with an abundance of water until the growths are finished, when the supply should be gradually diminished, and until discontinued altogether. When the new pseudo-bulbs are mature, remove the plant to the cooler part of the intermediate-house, where the temperature in the winter is between 50° and 55°. If during rest the bulbs shrivel slightly, no ill-effects need be feared, as these soon get plump if, when the flower-spikes show, the plant is stood in a vessel of water for a few minutes.

Masdevallia tovarensis is now sending up its numerous flower-spikes of pure white flowers, which appear well above the green foliage. The plants should be kept in the coolest, shadiest part of the intermediate-house, where the flowers will remain in good condition for several weeks. Care must be taken not to give much water at the root at this season, or many of the leaves may be lost. It is a matter of common knowledge that the current season's spikes, if not cut off, will produce blooms again next year; but, as a rule, to let them remain weakens the plants, and it is better to remove them when the first flowers fade.

The Cool-house.—The plants of Epidendrum vitellinum are fast forming new pseudo-bulbs, and should be placed in the lightest position, and afforded plenty of moisture at the root until the growths are fully made up, when drier treatment should be the rule till the flower-spikes commence to push forth. Trichosma suavis is worth cultivating if only for the fragrance of its flowers. The plant is now starting into growth, and may require re-potting. In re-potting it, ordinary Orchid-compost, with plenty of clean crocks, should be made use of. The rare Odontoglossum madrense is undoubtedly one of the most distinct and handsome of cool-house Orchids, of which its deliciously-fragrant flowers have formed a special feature at Burford for many weeks. Usually by the time that the flowers fade the pseudo-bulbs are fully made up, but if the spike be cut as soon as the blooms are open, the pseudo-bulbs are only about half-grown through, and such being the case, the plant should be generously treated till the pseudo-bulbs are fully matured. Afterwards, and while at rest, just afford sufficient water to preserve the roots from perishing and the peudo-bulbs from shrivelling. The best time to re-pot the plant is when the new roots push from the base of the last-made growth; and it is good practice to confine the roots to the smallest possible-sized pots. Fresh fibrous peat, with a small addition of chopped sphagnum-moss, form a suitable compost, good drainage being very essential.

Calanthes.—The pseudo-bulbs of the deciduous species of Calanthes are now of full size, and showing for flower. At this period there must be no drying up of the soil, but a moderate amount of water should be afforded till all the flowers are expanded, when water should be gradually withheld. When in bloom, the plants should be arranged in the cooler part of the house, and where it is possible to keep their immediate surroundings somewhat drier than the other occupants of the house.

Dendrobium Phalænopsis.—Well-rooted plants of this beautiful species now form a feature in Orchid-houses, with their long, arching flower-spikes and great variety of colour in the flowers. While the plants remain in bloom they may be placed with the Calanthes, the drier atmosphere afforded those favouring the lasting of the flowers. After the spikes are removed, place the plants in the lightest part of a house the winter temperature of which does not fall below 60°. Only just sufficient water to prevent undue shrivelling is required at that season.

Phalænopsis Schilleriana and P. amabilis. Such of these plants as have made up their leaves and are now pushing up their flower spikes will require the utmost care in affording water; therefore, it is not good practice to dip the plants or otherwise saturate the compost, but rather to lightly sprinkle the moss and the sides of the baskets, to which generally the roots cling. Very small plants of these species produce flowers, but it is not advisable to pinch out the flower-spikes if the plants are healthy, with the object, may be, of getting them quickly into a stronger condition; because they will invariably send up other flower-spikes, greatly to the detriment of the plants. It is far better to let the first blooms fully expand, and then remove the spike, keeping the plant so treated dormant till the proper growing season commences. Specimens with long flower-spikes must not be kept too close to the roof of the house, or the end of the spikes may decay by reason of the cold air passing between the laps in the glass. All of the green-leaved varieties, as P. Marie. P. tetraspis, P. violacea, P. Luddemanniana, &c., should be carefully protected from the sun's rays even during the winter. If the summer shadings have been removed, these species should be so placed that they may be permanently shaded by plants with large foliage.

THE FLOWER GARDEN.

By Hedley Warren, Gardener, Aston Clinton, Tring.

General Operations.—During mild weather the principal work will consist of transplanting deciduous species of trees and shrubs, and during weather unsuitable for outside work of most kinds, the collecting and burning of garden-refuse, trimmings, &c., may be proceeded with, the ashes from which form an excellent dressing for lawns in poor condition, or for flower-beds and borders. Garden walks should now be turned or otherwise dealt with, so that the surface may be bright, smooth, and hard. It is very essential that the catch-pits, gratings, and grips for conveying surface-water away are put in good order, otherwise water will pass through the gravel, making it soft, and unfit for walking upon for a long time after rain has ceased to fall, or it will cause runnels in the surface and much labour in putting matters right. The grating laid over catch-pits need not be large, unless the walks are very broad, and the descent rapid, otherwise they are too conspicuous, a suitable size for an ordinary walk being 6 inches square. The pits beneath the gratings should be of brick, and carried 6 inches lower than the drain-pipes.

Bedding plants, such as Violas, Verbenas, Calceolarias, Antirrhinums, &c., should be fully exposed to the air during mild weather, removing the lights or other coverings altogether. Bedding Pelargoniums should be very carefully afforded water, and decaying leaves and flower-stems should be promptly removed, otherwise the plants themselves may decay, especially if they are being wintered in fruit houses, to which artificial heat cannot be afforded them for a time.

Dahlias.—The roots should now be lifted without injuring them more than can be helped, and laid out to dry before storing them away; the stems should be cut down to within 6 inches of the tubers. The labels should be fastened to the tubers with fine copper wire or stout string, not to the stem, the latter almost invariably becoming detached from the root when thoroughly dry. The roots will pass safely through the winter if stored in a dry cool house or shed, where frost can be excluded.

Roses in masses, and of one variety, are seen to greater advantage than beds consisting of many varieties, or when planted in straight lines or rows. Those who have adopted the former style of planting, either of H. P. or Teas, will be aware of the gain in a finer display of colour. Although such varieties of H. P. as La France, Captain Christy, Alfred Colomb, Paul Neyron, and others, are excellent for this object, yet the hardier varieties of Teas appear to be more suitable in most gardens, succeeding as they do in light soils, and being to a greater degree proof against mildew, and more continuous flowerers than the H. P. varieties, and not losing their foliage so soon as the latter. Should the weather be severe, some loose litter or bracken should be distributed among the plants. One of the best rose-coloured varieties for bedding is Madame Lambard, and although it varies in colour, it must still be classed as one of the best, and especially as this colour in Teas is somewhat scarce. It is of hardy constitution, free in growth, and a good bloomer. Among the light-coloured varieties, Marie Van Houtte is one of the best, resisting mildew, and of good habit for massing; its pale lemon-yellow blooms are acceptable in all stages of growth, being useful for a variety of purposes. Of the flesh or bronzy-rose coloured varieties, Anna Olivier must have the first place, this variety being of splendid growth, very free-flowering, and hardy. As to pruning, this last-named Rose does not seem to be at all particular, as flowers are freely produced under any circumstances. Perle des Jardins is a good yellow variety, but it cannot always be depended upon unless the situation is somewhat sheltered. Madame Hoste, Jean Ducher, Hon. Edith Gifford, Catherine Mermet, and Madame de Watteville are desirable varieties, of vigorous growth and habit.

FRUITS UNDER GLASS.

By W. Pope, Gardener, Highclere Castle, Newbury.

Cucumber Plants.—The application of water must now be more sparing, just sufficient being afforded to keep the soil moist, aërial moisture being obtained by sprinkling the paths, walls, &c., every morning, and in the early afternoon when the day is bright. The water used should be not of less warmth than the temperature of the air of the house, the same holding good of soil employed for top dressing the bed from time to time. Afford a slight quantity of top ventilation when the weather is mild; maintain a night temperature of 70°, except during very cold or windy weather, when a fall of a few degrees may be allowed, which is better practice than heating the hot-water pipes too severely; the day temperature may range from 80° to 85° with sun-heat. Crop lightly, or the plants will be weakened. Keep the young growths regularly stopped, and be sure that thrips and other injurious insects are kept in check.

Pine-apple.—The plants which are carrying fruits that will ripen early in the new year, which have attained full size, must not receive much water, nor, on the other hand, be kept very dry at the roots. Each pot should be examined once a week, and if water be needed, enough should be applied to keep the soil moist, but not wet. When the fruits begin to colour, especially the Smooth Cayenne, withhold water altogether, or the fruits may become black at the core, more particularly if kept for a while after becoming ripe. Keep the temperature of the fruiting-stove about 70° by day, giving a small amount of air when it can be kept at that height with sunshine. The bottom-heat should be steady at 85° to 90°, and do not let the air become parchingly dry, which it is apt to do now that more artificial heat has to be used, but sprinkle the paths, &c., and other surfaces frequently, not wetting the hot-water pipes. If any of the late varieties show signs of starting into fruit, the plants should be placed by themselves where a little higher and moister temperature and bottom-heat of 85° to 90° can be afforded. Keep them from getting dry at the root, but do not overwater them.

Successions.—Plants intended to start into fruit in early spring should be kept somewhat cool and dry, 55° to 60° will be warm enough according to the state of the weather; and if these plants are plunged in deep beds of moist tan, or leaves, and not too near the hot-water pipes, they will require very little water for the next six weeks—but if plunged in shallow beds with hot-water pipes close under them, water will be oftener required.

Suckers, if potted up in the early autumn, and well rooted at this date, should be kept quiet for the next two or three months, affording the pit liberal ventilation whenever the weather is favourable, with a night temperature not exceeding 60° when mild, and 5° less when cold and frosty. Merely afford enough water to keep the plants healthy. Recently-potted suckers in low, light pits may be kept 5° warmer, so that they make a little growth throughout the winter, affording them plenty of room, and also a little air daily whenever possible. During frosty nights a covering of mats or Frigi-domo over the glass, where it can be applied, is a great help in keeping an uniform temperature, and much better for the plants than hard firing.

Campanula rotundifolia.—Surprise is often expressed at the name given to this Hare-bell, inasmuch as the rounded leaves are frequently not to be seen. In fact, they perish early, leaving only the linear-lanceolate leaves visible. Goebel, according to a note in the *Botanical Gazette*, has been enabled, by diminishing the light, to cause the shoots to produce round leaves exclusively until more strongly illuminated, when they form long leaves.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the PUBLISHER.

Letters for Publication, *as well as specimens and plants for naming, should be addressed to the* **EDITOR, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

APPOINTMENTS FOR THE ENSUING WEEK.

SATURDAY,	Nov. 14	Royal Botanic Society Meeting.
SUNDAY,	Nov. 15	Ghent Chrysanthemum Show.
TUESDAY,	Nov. 17	Chester Paxton Society's Fruit and Chrysanthemum Show. Chrysanthemum Show at Birkenhead.
WEDNESDAY,	Nov. 18	Chrysanthemum Shows at Newcastle, Bristol, and York (York Florists).
THURSDAY,	Nov. 19	Chrysanthemum Shows at Edinburgh, Barnsley, & Leamington.
FRIDAY,	Nov. 20	Chrysanthemum Shows at Manchester Town Hall, and at Alderley Edge.

SALES.

MONDAY,	Nov. 16	Dutch Bulbs at Protheroe & Morris' Rooms. Bulbs, Plants, and Liliums, at Stevens' Rooms.
TUESDAY,	Nov. 17	Dutch Bulbs at Protheroe & Morris' Rooms. Great sale of 22,000 Orchids, at Perry Barr, Birmingham, by order of Mr. A. Vanden Bogaerde by Protheroe & Morris (two days). Important consignment of Japanese Lilies; also Azaleas, Roses, &c., at Protheroe & Morris' Rooms. Poultry, at Stevens' Rooms.
WEDNESDAY,	Nov. 18	Dutch Bulbs at Protheroe & Morris' Rooms. Clearance sale of 150,000 Fruit Trees at Perry Hill, Cliffe, Rochester, by order of Mr. W. Horne, by Protheroe & Morris. Roses, Fruit Trees, Shrubs, Plants, Lilies, Dutch Bulbs, &c., at Stevens' Rooms.
THURSDAY,	Nov. 19	Dutch Bulbs at Protheroe & Morris' Rooms. Twenty-five cases of Orchids received direct, Liliums, Bulbs, &c., at Stevens' Rooms.
FRIDAY,	Nov. 20	Dutch Bulbs at Protheroe & Morris' Rooms. Orchids from Messrs. F. Sander & Co., at Protheroe & Morris' Rooms. Miscellaneous Property at Stevens' Rooms.
SATURDAY,	Nov. 21	Dutch Bulbs, at Stevens' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—41·9°.

Camoensia maxima.

WE had the pleasure last week of recording the simultaneous flowering of this noble tropical climber at Kew, in the gardens of Mrs. WINTHROP, Barton Court, Hungerford, and in those of Mr. WOODALL, of Scarborough. It was introduced into cultivation by Mr. WM. BULL, and flowered for the first time in this country in the garden of Mrs. RUDDLE, The Mythe, Tewkesbury; see *Kew Bulletin*, 1894, p. 402; *Gard. Chron.*, January 12, 1895, p. 44. It also flowered in 1882 in the Trinidad Botanic Garden, and in 1894 in the Peradenyia Botanic Garden, as we mentioned last week, but it was not till a few days ago that we had the opportunity, thanks to Mr. BULL, of seeing the flowers which were produced in the garden of Mrs. WINTHROP, Hungerford (gr., Mr. CONN), and from which the accompanying illustrations (fig. 105, p. 597, and fig. 106, p. 601) were taken.

The plant upon which this genus was founded was discovered in Angola by the late Dr. WELWITSCH when in the Portuguese service, and by him, in was in consequence, named after the famous Lusitanian poet. The genus was adopted by Mr. BENTHAM in the *Genera Plantarum*, and was more fully described by him in the *Transactions of the Linnean Society*, with a beautiful illustration by FITCH, taken from the dried specimens.

It is a climbing shrub, "common in dense forests of the Golungo alto, adorning the loftiest trees of the outskirts with its splendid bunches of pendulous milk-white flowers, tinged with gold on the edge of the petals" (*Welwitsch*).

The specimen before us is slightly puberulous, with long-stalked tri-foliolate acuminate leaves, minute stipules, and close racemes of flowers, which, under cultivation, are erect rather than pendulous, as originally described and figured, but which, when growing over tall trees, as described by Dr. WELWITSCH, might well be pendent, as he describes them. The inflorescence and outer portion of the calyx are thickly covered with dense, felted, coarse brown hairs. The bracteoles are about half an inch long, lanceolate, deciduous. The calyx-tube, measuring about 2 inches in length, is leathery, cylindric, curved, dividing into a relatively short, irregularly five-lobed limb, of which the thick segments are imbricate in the bud. The five petals, which are twice the size of the calyx, spring from the throat of the calyx, all have long, white, narrow stalks, and all expand above into a spoon-shaped limb, somewhat papery in texture, plicate and crumpled in the bud, reticulate in venation, and edged with a narrow border of rich orange or yellow, which Mr. WOODALL describes as tipped with gold lace, so delicate and fairy-like is the frilled edging. The uppermost petal, or standard, is much larger than the others, and has the inner surface of the disc as well as the margins flushed with yellow. The side-petals or wings are at first upright and rigid within the standard, but as the artist remarked while making his sketch, they are endowed with elasticity when touched by the pencil, and after the discharge of the pollen they become drooping. The two lower petals and the stamens are also at first quite rigid, but subsequently fall. The snow-white stamens are shorter than the petals, ten in number, forming a tube at the base, filamentous above. The narrow angular ovary is stalked, its stalk adherent to the tube of the calyx for its lower half The cylindric style is slightly hairy at the upper part, and terminates in a green, cushion-shaped stigma.

The flowers have a delicate fragrance, which has been compared to that of Vanilla. The yellow colour of the edge of the petals is apparently due to the presence of a colouring matter in the four or five rows of cells nearest to the margin. Those at the extreme edge are raised into pimple-like elevations, whilst those on the surface of the disc of the petal are flat and sinuous in outline, containing in some cases oil in small quantities and minute starch grains, or some substance faintly coloured blue by iodine.

The thin texture of the petals causes them to be fugacious, and the golden rim which is so beautiful an adornment to the frilled edge very soon turns to a dirty brown. These circumstances detract greatly from the value of the flower in a gardener's eyes, but it must be remembered that the flowers are in clusters and open in succession, and that when grown as seen by WELWITSCH in Angola, they no doubt amply justify his eulogium.

The full botanical details relating to this fine climber are given in the works cited in the foot note. The illustrations by Mr. WORTHINGTON SMITH, figs. 105, 106, with the notes here given, preclude the necessity of further description; but the following particulars extracted from the communications with which Mr. WATSON, Mr. CONN, and Mr. WOODALL have favoured us will be read with interest:—

Mr. CONN has his plant growing in a small bed 15 inches across, 30 inches long, and 22 inches deep. The compost consists of loam, with a little peat and charcoal intermixed. In this the plant makes strong growth. Mr. CONN has five heads of bloom, which are erect. Mr. CONN adds that it is really a magnificent climber, with its large deep green leaves.

Mr. WOODALL says:—

"Mr. THISELTON DYER kindly gave me a young plant three years ago, which I planted out when big enough, in a stove border, where it is now in flower. There are two large bunches of its large but sadly flimsy and evanescent white flowers open. It is deliciously fragrant, and were it only less short-lived would be well worth growing; as it is, the flower seems hardly to last six hours, and its milky-white colour is not relieved by any other shade or tone. The foliage and growth of Camoensia maxima is so fine, that it is to be regretted its enormous flowers are of so little value from a gardening point of view."

Mr. WATSON writes:—

"The flowering of this plant simultaneously in three gardens in England is an event of some interest, seeing that it has been in cultivation since 1873, when seeds of it were sent to Kew by Mr. J. MONTEIRO, of Angola. The first record of its having flowered under cultivation was in 1882, when a plant bloomed in the Trinidad Botanic Garden, then under the superintendence of Mr. H. PRESTOE. The Kew plant has developed several racemes, one of which has been cut to be figured in the *Botanical Magazine*, and afterwards to go into the herbarium; a second raceme will be at its best in a few days, and there are others less advanced. The racemes are terminal on ripened branches, and they are erect (not drooping, as hitherto believed). It may be said at once that the Camoensia is not likely to be of any value as a market plant; at the same time it is one of the most beautiful of all tropical Leguminosæ, and where room can be afforded for it, no plant has a stronger claim upon those who love flowers that are truly beautiful Mr. MONTEIRO, to whom we are indebted for the introduction of this and many other African rarities sent by him at different times to Kew from Angola, thus writes of the Camoensia in his interesting book *Angola and the River Congo* (MACMILLAN, 1875):—

'It was at Quiballa (a large town situated on a low flat-topped hill on the northern limit of Angola) that we were so fortunate as to obtain specimens of the flowers, and a quantity of ripe seeds of the beautiful plant, named Camoensia maxima by its discoverer, Dr. WELWITSCH. We saw it growing along the sides of the road as soon as we left the gneiss formation and entered on the mica slate; but most abundantly in the more bare places on the sides of the hills at Quiballa, in the very hard clay of the decomposed mica slate.

"'The Camoensia grows as a hard, woody bush, with rather straggling long branches, covered with fine large leaves, and bearing bunches of flowers . . . Its roots spread underground to great distances, and shoot out into other plants, so that, on attempting to remove what we thought were nice small plants, we always came on great thick roots, which we followed and found to proceed from old bushes at a considerable distance . . . Half-a-dozen of the seeds germinated on arrival at Kew Gardens, so that I hope this lovely flower will be shortly in cultivation, a welcome addition to our hothouses.'

"At Kew, the plant behaves exactly as described in the above extract, the bed in which it is planted

* *Camoensia maxima*, WELWITSCH, ex BENTHAM in *Genera Plantarum*, i., 557 (1865), and in *Transactions of the Linnean Society*, vol. xxv., 1866, p. 302, tab. 26.



FIG. 105.—CAMOENSIA MAXIMA: PORTION OF INFLORESCENCE, AND MILK-WHITE FLOWERS, WITH A FRILLED EDGE OF GOLD COLOUR.
(SEE P. 596.)

being a mass of thick woody roots, from whence numerous suckers spring. These, however, are not allowed to grow, the specimen being limited to about five stems, the thickest being now nearly 2 inches in diameter, and very hard. The longest shoots are about 12 feet in length, and they are almost wholly clothed with bright green trifoliate leaves. New shoots are developed freely all over the plant, and to keep it from becoming a thick tangle, many of these are removed annually. It is planted in a hot, moist stove in a raised border of rich well-drained loamy soil, below which there are several hot-water pipes. The stems are trained on wires close to the roof of the house, which is somewhat flat, and faces due south. During bright sunshine the house is shaded with an ordinary canvas-blind. This plant has been in this position for about ten years, and all sorts of experiments have been made to induce it to flower; but although it has always grown most vigorously, it has never shown any signs of flower before this year. Plants tried in the large Palm-house and other tropical-houses, including the Succulent-house, were not so successful. If planted in a suitable position in a tropical garden this plant would soon cover an enormous area. We intend to put in cuttings of the branches which are now in flower, in the expectation that they will respond more readily to treatment for flowers than has been the case hitherto. It would be interesting to hear if the plants in Trinidad and Ceylon have flowered regularly since they first yielded. Probably the exceptional amount of bright sunshine enjoyed in this country during the early part of the past summer had a great deal to do with the flowering of the Camoensia."

LINNEAN SOCIETY.—An evening meeting will be held on Thursday, Nov. 19, 1896, at 8 P.M., when the following papers will be read :—I. "On the Structure and Development of the Hyobranchial Skeleton and Larynx in Xenopus and Pipa, with remarks on the Affinities of the Aglossa," by Mr. W. G. RIDEWOOD, B.Sc., F.L.S. II. "Amphipoda from the Copenhagen Museum and other sources," by Rev. THOS. R. R. STEBBING, F.R.S., F.L.S.

HORTICULTURAL INSTITUTE.—The following letter needs no explanation. We have others relating to the same subject which we shall publish later on :—

"The representations contained in my letter, which appeared in the last issue of the *Gardeners' Chronicle*, have received the strongest support, by the remarks made at the banquet of the Chrysanthemum Society on November 3, by Sir TREVOR LAWRENCE and F. A. BEVAN, Esq. These gentlemen deserve our best thanks for their outspoken disapproval of existing arrangements, and the note of encouragement they have given for united action towards the establishment of a Home of Horticulture. The time is ripe for prompt action, and this era in our nation's history cannot be more suitably celebrated than by the inauguration of such an institution. Will you kindly grant space in your columns for correspondence upon this most important question, viz., the establishment of a Home of Horticulture, with a view of convening a meeting at an early date to devise ways and means?—JAMES L. WOOD, Oakleigh Park, Whetstone."

THE THREATENED SCARCITY IN INDIA.—We understand that the Secretary of State for India has shipped some thousands of sacks of vegetable seeds suitable for growing in the districts of Northern India that are threatened with scarcity. The selection, packing, and shipping were accomplished by Messrs. CARTERS, the Queen's seedsmen, London, in the short space of nine days.

ROYAL HORTICULTURAL SOCIETY OF IRELAND.—At the Chrysanthemum and fruit show of the Royal Horticultural Society, which opened at Ball's-bridge, Dublin, on Wednesday afternoon, November 4, the exhibits shown as not for competition included a collection of fruit, consisting of nearly 200 dishes from the Royal gardens at Frogmore. Her Majesty's head gardener went over specially to see the fruit staged, and HER MAJESTY directed that at the close of the show the fruit should be sent to the Hospital for Incurables at Donnybrook for distribution among the inmates.

BIRMINGHAM AMATEUR GARDENERS' ASSOCIATION.—The above association held its second annual Chrysanthemum show at the Technical School, on the evening of Nov. 6. Councillor R. F. MARTINEAU (Vice-president) occupied the chair, and there were also present Messrs. J. W. OLIVER (Vice-president), R. F. REES (hon. Treasurer), W. B. GRIFFIN (hon. Secretary), Hy. HILL, &c. The exhibits were far more numerous than last year, but on account of the early date and the rather unfavourable season, the flowers were not so large nor so good in colour as in average seasons. Messrs. W. H. PEAKE and J. MILLER both exhibited some excellent stands, the former taking no fewer than three firsts.

STOCK-TAKING: OCTOBER.—Much disarrangement of trade has been caused by the Presidential campaign in the United States, and a bad influence has been exercised on our markets by the imminence of a famine in India, and bad harvests in Australasia and Russia. The top price of Wheat went up some 10*s.*, other qualities sharing proportionately in the advance. The Presidential campaign has ended, as all know, and business men are now engaged making up for lost time, so that we may expect the Board of Trade Returns for November to show a much better state of trade than is indicated by the Returns now under notice, good though they are in their totals. The following is our usual extract from the "summary" table of imports for the past month :—

IMPORTS.	1895.	1896.	Difference.
	£	£	£
Total value ...	36,859,868	39,576,290	+2,716,422
(A.) Articles of food and drink — duty free	12,411,811	13,631,415	+1,219,604
(B.) Articles of food and drink—dutiable	2,832,950	3,295,672	+462,722
Raw materials for textile manufactures	4,037,542	5,167,994	+1,130,452
Raw materials for sundry industries and manufactures	4,528,819	4,548,091	+19,272
(A.) Miscellaneous articles	1,254,295	1,385,402	+131,107
(B.) Parcel Post ..	78,958	93,540	+14,582

The increase in the imports of duty-free articles of food is very significant, and in the section devoted to Corn we note that Wheat has gone up by 694,320 cwt.; Oats by 646,190 cwt.; Maize by 1,671,920 cwt. Increased imports are also to be noted in metals, viz., £60,899; in Tobacco, of £137,179. In fruits, roots, and vegetables, we have the following entries :—

IMPORTS.		1895.	1896.	Difference.
Fruits, raw :—				
Apples ...	...bush.	479,121	1,602,403	+1,123,282
Cherries ...	... ,,	...	...	...
Plums ...	... ,,	23,756	9,242	—14,514
Pears ...	... ,,	40,093	38,255	—1,838
Grapes ...	.. ,,	346,418	298,242	—48,176
Unenumerated	... ,,	114,990	115,381	+391
Onions ...	... ,,	745,237	786,991	+41,754
Potatos ...	... cwt.	62,806	25,036	—37,767
Vegetables, raw, unenumerated ...	.. value	£74,820	£77,081	+£2,261

The extraordinary figures relating to Apples are accounted for by the fact that America has sent £257,000 in excess of that recorded previously. The total imports for October foot up at £39,576,290, against £36,859,868 for the same period last year—a gain of £2,716,422. The imports for the ten months of the present year show a total of £355,926,761 against £340,752,582 for the same months in 1895—a gain of £15,174,179.

THE EXPORTS

for the month amount to £20,654,997 against £20,828,866 in October, 1895—a decrease of £173,869. The causes for the small decline are easily to be found—some of these being removed, we may look forward to an alteration in the totals in next month's returns. By the way, the exports for the past ten months show a total of £201,091,150, against £187,449,303 for the same period last year, an increase of £13,641,847. Some consular agents have in time past sent home warnings concerning British commercial representatives abroad; the warning now is about having continental agents for British firms in foreign cities, where clerks develop into importers, to the loss of the trusting exporter. Who is the fitting man?

THE LAND OF THE DRAGON TREES.—Dr. MORRIS has been lecturing on this subject before the members of the Richmond Athenæum. The lecturer descanted on the appearance and history of the famous Dragon tree, of which we believe the only authentic illustration appeared in our columns, p. 765, vol. for 1872, those given in other works being artistic representations made from memory or from imperfect material. The *Thames Valley Times*, of Nov. 4, contains a full report of the lecture, which was illustrated by lantern slides.

CHRYSANTHEMUM TYPES.—The last number of the *Florists' Exchange* contains an article on this subject from the pen of Mr. LEONARD BARRON, accompanied by illustrations. Mr. BARRON adopts the following groups :—Incurved Chinese, Incurved Japanese, Reflexed Chinese, Reflexed Japanese, Pompons, Anemone-flowered, Singles, with various minor sub-divisions.

CHRYSANTHEMUMS AT RAVENSCOURT PARK, HAMMERSMITH.—Now that at many of the parks under the control of the London County Council special structures are erected for these popular flowers, the hint might be taken to do something of the kind at Hammersmith, where the flowers are grown (creditably enough under the circumstances) in an antiquated conservatory—quite unfit for cultural purposes, and heated by an oil-lamp.

TO MATURE UNRIPE TOMATOS.—According to M. CHEMIN in the *Annals of the Horticultural Society of the Department of Haute-Marne*, the following simple expedient suffices to ripen off a crop of Tomatos. If the weather has been unfavourable for ripening of the fruit, the plants should be pulled up when the most of the fruits have reached full size, and laid horizontally on a layer of clean straw in a sunny place, and without any further trouble the fruits become completely ripe, and retain their peculiar fine flavour. In this country, we do much the same kind of thing, with the difference that the plants are put under some kind of glass protection.

HOME CORRESPONDENCE.

APPLEY TOWERS GRAPE.—Anent this Grape, an article upon which appeared from the pen of "A. D." in your issue of the 3rd inst., I may say that at the Fruit Show of the Horticultural Department of the Royal Agricultural and Horticultural Society of Jersey, held on the 15th ult., Mr. A. Davidson of Constantia Lodge, St. Clement's, Jersey, exhibited several well-finished bunches. Examples of this particular variety have on several occasions come under my notice when judging fruit, and I have thought little of its value as a market Grape; but the excellence of Mr. Davidson's exhibit has quite changed my opinion regarding it. During over twenty years' experience as judge at the shows held in this Island, I have never seen superior Grapes. This led me to seek an interview with the exhibitor, and I found that this gentleman a few years since purchased some Vines of the variety, and having several in his houses for which he cared little, including Canon Hall white Muscat, white Gros Colmar, Barbarossa, Muscat Hamburgh, and others, he inarched the variety Appley Towers upon them. He has it also on its own roots, and I was informed that the best bunches exhibited at the above show were cut from the Vines worked on the Canon Hall stock, while the fruit from that on the Muscat Hamburgh, and also from Appley Towers on its own roots are smaller in every way. Mr. Davidson is so impressed with the value of this Grape, more especially as to its cropping and colouring qualities, that he predicts in the near future that it will supersede in public favour one of its parents viz., Alicante, as also Gros Maroc and others of similar type. Another point in its favour, and one not to be overlooked in such dry seasons as the past, is the fact that it withstands red-spider, so much so

that growing promiscuously with other varieties, which were badly affected with it, the foliage of Appley Towers remained perfectly green. As to a description of the bunches exhibited at the above show, they were of fair size, averaging 2 lb. in weight; the berries were large, somewhat of the Gros Maroc shape, and the colour and bloom perfect. As in the case of Mr. Bowerman's Vines referred to by "A. D.," each bunch has a single shoulder, so that evidently this is a characteristic of the two varieties said to have been raised from the same berry, viz. Lady Hutt and Appley Towers. *P. F. L. S., Jersey.*

GROS MAROC AND COLMAN GRAPES.—The idea of putting Gros Maroc before Colman is a novel one—at least, to northern gardeners. At exhibitions, in shops, for consumption in private families, Gros Maroc is mostly in bad repute; still, when the appearance of a Grape is the object, none is more beautiful than Gros Maroc, but their coarseness of pulp and ordinary flavour are much against it, and when purchasers have become acquainted with these defects, they ask for a more palatable variety. Gros Colman is sometimes objected to by owners of gardens, but this is because the fruit is sent to table before it is fully ripe; for my part I never cut them for dessert till they have hung six or eight weeks after they are fully coloured. Gros Maroc I have grown for many years, and have always found it to crop capitally, and make strong canes and foliage, resisting attacks of disease and insects better than most varieties. Reverting to Gros Colman, it will be conceded that it takes more prizes during November at northern shows than any other Grape, and those persons who have seen the examples shown by Mr. Leslie, of Perth, which invariably take many of the leading prizes at Glasgow, Edinburgh, Dundee, Perth, and other places, will admit that these Grapes have few equals in the North. I also know how the fruit tastes, as I have often had to judge them. The exhibits (not for competition) which have from time to time come from Clovenfords tell the same tale. I could grow them more easily in England than in Scotland by reason of the greater amount of solar heat enjoyed during the autumn months, but I can get them quite as well-flavoured in the north. Mr. Leslie has, in his vineries at the present time, as fine crops of Gros Colman as may be seen, and while there lately on a visit, I could not but admire his Grapes of all kinds. Muscat of Alexandria and Alicantes were remarkably good, and I expect to see Mr. Leslie taking leading position at the shows. I have been to see another "northern champion," who took six 1st prizes at Edinburgh in September—I mean Mr. Rutherford, the gardener at Airthrey Castle, near the Bridge of Allan. Gros Colman does not stand high at Airtbrey—Muscats, black Hamburgh, Duke of Buccleuch, and some others, are the varieties most appreciated there. It is more than probable that Gros Colman has not been fairly tested, that is, leaving them long enough on the Vines before cutting them for the table. A late vinery is being planted there (at Airthrey), and very probably Mr. Leslie may find a foeman worthy of his steel at late shows, as he has already found at the summer and autumn shows. Neither of these exhibitors crops lightly; still, the crops of Grapes they obtain are of finest quality. *M. Temple, Carron, N.B.*

—— I was pleased to observe Mr. Turton's remarks on this fine Grape, which has always been a favourite of mine, and if at any time I should have another opportunity of putting up vineries, I shall certainly endeavour to have one house (not too large) especially for Gros Colman, as I consider it a kind of Grape worthy of high cultivation. Many persons find fault with its flavour, but proper treatment makes a wonderful difference, as does grafting the Vine on Black Hamburgh stock, which considerably improves the flavour. If Gros Colman had the good keeping qualities of Lady Downes, it would, no doubt, be more commonly grown than it is. I do not know much concerning white Gros Colman, a variety which was raised a few years ago, and should be much obliged by a few remarks from any one of the readers of the *Gardeners' Chronicle* who may have grown and fruited it. *A. J. Long, Wyfold Court Gardens.*

—— Your correspondent "Vinitor" lacked success in growing Gros Colman Grapes fit for the palate, as we learn from his letter in the *Gardeners' Chronicle*, contrary to his own interest he has become prejudiced against Gros Colman, as is evidenced by the many accusations that he brings against it. As I have always held a contrary opinion (my experience with it extending from 1873), I am sending herewith a bunch of each of the two varieties, when your opinion as to which variety the description "Vinitor" gives of the quality of Gros Colman really applies will be accepted as being correct. The Vine from which the bunch of Gros Maroc was taken is worked on a Black Hamburgh, and the fruit is of much better flavour than when it is grown on its own roots. Trusting to my own long experience of Gros Colman, I have not referred to Mr. Barron's book on the Vine for his account of the two varieties in question. I may, however, be permitted to add that the finest house of Gros Colman I have ever seen was at Chiswick, and it was, I believe, the same year that the Apple Congress was held there. Apart from the exhibition of Apples, nothing in the gardens at that time attracted so much attention among gardeners as the house of Grapes. If Mr. Barron failed to get sufficient sweetness into the fruit to give him a good opinion as to its quality. I should say that the house in which they were growing was at fault. It was to the best of my recollection a long narrow house with short flat roof, and high upright front. The vinery in which Gros Colman is grown in the gardens at Maiden Erlegh, is just the reverse of the Chiswick house, having a very sharp-pitched roof, and is a very light house. *T. Turton, Maiden Erlegh.* [Gros Maroc was the better Grape in flavour. Ed.]

EXHIBITING GRAPES AT THE CRYSTAL PALACE.—In arranging the competitive tables for Grapes at the Crystal Palace, they should be so put as to have the exhibits to face one way only. The four-sided tables at present in use are of great advantage to some exhibitors, and as great a disadvantage to others. If my recollection of the tables be correct, the square ones held twelve bunches of Grapes on each side, and the sides faced the points of the compass. The exhibitor who stages his fruit on the north-west side, has an advantage over those staged on the south-east side, because the roof of the Palace being of glass (if the day happen to be fine), the rays of the sun will shine on the Grapes that are staged on the south and east sides, whereas those on the other side will not have as good a light, and all the less if tall pot-plants stand in the middle of these tables, as was the case in 1894. Nevertheless, Grapes of good colour can be judged in bright sunlight, and will lose nothing by it; whereas badly-coloured Grapes will lose by judging them in the same light. All good judges prefer to expose them to as much light as possible before giving a decision. The judges who act at the Crystal Palace shows with tables arranged as above shown, labour under a great disadvantage, especially when there is little difference between twelve, six, or three bunches of Grapes, when the fruit is placed on opposite sides of the table, one lot being in the shadow, and the other in the light; and it will sometimes happen that the exhibits in the same class are staged on a different table. It is probably not needful to point out any more errors, to have them remedied. The Royal Horticultural Society will surely make arrangements in time to accommodate exhibitors another year. The better way would be for the tables to be placed in the nave of the Palace with one face only, as by such an arrangement the judges would be better enabled to carry out their duties. I endorse "A. D.'s" remark on trimming the bunches of Grapes, and I use the scissors very freely in trimming the bunches and shaping most varieties of Grapes, especially if the bunches are large with heavy shoulders. A large loose bunch with large berries and finely finished is not a perfect bunch of Grapes; whereas, a smaller bunch that has been trimmed will be lighter in weight, but firm and compact, and may be large in berry and finely finished, and will be considered a perfect bunch. Nevertheless, a large, heavy bunch of Grapes, if other points are good, is very difficult to beat. It should have symmetry of bunch, size of berry, and finish, to be perfect. *A. Kirk, Norwood, Alloa, N.B.*

POTATOS.—In the matter of Potatos, whether large Potatos or many, is it worth your while to record, as may truthfully be done, that Mr. Edward Vinall, of this parish, recently found upon a single root seventy-four Potatos, whose combined weight was twelve pounds and a half! *Archibald Constable, High Hurstwood Vicarage, Buxted, Oct.* 20, 1896.

AMPELOPSIS VEITCHII PURPUREA.—This is one of the very best climbing plants for summer as well as autumn effect. As a single specimen, or associated with evergreen plants, it is much admired. Its long growths are useful when cut in decorations of all descriptions. The plant is perfectly hardy, thrives in a good sandy loam, and makes a rapid growth if mulched once a year with a rich compost. It would be effective if planted at the base of some of the forest trees near to woodland walks or pleasure-grounds, where the shade is not too dense. Here we have Ampelopsis hederacea in such positions, and at this season of the year it is lovely. *Herbert May, Markree Castle, Sligo.*

CHRYSANTHEMUM, BEAUTY OF TEIGNMOUTH (*Pride of Madford*).—Mr. Godfrey's notice in your last issue only partly explains the anomaly of this variety having been Certificated under two names, and Mr. D. C. Powell at page 558 does not throw much light on the matter. That it was grown in Sydney under the name of Pride of Madford prior to October, 1895, I can positively assert, and the dull red thing I never saw there under that name. The question arises, did the two varieties sent to Teignmouth get interchanged, or was the wrong variety sent over from Victoria to Sydney? Possibly the blooms certificated here as Pride of Madford were grown from Sydney stock. That they are one and the same there is not the shadow of a doubt. I am not a Chrysanthemum fancier—probably could not identify six whites if my life depended on it—and was quite unaware beforehand of the confusion which had arisen; yet, on going through a collection of Chrysanthemums lately, I immediately recognised Pride of Madford as grown in Sydney in what is here known as Beauty of Teignmouth; and this I remarked to the grower. He then pointed out to me the dull red variety originally supposed to be the genuine Pride of Madford. Chrysanthemum growers—especially those in Sydney—will be interested to know which name it is best entitled to, and by which it will be known. So much for the comic side of the medley. Now let us regard the matter from a more serious aspect. Buyers will probably in many cases have ordered the variety under both names, and, but for a timely explanation, might assume they had been "got at." I am sending to my Sydney friends in June some presumably good things from among the newer varieties, and might possibly have sent Pride of Madford back to the land of its birth, where—should it have survived the voyage of 12,000 or 14,000 miles—it would have been consigned to the rubbish-heap with small thanks to me for sending, however good, what was already there in abundance. *C. Bennett, Warblington, Havant.*

NEEP'S WHITE, YELLOW, GOLDEN, BEET-TURNIP, AND CARROT-ROOTED RED GLOBE ONION.—Permit me to thank your genial and obliging correspondents for their contributions on this interesting and by no means unimportant subject. For many years I have been more or less familiar with the vegetables, &c., grown on both sides of the Tweed. As judge, horticultural lecturer, observer, reporter and cultivator, I have noted with interest the rise and fall of not a few varieties, but had never seen such a complete change of colour and form on the two sides of the Tweed as was so prominent and pronounced at the last great Waverley show of the Royal Caledonian Horticultural Society last year. Having judged at the Palace and several other shows, and also seen many gardens shortly before, the change was the more conspicuous and apparent. Naturally I enquired the reason why. With every desire to be thankful for small mercies, in this matter, however, I can hardly pronounce the answers as exhaustive or decisive. For example, I wholly demur to the statements that Turnip-rooted Beet, carefully selected and well cultivated, is inferior in quality or less sightly in salsd than the long-rooted. Neither have I yet seen any Beet in Edinburgh equal to the finer samples grown and shown in the South. The Golden Globe and other yellow Turnips shown in Edinburgh were models of form and quality. But what not a few call superior flavour to white, is simply, too much Neep, such as others, and the majority of French *chefs*, designate harsh and strong. It may be admitted that culture is the dominant factor in the flavour alike of Neeps and Beets, rather than form and colour, yet the correlation of flavour to colour is worth noting, and is at times probably far more potent than we imagine. But in not a few things the wide open eye leads us rather than our blind palates. Hence, perhaps, Golden Neeps have been preferred at times to Red Dutch, and Green-topped Stones. Neeps as white as the driven snow, and sweeter than a mild fresh Walnut. And then again crimson, or crimson colours rule the roast among Beets, though some may prefer greener, paler, or even the whiter strains of Sugar-Beet, this last being less earthy than most other Beets. The Red Globe Onion is also held by some to keep longer, and

rest or sleep more soundly than most other coloured Onions, golden or white. Is any one prepared with facts or proof that the warm colour helps the Red Globe, or other high-coloured Onions, to keep better. Again, is there any better reason than use and wont why we should insist on having our Onions white and our Beets crimson? Here, too, in Great Britain our Cucumbers must be green. Cross the Channel to Paris, and you will find many, perhaps most of them white and nasty. But the correlation of colour from size to flavour and quality were hardly raised in my first letter, which naturally noted the fact that, in the great vegetable show of the Royal Caledonian Horticultural Society in the Waverley Market, Edinburgh, few or no white Neeps, nor Turnip-rooted Beets, were to be seen or found. Your readers will, I am sure, agree with me that the questions put and answers given, have had considerable interest to producers and consumers alike. In "D. McL.'s" most interesting letter, the cook comes in to bar Turnip-rooted Beet, because the colour boils out of it, and its shape produces such ugly pieces as to spoil the look of the salad; and yet who has not seen this same cook manipulate cleverly with her knife, or a clever cutter's representations of Carrot, Neep, or other vegetable flowers for garnishing her dishes? If the cook will ask the dairyman who makes her butter-pats blossom as a Maréchal Niel Rose, he will show her how to make round discs of Beet look things of taste and beauty in her salad. One more point gave me special pleasure, that is, that the seedman's letter in the *Gardeners' Chronicle* of last week, in which he stated that the English firm with which he was connected sold nearly ten thousand packets of Beet last year. I care but little that 9000 of these were long forms, and 650 Turnip-rooted; but I rejoice that in Buteshire, and on both sides of the Tweed, consumers have learned to eat Beet, though I have seen but scant proof as yet, either in the shops or markets of Edinburgh, that Beet-eating is anything like so popular in the north as it is in the south. But if "Scot's" numbers may be accepted as an average, Beet may soon be as popular as Tomatos. *D. T. F.*

CYCLAMENS FAILING TO OPEN THEIR FLOWERS.—One can feel for "C. B. W." in respect to the failure of his Cyclamens. Twenty years since I had some Cyclamen plants which failed similarly, and, like him, I applied for advice to one of the horticultural journals, and received answers and advice in great abundance, but much of it conflicting—so much so, that putting the whole of the evidence I thus obtained together, I began to unravel the subject for myself. In my case the plants had been grown in 5-inch pots, and the corms were crowded with flower-buds, scarcely one of which expanded properly. They did not, as appears to be the case with "C. B. W.'s" plants, "remain buds," but those that got beyond that stage produced deformed blooms. Externally, my plants gave evidence of good culture, that is, they were clothed with handsome foliage, and about 10 to 12 inches across. Nor was this all, for on some of the largest I counted 120 buds, and a few of them had considerably more, which made matters more provoking, since both my employer and myself were looking forward to a fine display. "C. B. W." does not give the size of pot his plants are growing in, which would be useful information. Nor is anything said about the kind of soil used, and so forth. The temperature given is rather in excess of what is usually employed, a maximum of 50° by artificial heat being sufficiently high. The excess of heat, however, would scarcely cause the mischief, though it might produce weakly stems and leaves. I have but little doubt that the mischief is the result of a check which might be due to insufficient food supplies at the time when the flower-buds were forming, or at some subsequent period, when the buds were quite small. This view is materially strengthened by the fact that the buds "remain buds, and do not expand." Indeed, this is perhaps the most critical period for the Cyclamen, and a check or series of such at such a time cannot be remedied afterwards. It is at such time that the plants, provided these be in small pots, require constant care and watchfulness, and a wise step where such beautiful things are grown is to have a weak solution of liquid cow-manure and soot-water in readiness, and afford some of this twice weekly to the plants. If the plants referred to by "C. B. W." are one-year-old seedlings, there has doubtless been a check as stated; but if the corms are older, other causes may have assisted to the same end. My own plants were two and three years old, and I came to the conclusion that an impoverished condition of the soil, and a slight check combined, had contributed to their failure to bloom. The batches of plants raised subsequent to this mishap I watched very closely, and as soon as there were signs of buds forming, I took measures accordingly; and I never had another failure. I naturally concluded that I had solved the mystery in my own case, and I think there is little doubt that something near akin has happened to "C. B. W.'s" plants. I take it your correspondent has ascertained whether or not he has perfectly-formed buds on his plants, as this would be the surest way of arriving at a right conclusion in the matter; good buds would quickly respond to the application of a weak stimulant of soot and cow-dung, and nitrate of soda at the rate of one ounce to three gallons of water. But unless the buds are right, no treatment at the present time will avail, and this year's blooms will be lost. *J.*

CERTIFICATED DAHLIAS IN OCTOBER.—The fact that Awards of Merit were made to several varieties of Dahlias as late as October 13, almost marks a record. At the corresponding meeting of the Royal Horticultural Society in 1895, Dahlias were largely shown, but scarcely an Award of Merit was made to a new variety. The fact that Dahlias were so finely shown—for the Cactus, single flowered, and Pompon Dahlias were as good as we saw them early in September—emphasises the need for a meeting of the Floral Committee of the Royal Horticultural Society during the third week in September, and I hope the Council will see its way clear to arrange for one another year. It ought to be so, because so many good things are in flower between the first week in September and October 13, which cannot be expected to last in good condition until the latter date. If a fruit show is to be held by the Royal Horticultural Society at the Crystal Palace early in October in 1897, there should be no difficulty in arranging for a meeting of the Floral Committee there. Still, one should certainly be held in the Drill Hall, soon after the middle of September. The growers of Dahlias in particular contribute so much to make the meetings of the Royal Horticultural Society from the end of August to the middle of October gay and attractive with Dahlias, that they deserve some consideration at the hands of the council. Besides, the Fruit Committee might reasonably support such a timely suggestion, as a goodly number of varieties of fruit are at their best during the interval of inaction. New fruits and vegetables cannot, it appears, under present arrangements, be dealt with at the Crystal Palace, therefore opportunity should be afforded for doing so in the Drill Hall. And lest it should be put forward as a plea for inaction, that difficulty would be experienced in getting a good quorum of each committee together at that season of the year, I do not, from observation, fear any such result; there will always be sufficient numbers present to do justice to any novelties which may be forthcoming. *A Correspondent.*

OLEARIA HAASTII.—This beautiful Evergreen, figured in last week's *Gardeners' Chronicle*, is a grand acquisition for town-planting, making splendid growth, and flowering profusely in situations where nothing but Euonymus radicans will thrive satisfactorily. It is entirely unaffected by the dense fogs which prevail in and around London during the winter months; while Aucubas, Hollies, Arbutus, &c., suffer to the extent of losing two-thirds of their foliage. *W. H. A.*

YELLOW-FLESHED ROOTS.—"In my opinion a good yellow Turnip is much better-flavoured than a good white one," says Mr. Mayne, of Bicton. That his opinion is correct there can be absolutely no doubt. But the same thing is found in so many directions, that it is natural the question be asked, What is the connection that undoubtedly exists between yellow coloration and flavour in vegetable products? As with Turnips, so with Potatos. The yellow-fleshed varieties invariably give better flavour than do those of entirely white-flesh. If there are heavier croppers amongst the white-fleshed ones, none have taste superior to that of the Ashleaf Kidney, and the same thing will be found throughout all the varieties. Even in Tomatos we have none better than the yellow Golden Nugget, although the quality is not highly marked in any of these fruits. Still, in many of the red ones an absence of flavour is remarked. Again in Apples, we find the highest flavour in Ribston and Cox's Orange Pippins, and both these have slight tinges of yellow in the flesh. Flavour is a distinct and far from a common ingredient in fruit or roots of all kinds; how many varieties have we that have no taste whatever? Of both Apples and Pears those which have flavour in a highly marked degree, may almost be counted on the fingers. We see the most reliable of all Grapes for high quality, Muscat of Alexandria, to give the highest flavour, and it is yellow in colour; whilst no fruit grown gives such remarkably high flavour as does the Pine-apple, and that too is yellow. Possibly these facts may not be esteemed sufficient data on which to build up the theory that in vegetable products yellow colour and flavour go together. If we do not grow yellow Turnips much in the south, it is due chiefly to ignorance of their superior quality, and also to prejudices against yellow and in favour of white-fleshed Turnips. *A. D.*

PERENNIAL ASTERS AS POT PLANTS.—I have grown some very fine specimens of the Michaelmas Daisies in pots this season, and have tried from twenty to thirty varieties. They will prove very useful as pot-plants for the decoration of conservatories. The method I adopted was the following:—The clumps have a tendency to run very fast in the herbaceous borders, and when these require to be trimmed back, I save the crowns, and place nine or ten of them in an 8-inch pot in good loamy soil. This is done about the middle of February, and water is given sparingly until growth has commenced. When the shoots are about 3 inches high, they are thinned out to about five or seven, according to the variety. I began to feed when the plants were about 12 inches high. I regard the taking of cuttings as unnecessary. They were taken indoors just before the flowers commenced to unfold, and they continue from August until the second week in October, beginning with Aster acris, and finishing with A. Andromeda. The varieties I should recommend for small conservatory decoration would be A. acris, pharmacoides, vesta, lævigatus, nanus, spectabilis, cordifolius, elegans, vimineus, horizontalis (very elegant), A. W. Grant, and Amellus bessarabicus. For larger houses, Novi-Belgi vars. Lady Trevelyan, Harpur Crewe, Juno, Mons. d'Augon, Kavenanæ, puniceus, and Novæ-Angliæ roseus. These are very free-flowering sorts. Those in the first selection do not grow more than 4 feet in height, but can be had 3 feet through. If thinned to three or four shoots they would not be more than 2 feet through. I intend stopping the shoots upon some of the plants next season, for I have noticed that where a branch has been broken off by accident it has had a tendency to make the plant produce more shoots, and remain dwarfer. *M. E. Mills, The Gardens, Coombe House, Croydon.*

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

OCTOBER 27.—*Present:* Dr. M. T. Masters (in the Chair), Mr. Douglas, Rev. W. Wilks, Dr. Bonavia, Mr Ch. E. Shea, Rev. G. Henslow (Hon. Sec.).

New Carnation Disease.—Mr. Douglas exhibited specimens of Carnation plants badly attacked by a species of bacterium (Bacterium dianthi), giving a silvery appearance to the leaves. It had previously proved to be very destructive in America, and it is probable that it will now be so here. If the leaves are cut away when first attacked the disease may be arrested; spraying with a weak solution of ammoniacal copper carbonate may be tried, but the only remedy if it be more severe is to burn the plants. The fungus attacks the middle of the leaf, and then spreads both ways.

Chrysanthemum Malformed.—Mr. Jenkins, of Hampton, sent a specimen of Madame Desgranges, in which the white ray florets were almost entirely suppressed. The flowers sent were borne by one plant only, which was growing in the same pot with another of the same name; but while all the flowers on the one plant were malformed, all on the other were very good. No disease being apparent, it appeared that the latter plant had withdrawn the nourishment from the soil at the expense of the former, which was consequently starved.

Primula obconica cross.—Dr. Masters exhibited a truss and leaf of a plant raised by crossing P. obconica with P. sinensis (wild form). The offspring, beyond a slight decrease in hairiness, &c., could not be distinguished from the female parent.

Photograph of Palm.—He also showed a photo of a Palm new to cultivation, received from the late Baron von Mueller, who wrote as follows:—"In 1882 I described the Beatrice Palm, then discovered by Mr. Eugène Fitzalan on Mount Elliott in N.E. Queensland (Ptychosperma Beatricæ). It is allied to P. Alexandræ, but is remarkable for the wide enlargement towards the base of the stem with step-like processes. It differs also in the much less hardness of the stem, and in the leaves being almost straight to the summit, besides in having smaller fruits and other minor characteristics." This communication, received about a fortnight after the Baron's decease, is the last of his many contributions.

Melon Fruit, Photo.—Dr. Masters also showed a photograph of a Melon growing from the unusual position of the "collar," or junction between root and stem on the ground.

Nitragine.—It was suggested that this material, consisting of the bacteria peculiar to each particular leguminous crop, and used by allowing the seed to soak in it, or by fertilising the soil with it, should be tried at Chiswick.

Hypertrophy of Tropæolum.—Dr. Masters also showed a dense globular mass of abortive shoots, which had grown at the base of the stem, probably in consequence of some injury to the collar. Such abnormal outgrowths are not uncommon in Pelargonia, which are allied to Tropæolum.

NOVEMBER 10.—An ordinary meeting of the Committees was held in the Drill Hall, James Street, Westminster, on Tuesday last. Considering the date of the season there was an average number of exhibits, but it is probable that there would have been more Orchids present but for the sharp frosts that have occurred. As might have been anticipated, the major portion of the display was furnished by Chrysanthemums, of which there were many collections shown, both as plants and as cut blooms. Fruit was little shown if we except the fine collection of Grapes noticed below. There was a large exhibit of vegetables from Messrs. DOBBIE.

large bloom of rosy purple, with purple and yellow cushion, a meritorious variety exhibited by Mr. Gardiner.

From C. E. SHEA, Esq., Foots Cray, Kent, were exhibited three dozen Japanese incurved and Japanese reflexed blooms. Many of the novelties were represented in excellent condition, together with a few of the older ones (Silver Flora Medal).

Mr. W. J. GODFREY, Exmouth Nurseries, Devon, exhibited forty-eight blooms of Chrysanthemum novelties, also a few blooms of varieties of Carnations and bunches of decorative Chrysanthemums. Most of the varieties of Chrysanthemums were novelties that have been exhibited previously; others we have not before noticed. Wilfred H. Godfrey, Japanese incurved, very dark chestnut and yellow; Indiana, a very broad flower of lilac-pink, florets slightly incurving; and Mr. J. P. Bryce, crimson Japanese with buff reverse, were promising varieties (Silver Flora Medal).

Miss A. S. RIDGE, Staines (gr., Mr. Geo. Lane), showed as incurved Chrysanthemums Miss A. S. Ridge and Triumph d'Ere, but no award was made

Mr. ROBERT OWEN, Castle Hill Nurseries, Maidenhead, exhibited a nice lot of blooms in bottles. The habit of the varieties was illustrated by the long stems attached to the flowers An Award of Merit was recommended to Duke of Wellington, a Japanese incurved of old gold or buff-colour, very large; and to Mr R Owen, a yellow decorative variety, with extremely narrow florets (Award of Merit).

varieties, and the group was faced with a few foliage plants, the whole creating a bright floral effect (Silver Banksian Medal).

Messrs. YOUNG and DOBINSON, Stevenage, Herts, exhibited cut blooms of Chrysanthemums, Gloxinias in flower, &c. (Bronze Banksian Medal).

Orchid Committee.

Present: Harry J. Veitch, Esq. (in the chair), and Messrs. Jas. O'Brien (Hon. Sec.), De B. Crawshay, H. M. Pollett, E. Hill, T. W. Bond, J. Gabriel, W. H White, H. J. Chapman, Chas. Winn, C. Pilcher, S. Courtauld, H. Ballantine, and T. B. Haywood.

Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, King's-road, Chelsea, were awarded a Silver Flora Medal for a very remarkable group of Orchids, consisting exclusively of hybrids, numbering thirty-two, and all distinct and showy, forcibly illustrating the work of the firm in raising hybrid Orchids, especially those which flower in the winter, a class in which the imported species still leave room for the hybridist's skill to a very great extent The finest of these hybrids was Lælio-Cattleya × Nysa superba (L. crispa × C. Warscewiczii), to which a First-class Certificate was awarded. It may be said of this hybrid that it is one of the few which excel in beauty the finest L.-C. × exoniensis which Messrs.

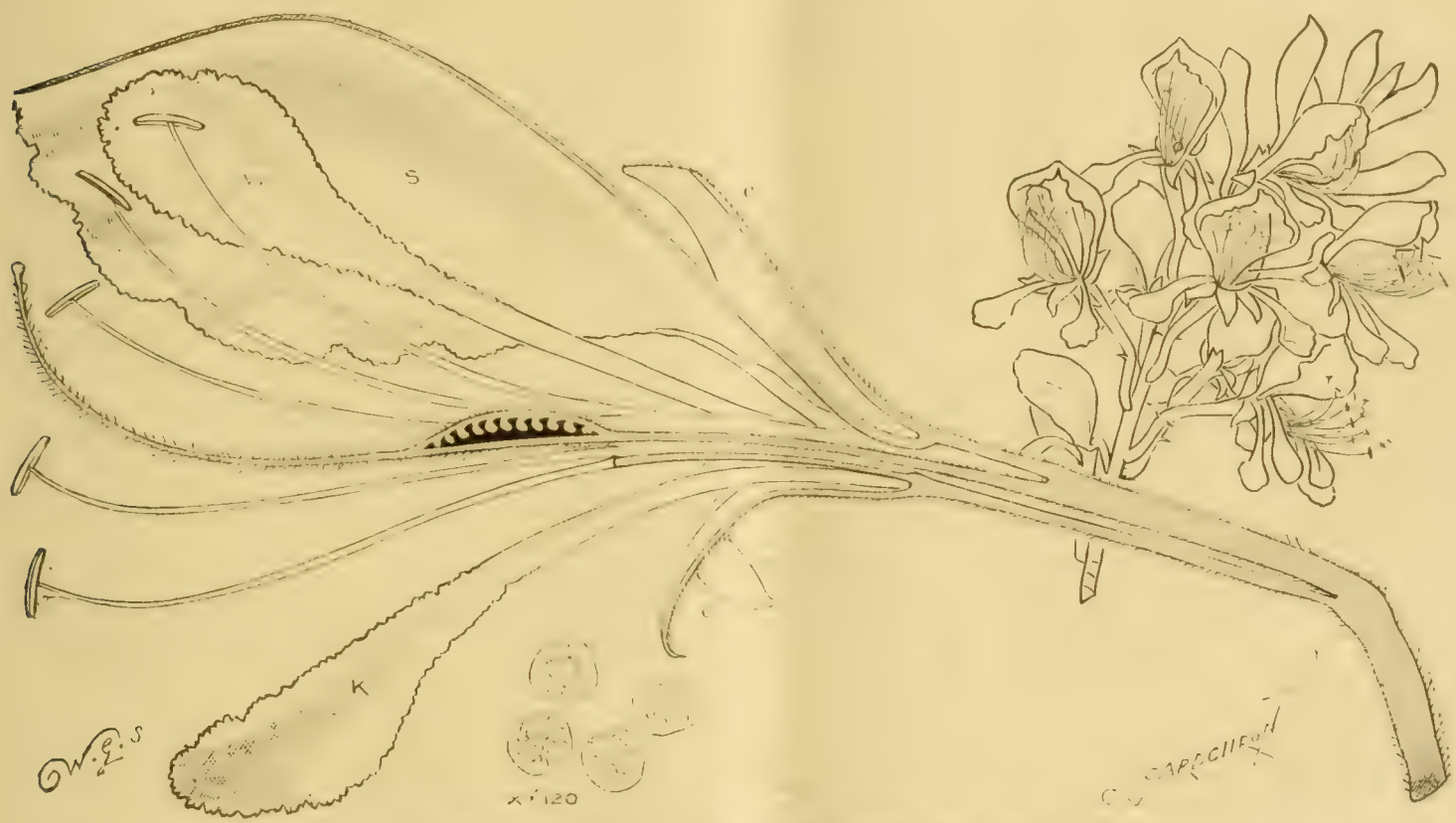


FIG. 106.—CAMOENSIA MAXIMA: FLOWER SEEN IN SECTION, WITH DETAILS.

S, standard petal; W, side petals, forming the wings; K, lower petals, forming the keel; C, C, sepals Pollen cells magn. 120 diam (See p. 596)

Floral Committee.

Present: W. Marshall, Esq., in the Chair, with Messrs. H. B. May, H. Herbst, R. Owen, G. Stevens, J. F. McLeod, C. Jeffries, J. Walker, J. D. Pawle, G. Paul, C. E. Pearson, C. E. Shea, C. Blick, H. Selfe Leonard, J. Laing, Rev. H. H. D'Ombrain, E. Mawley, J. Fraser, and R. M. Hogg.

Mr. Reynolds, gr. to Messrs. de ROTHSCHILD, Gunnersbury Park, Acton, W., exhibited about a score of plants in bloom of Lycoris aurea. This is a very pretty species, and produces four, five, or six blooms upon each scape. For an illustration of the flower see *Gardeners' Chronicle*, p. 545, vol. xviii., 3rd S. (Silver Flora Medal).

Messrs. JAS. VEITCH & SONS, Royal Exotic Nursery, King's-road, Chelsea, were recommended a Botanical Certificate for Amorphophallus variabilis. The plant shown appeared to resemble A. campanulatus, but differed slightly in colour.

Mr. H. J. JONES, Ryecroft Nursery, Hither Green, Lewisham, staged three blooms each of Mrs. C. Orchard, an incurved Japanese of pale lemon, large (Award of Merit); Jas. Cornford, white, incurved Japanese; H. J. Cutbush, yellow Japanese, marked with rose; and Plateau de Teck, white Japanese, florets slightly reflexed.

An award of Merit was recommended to Anemone-flowered Chrysanthemum Mr. Hugh H. Gardiner, a fine Royal Standard, a very striking crimson Japanese, with reflexed florets, was well worth remark, as were also several other good seedlings.

A pretty Japanese Chrysanthemum bloom named Pelmo was exhibited by C. E. SHEA, Esq., Foots Cray, Kent. The colour was yellow passing into red.

Mr. Geo. Wythes, gr. to Earl PERCY, Syon House, Brentford, made a display with Chrysanthemum blooms. These were cut with long stems and staged in earthenware bottles, three in each, the whole very freely interspersed with foliage plants (Silver Flora Medal).

Mr. H. J. JONES, Hither Green, Lewisham, displayed an exceedingly pretty group of Chrysanthemums, interspersed with Crotons, Palms, and other fine foliage plants. The quality of the blooms on the plants was first rate. Ma Perfection was one of the varieties included. It has already been described in these columns as a doubtful incurved bloom, and an Award of Merit was recommended to it upon this occasion, when it was generally voted a Japanese incurved. Madame Carnot, Mrs. C. E. Shea, Mrs. H. Chiesman, Major Bonnaffon, Edith Tabor, and others were very fine, and the general effect was one of exceptional beauty (Silver-gilt Flora Medal).

Another group of Chrysanthemums was one staged by Mr. THOS. S. WARE, Hale Farm Nurseries, near Tottenham. The plants in this case were of single-flowered and decorative

Veitch raised many years ago, and to which L.-C. Nysa superba has some resemblance, except that the flowers are broader in all their parts, and the glowing colour of the lip inclines more towards reddish-crimson than to purple. Another pretty novelty was Cattleya × Fabiola (Bowringiana × Harrisii ×). C. × Harrisii, it will be remembered, is C. labiata Mendelii ♂ × Leopoldi ♀. Cattleya × Fabiola, in the form of its flowers, partakes of C. Bowringiana, but they are much larger, the sepals and petals of a lilac tint, the front of the lip dark purple. There were also observed in the group three fine hybrids of Lælia Perrini, viz., Lælio-Cattleya × Lady Rothschild (L. Perrini × C. Warscewiczii, a very showy flower, with a lip of soft purple colouring, and white tube to the folded ase; the sepals and petals are of a light rosy-lilac hue; L.-C. × Decia (L. Perrini × C. aurea), in which the prismatic arrangement of the colouring of the lip is very beautiful; and L.-C. × Statteriana (L. Perrini × C. labiata). Other good hybrids were L. C. × Pallas, several Cattleya × Mantini, Cypripedium × Niobe, C. × Arthurianum, C. × vexillarium, C. × Leeanum, C. × tesselatum porphyreum, C. × Milo, Masdevallia × Ajax (× Chelsoni × Peristeria), M. × Asmodia, and several hybrid Selenipediums.

FRED. HARDY, Esq., Tyntesfield, Ashton-on-Mersey (gr., Mr. T. Stafford), showed a very remarkable imported Cypripedium from the Shan States, about which opinions differ as

to whether it is a variation in the nature of an albino of C. Charlesworthii, or a natural hybrid. Certain it is that the like has not appeared before, and the name Cypripedium "Fred. Hardy," will serve well to distinguish it. The foliage somewhat resembled that of C. hirsutissimum, and the flowers had petals and lip of a clear greenish-yellow colour, upper sepal pure white, with a faint purple tinge at the base, and the staminode was white, with a pale yellow boss in the centre (Award of Merit). Mr. Hardy also exhibited a good form of Cattleya × Hardyana.

W. THOMPSON, Esq., Walton Grange, Stone, Stafford (gr., Mr. Stevens), received a Silver Banksian Medal for a very pretty group of very fine flower-spikes of Odontoglossum crispum, O. Andersonianum, &c., set up with equally fine Cattleya labiata; Odontoglossum crispum, "Golden Queen," a fine light yellow flower with brown spots, secured an Award of Merit.

HAMAR BASS, Esq., Byrkley, Burton-on-Trent (gr., Mr. J. Hamilton), showed Cattleya maxima alba, a true albino, with pure white flowers, and the first which has appeared of this species (First-class Certificate). G. W. LAW-SCHOFIELD, Esq., New Hall Hey, Rawtenstall, near Manchester (gr., Mr. Shill), exhibited a grand plant of the pure white Pleione maculata alba, with thirty flowers; also drawings of several of the rare hybrids in his collection.

Baron Sir H. SCHRODER, The Dell, Egham (gr., Mr. H. Ballantine), showed a noble spike of the original Cymbidium × Traceyanum, which secured a Cultural Commendation; also the white Cattleya labiata Countess Fitzwilliam.

H. S. LEON, Esq, Bletchley Park, Bletchley (gr., Mr. Hislop), showed a superbly grown plant of Lælia pumila (Bletchley Park var.), with eleven very large and finely-coloured flowers (Cultural Commendation); also Cattleya labiata venosa, a strange form, veined and striped on all the segments with purple, and with a pale rose median line up the sepals and petals. It is a pretty form, and it would be interesting to know whether it is constant; the allied C. l. marmorata of Mr. Gabriel having reverted, for a time at least.

Messrs. F. SANDER & Co. had a neat group edged with Sophronitis grandiflora, consisting of, among other things, Cypripedium × Alcides, varieties of C. insigne, Cyperorchis elegans, Dendrobium Johnsoniæ, some good varieties of Cattleya labiata, the pretty Trichopilia brevis, Lælia pumila, Phaio-Calanthe × Arnoldiæ, Oncidium tigrinum, and the singular Calanthe × albata (veratrifolia × Cooksoni×, a curious break between the evergreen and the deciduous Calanthes, with white flowers, intermediate in form between the parents. The group was awarded a Silver Banksian Medal.

C. L. N. INGRAM, Esq, Elstead House, Godalming (gr., Mr. T W. Bond), showed Lælio-Cattleya × Minerva (L. Perrini × C. Lawrenceana), a very pretty rose-coloured flower with purple lip; L.-C. × Homère (L. Perrini × C. Percivaliana), of the form of L. Perrini, but with a rounded crimped front to the lip, like a small C. Mossiæ; and L.-C. × Meteor (L. Dayana × C. Bowringiana).

Messrs. HUGH LOW & Co., Clapton, had a bright group in which the Cattleya labiata were specially noticeable, and the variety C. l. grandis had very large and richly-coloured flowers. This group also contained excellent plants of Miltonia Roezli, M. R. alba, Cattleya × Minucia, &c. (Vote of Thanks).

Mr. R. GULZOW, Bexley Heath, staged a pretty group in which were many good form of Dendrobium Phalænopsis; the most admired being D. P. Miss Lawford, a pure white flower, with delicate pink veining on the labellum. Some very fine Cattleya labiata were also in the group (Vote of Thanks). FRAU IDA BRANDT, Riesbach, Zurich, sent a very richly-coloured form of Odontoglossum Krameri and Odontoglossum cristatellum. Col. WILSON, Hillside, Allerton, Liverpool (gr., Mr. Healey), sent Cypripedium × (bellatulum × callosum). J. HAWTHORN KITSON, Esq., Elmet Hall, Leeds (gr., Mr. T. Bonsall), sent a splendid form of Odontoglossum Uro-Skinneri and Cattleya Bowringiana, Elmet Hall varieties. H. SHAW, Esq., Birch Vale, Derbyshire (gr., Mr. Cliffe), showed Cypripedium × Hobsoni. H. H. BOLTON, Esq, Height Side, Newchurch, Manchester (gr., Mr. Eastwood), sent Cattleya labiata Janeæ, a very large variety. Messrs. GARRAWAY & Co., The Nurseries, Clifton, showed a strange double form of Cattleya labiata.

Fruit Committee.

Present: Philip Crowley, Esq. (in the Chair), and Messrs. Geo. Bunyard, G. W. Cummins, A. H. Pearson, Alex. Dean, Jas. H. Veitch, Jno. A. Laing, F. Q. Lane, James Smith, T. F. Rivers, J. Willard, H. W. Ward, and W. Balderson.

An excellent collection of twenty-four bunches of Grapes was shown by C. BAYER, Esq., Tewkesbury Lodge, Forest Hill (gr., Mr. Taylor). This exhibit included three bunches of Mrs. Pince, one of which was remarkable for good colour, two bunches of Mrs. Pearson of much merit, two bunches of Gros Maroc, an equal number of Gros Colman, two good bunches of Muscat of Alexandria, two of Gros Guillaume, two large bunches of Trebbiano, one small bunch of black Hamburgh, two excellent bunches of Black Alicante (fairly large, and possessing remarkable colour), two bunches of Foster's Seedling, two of Lady Downes, and two of Alnwick Seedling. Those of Foster's Seedling were the weakest of the varieties shown (Silver Knightean Medal).

Messrs. DOBBIE & Co, Rothesay, N.B., and Orpington, Kent, filled one of the large tables with exhibits of superior vegetables. There were very fine Onions of large size, large heads of Celery, some exceptionaliy good International Prize, and Champion Leeks, Parsnips, Beet, and some very even roots of yellow-fleshed Turnips were included, together with Parsley of a good type (Silver Banksian Medal).

Competitive Fruit Classes.—In Pears the 1st prize for flavour was taken by Beurré d'Anjou, shown by Mr. C. HERRIN, gr., Dropmore, the fruit being clean, of fair size, and free from blemish; the 2nd prize fell to Knight's Monarch, shown by Mr. ROBERT MAHER, gr., Tattenden Court; the fruit came from a pyramid growing on the wilding stock. Other varieties were shown, but they failed to obtain a place: these were Beurré Diel, Brown Beurré, both from pyramidal trees; Soldat Laboreur, Marie Louise, and Glout Morceau, from trees on the Quince.

The Apple Competition.—Here the 1st prize was taken by Cox's Orange Pippin, exhibited by J. T. CHARLESWORTH, Esq., Nutfield Court, Surrey (gr., Mr. J. W. Herbert), and was the produce of a pyramidal tree worked on the Paradise stock, growing on a light loamy soil, overlying marl, containing much iron-stone. The fruit was large, and above the average in size. The 2nd prize fell to Ribston Pippin, shown by ROGER LEIGH, Esq., Barham Court, Maidstone (gr., Mr. G. Woodward); the fruit was of high colour, and came from an espalier tree growing in the open quarter, and worked on the Paradise-stock, the soil a moderately heavy loam. Several dishes of Cornish Gilliflower, Fearn's Pippin, and King of the Pippins came from various exhibitors.

Various seedling Apples were shown by Messrs. W. & J. BROWN, Stamford, but they failed to meet with approval, although of nice appearance. W. H. BARBER, Esq., Wem, Salop, showed Apple Queen Caroline.

Lectures on Seed Raising.

The First Lecture was delivered by Mr. R. FYFE, who at the commencement remarked upon the importance of the question, and said that crops raised immediately from seed formed by far the greater portion of the food of nations. The remaining part was also furnished indirectly by seeds. Though the process of seed-saving had been practised in all countries and in all times, it was only when connected with a high state of civilisation that the work became a fine art. The selection of seeds of vegetables and flowers was now practised so commonly that each seed firm usually possessed its own strain of particular plants. The efforts of seedsmen were directed to maintaining or surpassing the improvements that had already been obtained in the plaints with which they had to deal. This was done by two methods, viz., selection and cross-fertilisation. The latter process was necessary when it was wished to unite in one plant the qualities possessed by two. But to fix a type, and to gradually improve one, careful selection from year to year was necessary. The lecturer then said that the quality of selected seeds would depend largely upon the seedsman's idea of what "selected" seeds should be. Personally, Mr. Fyfe thought that selected seeds should be the immediate produce of roots or plants selected for the production of the same, and the process would require to be repeated each generation.

Next was given a description of the lecturer's own practice in such matters. A few remarks were made upon the force of heredity in plants, which needed much care to be exercised to prevent any reversion to previous forms occurring. To illustrate the difficulties that occurred sometimes, and in certain plants, when an endeavour was made to fix a type, Mr. Fyfe referred to and gave particulars of experiments he had made with Calendula. The seed sown from an orange-coloured Calendula continually produced seedling plants that bore flowers of all shades of colour from pale lemon to deep orange, and he had found that if a plant with orange-coloured flowers was moved when in flower the blooms became pale lemon, and again reverted to orange later. The colours of flowers, and even more stable characteristics in some plants, were very variable. The French Marigolds and single Dahlias were other instances given.

Afterwards some very interesting statements were made regarding natural crosses that had taken place between varieties of Turnips that had been planted near to eachother. White-fleshed Red Globe and Golden Ball, Red Globe and Model White, had crossed naturally with each other as they flowered in the open. The results of the seeds saved from the plants were of much interest, and were perfectly evident from the Turnips Mr. Fyfe exhibited.

Cranston's Excelsior Onion and Dobbie's Selected Red had crossed in a similar manner. Attention was drawn to the well-known fact that the more highly a plant was cultivated the less seed does it yield. In conclusion, Mr. Fyfe referred to a belief that existed to the effect that seed saved from certain portions of a plant was better or truer in character than from other portions. It had been proved such was not the case.

A Second Lecture upon the same subject, so far as it related to Agricultural crops, was delivered by Mr. LONG. The choice of soils, and the draining, manuring, and cleansing of the land were referred to. The careful selection of all roots and plants saved for seed-producing, the need of precision on the part of the seedsman in regard to characteristic details in plants, the necessity of moving selected plants and planting them at proper distances in isolated positions, the tendency to cross fertilisation if means were not taken to prevent the same, were subjects upon which the lecturer had something to say. Incidentally, reference was made to the havoc that has latterly been worked amongst the Mustard crop by the mustard-beetle.

The REV. W. WILKS (Chairman), in thanking the lecturers, referred to the points raised in Mr. Fyfe's paper *re* the colours in flowers, and said that experiments were now being made to ascertain the cause and what influences the colours in flowers and fruits. It would probably be a long business, and not much positive information could be expected for some time, but in any case they would soon prove that certain conditions and circumstances did *not* affect the colour in flowers or fruits.

NATIONAL CHRYSANTHEMUM.

CONFERENCE.

NOVEMBER 5.—A Conference was held on the evening of Thursday in the Library of the Royal Aquarium, when papers on the Chrysanthemum were read by gentlemen well known in the Chrysanthemum world. Mr. T. W. SANDERS presided.

THE TYPES OF THE CHRYSANTHEMUM AND THEIR CHARACTERISTICS, WITH SUGGESTIONS AS TO THE ADOPTION OF A FULLER CLASSIFICATION.

Mr. GEORGE GORDON, editor of the *Gardeners' Magazine*, read a paper on this subject. He said he felt some diffidence in dealing with the subject of classification, because it did not admit of picturesque treatment, and because they were all to some extent familiar with it. He had, however, obeyed the wish of the committee in preparing a paper on the subject. In discussing the questions of classification of the types of the Chrysanthemum, or, indeed, of any other flower, there were two points which should be kept in view. One was so to arrange the groups, sections, or classes, that the multitudinous forms could with the aid of technical descriptions, be allotted a place in their proper section without any great difficulty. The other was to adopt as the basis of the classification the grouping and designations that had come to be generally adopted by the cultivators of the flower. Such a classification would necessarily lack novelty, but it would prove useful, and in a question of this kind, utility should be the first consideration. The necessity for placing the varieties of the Chrysanthemum in proper order had long been recognised, and several attempts had been made. Having passed in review these attempts which had been made by Mr. A. H. HAWORTH 63 years ago, and Mr. SALTER in 1865, he said it was somewhat singular that the latter, so recently as 30 years ago, should not have attempted in his extension of Haworth's classification to include the large Anemone and the reflexed varieties, which were then plentiful and of greater relative importance than they were at the present day. Seventeen years ago the writer prepared a wholly new classification which found considerable favour, from the fact that it had, with the exception of one class, been generally adopted by Chrysanthemum societies in the United Kingdom. In this classification there were 7 sections: (1) Incurved, (2) Reflexed, (3) Large Anemone-flowered, (4) Japanese, (5) Pompon, (6) Anemone-flowered, and (7) Intermediate. Since the publication of his first classification in 1879, the Chrysanthemum had undergone a remarkable development, and several new types had been added, with the result that it was no longer sufficient. He, therefore, suggested that the classification of the types of the Chrysanthemum should be increased. "My suggestions are," continued the writer, "that the classification should comprise twelve sections, and that these should be arranged as follows:—

1. *Incurved.*—The incurved varieties represent in the matter of form the highest degree of perfection to which the Chrysanthemum has been brought, and the perfect bloom does not require the trained eye for the full appreciation of its beauties. The incurved bloom should be as nearly globular as possible: the florets broad or of medium breadth, with perfectly smooth margins and entire apex, rounded or passing to a point, and to be finely incurved, and so closely and regularly arranged as to form a solid ball; the colour to be clear and decisive. In determining the relative merits of incurved Chrysanthemums when placed upon the exhibition stage, flatness of the blooms, irregularity of the florets, hollow centres, weakness of colour, and want of freshness, are serious defects which should be given full consideration by the judges in making their awards.

2. *Japanese.*—In this class we group all the large-flowered varieties with blooms remarkable for their irregular and fantastic form, and as these evince so great a diversity of character it is practically impossible to give a definition that would apply with any degree of exactitude to any considerable proportion of them, nor is it desirable to mould them according to any set of rules, as one of their most valuable attributes is the great variety in form as well as colour afforded by the blooms of the varieties belonging to the section. The blooms of the Japanese Chrysanthemums should be of medium or large size, and more or less irregular in form; the florets may be broad or thread-like, or of any breadth between these extremes. They may be entire or divided one or more times, drooping, horizontal, erect, or incurving; but there should not be any great difference in the size or form of the florets of any one bloom; the colour should be pure in the case of the white varieties, clear in the light shades, and rich and effective in the high-coloured forms. Size of bloom according to the respective varieties; fulness, uniformity in the size and shape of the florets, and purity or brightness of colour are merits; and extreme regularity in the arrangement of the florets, coarseness, confused or thin blooms, and ineffective colouring are defects.

3. *Japanese Incurved.*—The varieties forming this section are distinguished from the typical Japanese by the incurving of the florets. The blooms of the Japanese incurved should be of large size, globular in outline, and have florets, narrow or of great breadth, and irregularly incurving. In the varieties of this section, depth as well as diameter of bloom is of importance, although less so than in the case of the incurved; but like the blooms of these the whole of the

florets should incurve, the incurving of a few of those in the centre not being sufficient to entitle the variety to a place in the section. Large size without coarseness, effectiveness of colouring, and well incurved florets are merits; and the reflexing of the florets, whether from age or any other cause, thinness and want of brightness, are defects. For the present the varieties properly belonging to this section are admissible in all classes for Japanese, unless special classes are provided for them, in which case, provided it is desired to exclude them from the other classes, there should be a stipulation to that effect in the schedule.

4. *Large Reflexed.*—The varieties belonging to this class should have flowers that are more or less circular in outline, and with regularly-arranged florets. The blooms of the reflexed should be from medium to large, perfectly circular at the circumference, and with high centre; the florets may be narrow or broad, but should have a regular margin and an entire apex, and regularly reflex, the colour to be clear and decisive. Evenness of outline, regularity in the arrangement of the florets, are merits; and irregularity, whether in the outline or the florets, or hollow centre and dulness of colour, are defects

5. *Large Anemone-Flowered.*—These comprise a very distinct and extremely beautiful class, and they should on all occasions be kept quite distinct from their more showy but less refined rivals, the Japanese Anemones. The Anemone Chrysanthemums, without respect to class, consist of two distinct sets of florets—one strap-like, drooping or spreading out horizontally, and known as the ray florets, and forming the border; and the other quilled, and forming the cushion or disc. In the case of the large Anemone-flowered, the ray florets should be broad, and so regularly arranged as to form an even and perfectly circular outline, and clear or rich in outline; and quilled florets so arranged as to form a hemispherical cushion-like centre. Regularity of the ray florets, high centre, and bright colouring are merits; and unevenness in the outline, hollowness in the centre, and ineffective colouring are defects.

6. *Japanese Anemones.*—These, as in the ordinary type of Japanese, have blooms distinguished by their large-size, fantastic form, and effective colouring. In the Japanese Anemone Chrysanthemum the centre should be full, but not necessarily hemispherical, as in the large Anemone flowered; and the ray florets of varying breadth, short or of considerable length, drooping or horizontal, curled or straight, but more or less irregularly arranged. The irregularity of the ray florets is one of the most distinctive characteristics of the section; and it should be distinctly understood that roughness in a large Anemone flowered does not justify it having a place in this section, of which elegance is one of its most distinctive characteristics.

7. *Hairy or Hirsute.*—The varieties with blooms furnished with glandular hairs on the back of the florets, belong almost exclusively to the Japanese sections, but it does not necessarily follow that this class should be limited to them. On the contrary, all varieties, of which the flowers are constantly hirsute, are admissible. The blooms, therefore, may be incurved, or reflexed, or fantastic in form, have Anemone centres or not; but they must be constantly, in a greater or lesser degree, furnished with glandular hairs on the back or reverse of the florets, and the profusion of these should be regarded as one of the chief points of merit.

8. *Pompons.*—The small-flowered or Pompon Chrysanthemums are so valuable for various purposes that any tendency to excessive size, relatively speaking, or coarseness, should be effectually checked. The Pompon Chrysanthemum may have blooms rather flat or globular, and the florets may be flat, fluted, or quilled, spreading out horizontally, erect, or incurving; but the blooms should be neat, and not exceed two inches in diameter.

9. *Fringed Pompons.*—In this section the distinguishing characteristic is the division in the florets, which, instead of being entire as in the typical Pompon, may be fimbriated at the margin or deeply cut. In all other particulars the varieties belonging to the section agree with the typical forms, and they may be shown with them unless there are stipulations in the schedule to the contrary.

10. *Pompon Anemones.*—These, as in the case of the Pompons, have a dwarf habit, small foliage, and neat blooms; but they differ from them in the blooms consisting of two distinct types of florets. The Pompon Anemone is a miniature counterpart of the large Anemone-flowered. The ray florets should be flat and regularly arranged, forming a complete circle, the disc full and hemispherical, and the colour clear and decisive. Irregularity in the ray florets and a low cushion are serious defects.

11. *Large-flowered Singles.*—The single varieties are rapidly acquiring importance, and the diversity in the size of the blooms has rendered it necessary to form them into two groups, the first group to comprise those varieties which have blooms exceeding three inches in diameter and large foliage. The blooms of the large-flowered singles should be not less than three inches in diameter under ordinary culture, and contain not more than two rows of ray florets; the latter may be long or short, drooping, horizontal, or incurving, and regular or irregular in arrangement, while the disc florets must not be sufficiently raised as to form a cushion in the centre.

12 *Pompon Singles.*—Varieties to be admissible in this class should have the short sturdy habit and the small foliage characteristic of the Pompons and the Pompon Anemones. The blooms of the Pompon singles should not exceed three inches in diameter when grown under high culture; they should not have more than two rows of ray florets, and these should be regularly arranged and perfectly flat; the disc must not be raised or unduly prominent. In determining whether a single variety belongs to this or the section immediately preceding it, the size and character of the foliage should be taken into account.

Continuing, the writer says:—With reference to the definitions, I would take advantage of this opportunity for suggesting the desirability of members of committees, of judges, and, indeed, of all who have to deal with new varieties, making themselves familiar with the points defining the several classes, for it is only by a fulness of knowledge that we can hope to avoid mistakes. This appears to be especially necessary in the case of the incurved, for a danger has been foreshadowed of varieties being added to the class that properly belong to the Japanese incurved. No one could possibly be more ready to welcome additions to the class than myself, but I do not want it to be the receptacle for Japanese incurveds that are neither bold enough or sufficiently beautiful to justify their being distributed as such. So long as the incurved are retained—and I see no signs of their being pushed out by their more showy rivals—let us insist upon regularly-arranged and overlapping florets that, when properly developed, will form a bloom globular in form and full in the centre. On the other hand, the florets of the Japanese incurved must not be so regularly arranged as to form a globe. With regard to the typical Japanese, it is not necessary that I should say much, because I have now nothing to do with the merits of blooms when in competition; but I would, in passing, express my entire concurrence with the action of the Catalogue Committee in abolishing the class for Japanese reflexed. I have never liked the class, and experience in judging has convinced me that it was an unnecessary and undesirable one. The reflexed section does not require any special comment, except to say that it would be a great gain to improve the class by adding to it a considerable number of varieties, that we may have finer flowers and a greater diversity of colour in the section.

Mr WITTY asked whether the writer could say what caused the "hairs" to grow upon hirsute flowers?

Mr. GORDON said he had not gone into the matter with sufficient depth to be able to give the botanical description of the cause. He thought that a peculiar constitution of the variety caused the hairs, but at present we were not sufficiently informed as to the causes.

Mr WITTY said he had been inquiring into the point for some time past, and he had been examining the flowers under the microscope. At first he thought that what he saw was a decomposition of the tissue, but on further examination he found that every one of the glands was charged with water, and that each gland had a beautiful dewdrop upon it. Of course, Nature had made that provision for some purpose, and he thought someone might be able to help him in solving the problem.

The CHAIRMAN suggested that the petals were collecting more moisture than they could carry, and that the moisture was forced out and formed the dewdrop.

Mr. WITTY said that was just the opposite of the view he took, which was that the drop of water was really food for the flower.

Mr. SHEA said the matter was not understood at present, but he rather agreed with the Chairman that the drop was a provision of Nature for getting rid of certain moisture; but certainly it had nothing to do with the decay of the flower. The drop could be seen on the freshest flower. It was probably due to the abnormal growth of an ordinary cell, which became overcharged.

Mr. SHEA suggested that one of the blooms should be sent to the Scientific Committee of the Royal Horticultural Society, who would give them the best answer they could possibly obtain. It would be an interesting point for them all.

Mr. ORCHARD, speaking with regard to classification, said if they were going to drift into further sub-divisions he did not know where they would be landed by their next jubilee. As to the "hairs," he thought they were the result of an excess of protoplasm through over-development.

Mr. W. H. FOWLER said he had always thought that the "hairy" section should be left with the Japanese, and that the former should not have a section entirely to itself.

Floral Committee.

NOVEMBER 9.—A considerable number of new varieties were staged on this occasion, and among them a few of exceptional merit.

First-class Certificates were awarded to Japanese Golden Elsie from Mr. Bugden, gr. to Sir NEVILLE CHAMBERLAIN, Southampton, a sport from Elsie, and shown under the name of Golden Ball, but as a variety of this name is already in existence the Committee named it Golden Elsie. It is very free, the flower small, finely shaped, and of a bright yellow colour. It was Certificated as a market variety, and will doubtless become popular. A similar award was made to Japanese Anemone Hugh H. Gardiner, a flower of a bright magenta-purple, coloured ray florets and bronzy cushion, from Mr. S. Ely, gr. to HUGH H. GARDINER, Esq., Nettlebed, Henley-on-Thames; to Japanese Mustapha, a large flower with broad pure white florets, somewhat incurving and flat, a highly promising variety, from Mr. C. GIBSON, gr., Morden Park, Mitcham; to Japanese incurved Duchess of Fife, a large full flower with long, fairly broad florets, shown as an incurved variety, but considered by the Committee to belong to the Japanese section, from Mr. E. MOLYNEUX, gr., Swanmore Park, Bishop's Waltham. This last-named variety was also shown by Mr. W. HARVEY, Chislehurst. First-class Certificates were awarded to Japanese Mrs. C. Orchard, a large incurving white flower, which in the centre is yellow—highly promising; and to Sarnian Gem, in colour orange-red, with golden reverse, a large deep, full incurving flower—extra fine; Matthew Hodgson, bright orange crimson colour—very promising, small as shown, but brilliant in colour, was Commended: it came from Mr. W. SEWARD, Hanwell. Incurved Golden Nugget, from Mr. R. OWEN, Maidenhead, was also commended; it is of the colour of Jardin des Plantes, but of different build.

SOUTHAMPTON CHRYSANTHEMUM.

NOVEMBER 3, 4.—The Victoria Hall was again the site of the annual Chrysanthemum exhibition on the above dates. Both plants and cut blooms were present in large numbers, but probably the latter created the greater interest.

CHESTERFIELD CHRYSANTHEMUM.

NOVEMBER 3, 4.—The Chesterfield Chrysanthemum Society has only just completed its third year, but the shows it has held—notably the last—prove that there is decidedly scope for such a society in the coal-mining district around Chesterfield. Gentlemen employing gardeners in the locality are taking an active interest in the welfare of the Society, and the public evince an encouraging disposition to patronise the annual exhibitions of the autumn blooms. The entries this year were nearly double the number last year, and there was a marked improvement in the quality of the exhibits.

EASTBOURNE.

NOV. 3, 4.—Looking back a couple of seasons, we note a wonderful improvement in the above show. Both in number and quality a very needful move forward has been made.

Groups, fruits, cut-flowers, and vegetables were excellent, as also were the many non-competitive exhibits Mr Jupp, gr. to G. BOULTON, Esq., Eastbourne, was most successful, not only gaining 1st and the National Chrysanthemum Society's Certificate for eighteen Japanese, but being well to the fore in many other classes.

HEREFORD FRUIT AND CHRYSANTHEMUM.

NOVEMBER 3, 4.—The fifth annual show of this society was held in the Shire Hall, Hereford, on the above dates. Apples and Pears, for which about sixty classes were provided, made a fine display, although they were not in such abundance as last year, nor in size quite up to the usual Herefordshire standard; they were, however, remarkably fine in colour and free of blemish.

CHRYSANTHEMUMS (OPEN).

The best Group of Chrysanthemums was arranged by Mr. Williams, gr. to Sir J. PULLEY, Lower Eaton; it was not over-crowded, the foliage being good, and the flowers large and well coloured.

Thirty-six Blooms, distinct, twenty-four to be Japanese.—1st, Mr. Lockyer, gr. to J. C. HANBURY, Esq., Pontypool Park, who staged a fine lot of well-finished flowers, the best being Chas. Davis, Mutual Friend, Madame Carnot, Duke of York, M. Moselleir, Empress of India, C. H. Curtis, and Princess of Wales; 2nd, Mr. Williams, gr. to Sir J. PULLEY, with good flowers of J. Wilkins, Col. Chase, Col. W. B. Smith, Eda Prass, &c.

Twelve Japanese.—1st, Mr. W. Davis, gr. to A. WRIGHT, Esq., Quarry House, Newent, who had Mrs. C. H. Payne, Colonel Davis, Madame Carnot, &c.; 2nd, Mr. WILLIAMS.

Twelve Incurved, distinct.—In this class Mr. LOCKYER and Mr. W. DAVIS were placed equal 1st. The former's best flowers were Princess of Wales, Queen of England, Empress of India, and Mrs. Clibran; Mr. Davis having Jeanne d'Arnc, Miss M. A. Haggas, and Lord Alcester amongst his best.

The smaller classes of fruits and flowers were well contested, and the exhibits good.

Dried fruits were also shown in excellent condition by Mr. A. Trotter, gr to F. RECARDO, Esq., Ledbury. As were also bottled fruits, by Mr. JOHN WEAVER, Chester. *Thos. Coomber*

EALING HORTICULTURAL.

NOVEMBER 4.—The annual Chrysanthemum, &c., show, held in the Victoria Hall on the above date was, on the whole, a fairly good one. The Japanese varieties were a notable feature of the display, and of a high standard of excellence; the special exhibits (non-competitive) were noteworthy, and, as is usual at this society's shows, the prizes offered amongst cottagers were keenly contested.

COVENTRY CHRYSANTHEMUM.

NOVEMBER 4, 5.—The second annual Chrysanthemum show was held at Coventry on the above dates. The show was a complete success in every way, the entries were nearly double those of last year, and the quality of the exhibits in every class were very much better. The large hall of the Corn Exchange was filled with beautiful specimens of Chrysanthemums, and the addition of Primulas, fruit, and vegetables made an agreeable change. The principal prize-takers were G. SINGER, Esq.; Sir RICHARD MOON; J. K. STANLEY, Esq.; S. LODER, Esq.; P. A. MANTBY, Esq., M.P. There were also splendid exhibits not for competition, from Messrs. PERKINS & SONS, Mr. W. FINCH, E. PETRE, Esq.; Sir R. MOON, and others, which added greatly to the success. Mr. F. CURTIS was an energetic secretary.

MARKET HARBOROUGH CHRYSANTHEMUM.

NOV. 4, 5.—This society held its annual show on the above dates, when the quality of the exhibits was a little below the standard of previous years. The following were the chief prizewinners:—

The class for a group of Chrysanthemums arranged for effect with foliage and flowering plants, was won by Mr. DUNCAN; followed by Messrs. PLOWMAN & SON, who were successful in a competition for a group of Chrysanthemums alone.

There were five entries in the class for eighteen cut blooms of Japane e, and 1st prize was gained by Mr. Pearce, gr. to T. LODER, Esq., Hove Avenue, Northampton. The best twelve white Japanese were from Mr. WOOD, Delapre Abbey; Mr. PEARCE was 2nd.

Mr. HOYLE was 1st for twelve Japanese blooms distinct; and Mr. HOBLIN for eighteen incurved blooms. For twelve incurved blooms Mr. HOYLE was an easy 1st.

Vegetables were very good. In Messrs. SUTTON'S competition for six distinct varieties, Messrs. GOULD, BARFOOT and KEMPSHALL were the winners.

Fruit exhibits included Grapes, Apples, and Pears.

Primulas were shown by Messrs. DUNCAN and WILSON; Cyclamen by Mr. WILSON; and Solanum by Mr. KEMPSHALL.

A pleasing feature at this show was the sale of some fruits, flowers, and vegetables for charitable purposes.

WOLVERHAMPTON CHRYSANTHEMUM.

NOVEMBER 4, 5.—The fourth annual show of this society was held in the Drill Hall, Wolverhampton, on the above dates, and was a great success. The blooms staged were excellent, and the company showed their appreciation by attending in thousands. The show was opened by the Mayoress, attended by members of many of the county families. The chairman of the committee, Mr. G. A. Bishop, Wightwick Manor, and his colleagues, have, in the short space of four years, worked up one of the most prosperous societies in the country. The total number of classes in the schedule numbered forty, and these were well filled. So encouraging also was the prize-list, that growers from all parts competed for the coveted honours.

In the non-competitive section, Messrs. DOBBIE & Co., Rothesay, sent a collection of Japanese blooms, both show and decorative, for which a Certificate of Merit was awarded. W. HATTON, Esq., Hill Grove, Kidderminster (gr., Mr. T. Poole), sent a fine collection of twelve bunches of Black Grapes, superbly finished; and he was awarded a Diploma and Gold Medal for these.

A fine collection of twenty dishes of Apples, and ten dishes of Pears, were sent by A. L. VERNON, Esq., Hylton Park, Wolverhampton (gr., Mr. John Boulby), Certificate and similar award; a like award being made to Messrs. THOMAS RIVERS & SONS, Sawbridgeworth, for twenty-five dishes of Apples, and eighteen dishes of Pears. Certificate of Merit to Messrs. Tom B. DOBBS & Co., nurserymen, Wolverhampton, for a mixed exhibit of Palms, hardy shrubs, Chrysanthemums, and vegetables, including some fine fruits of Blair's Prolific Cucumber.

The competitive groups were very fine, and the 1st prize went to T. G. BAKER, Esq., Waterdale, Compton, Wolverhampton (gr., Mr. Shingler), whose group contained fine blooms of Sunflower, Duchess of York (fine flowers), Duke of York, Charles Davis, Wm. Tricker, Viviand Morel, Amiral Avellan, Madame Carnot, La Boule d'Or; 2nd, S. T. MANDER, Esq., Wightwick Manor, Wolverhampton (gr., Mr. G. A. Bishop), who staged good plants of Madame Carnot, A. Payne, Viviand Morel, Etoile de Lyon, Col. W. B. Smith, Charles Davis, Louise, &c. Decorative groups of Chrysanthemums and other plants mingled, as 1st, E. HORTON, Esq., Bescot (gr. Mr. S. Horton), with a well-arranged lot of plants, among which were Cocos plumosa, Bamboos, Pandanus, Euphorbia, Eulalia, Eucharis, and some well-flowered Orchids, &c.; 2nd, E. W. T. JONES, Esq., The Oaklands, Wolverhampton (gr., Mr. W. Rudge), whose group contained good Cocos Wedelliana, Chrysanmums, and Orchids in variety.

Chrysanthemums.—In the class for three specimen Japanese dissimilar, Alderman GEORGE THOMPSON, Priory House, Dudley, was 1st; 2nd, Mrs. EARP, Dunstall Hall, Waterdale (gr., Mr. U. Jones).

Cut Blooms.—These were well contested. The first twenty-four incurved formed an exceedingly full stand shown by H. H. FRANCE-HAYHURST, Esq., Overly, Wellington (gr., Mr. S. Bremmell); 2nd, R. W. HARLEY, Esq., whose stand contained similar varieties to the winning one.

In the class for twenty-four Japanese varieties, 1st, H. H. FRANCE-HAYHURST, Esq., R. W. D. HARLEY, Esq., being 2nd. W. ROBERTS, Esq., Pedmore (gr., Mr. J. Parker), was 1st for twelve incurveds, showning good blooms, H. H. FRANCE-HAYHURST, Esq., was 2nd.

Fruit was shown in some quantity by gentlemen resident the district, but nothing that calls for any comment from us, nor do the fine vegetables which formed part of the show.

One notable feature was the table in aid of the Gardeners' Royal Benevolent Institution; this was taken in charge by Mr RICHARD LOWE, Mrs. BISHOP, and Miss LOWE, plants, cut flowers, and fruit being contributed for sale by some of the exhibitors, and others. It is satisfactory to note that a good sum of money was obtained for this essentially gardeners' institution.

HARROGATE CHRYSANTHEMUM.

NOVEMBER 5.—The second annual show of the Harrogate Chrysanthemum and Paxton Society was opened in the Drill Hall, Harrogate, on the above date. The entries were more numerous than last year, and besides Chrysanthemums there was an excellent show of fruits and vegetables. The groups of plants in the open classes were very striking features.

The 1st prize for the best group of Chrysanthemums, arranged in a half-circle not exceeding 50 feet, was awarded to Mr. E. B. FABER, J.P., of Belvedere, Harrogate; the 2nd went to Mr. J. PETTINGER, Strawberrydale Nurseries; and the 3rd to Mrs. WITHAM, Stafford House, Harrogate.

The 1st prize for the best group of miscellaneous plants, not exceeding 100 square feet, arranged for effect, was won by Mr. E. B. FABER, who also won the 1st in the next class, a group not exceeding 60 feet; Sir PERCIVAL RADCLIFFE and the Rev. T. SHEEPSHANKS taking 2nd prizes.

The winners in the cut flower competitions were:—

Cut Blooms.—Thirty-six distinct varieties (eighteen incurved, eighteen Japanese): 1st, A. Milnthorpe, Harrogate; 2nd, A. Clark & Son, Rodley. Twelve incurved: 1st, C. H. Simpson, Ackworth, Pontefract; and 2nd, A. Milnthorpe. Twelve Japanese: 1st, A. Milnthorpe. Six Japanese, distinct: 1st, A. Milnthorpe. Six incurved, distinct: 1st, C. H. Simpson. Six reflexed, distinct: 1st, Messrs. A. Clark & Son; 2nd, C. H. Simpson. Six Japanese, Anemone: 1st, C. H. Simpson. Epergne for dinner table, Chrysanthemums, any foliage allowed: 1st, R. Hutchinson, Kirby Overblow. Basket of Chrysanthemums, with any kind of foliage; 1st, E. J. Batchelor, Harrogate.

DEVON AND EXETER HORTICULTURAL.

NOVEMBER 5, 6.—The one-hundred and eighty-fourth exhibition of this society was held in the Victoria Hall on the above dates. Circular groups of Chrysanthemum plants, arranged on the floor of the large hall, had a very good effect. Trade exhibits helped largely towards the general effect, and the numerous dishes of Apples furnished rich colouring. Cut blooms were staged in a separate hall, but in this section a slight falling-off in quality and numbers was apparent. The reflexed and Anemone varieties were poorly represented, no exhibit of the former being staged, and but one of the latter.

Groups.—In the class for groups arranged for effect, there were three exhibits, Mr. Rowland, gr. to W. BROCK, Esq., Parker's Well, Exeter, being a good 1st. In the centre of the group he had a graceful plant of Cocos plumosus, while the Chrysanthemums were of good quality, very fresh, and the colours bright, and all nicely finished off at the base with Adiantum, &c.; 2nd, Mr. Williams, gr. to A. D. SIMM, Esq., who had also well-flowered plants, but the group lacked the finish of the preceding exhibit.

Mr. ROWLAND was the only exhibitor of a group of Chrysanthemums in pots grown in a natural way, and was awarded the 1st prize.

Groups of miscellaneous plants, in which not more than twelve Chrysanthemums were admitted, formed a pleasant feature. They were arranged in diamond-shaped groups, on slightly raised stands placed across the centre of the Hall, and Mr. ROWLAND was again the most successful exhibitor; 2nd, Mr. Prothero, gr. to MARK FARRANT, Esq.

A class for twelve Chrysanthemum plants, in 6 inch pots, brought but a poor exhibit. Table-plants were numerous, but only a few of them were good; on the other hand, Violets in pots were numerous and good. The 1st prize exhibit was shown by Mr. Abrams, gr. to T. KEKEWICH, Esq. Bouvardias, Solanums, &c., were numerous.

Cut Blooms.—In the principal class, that for thirty-six Japanese, distinct varieties, the 1st prize consisted of a Silver Cup, for which eight competed, Mr. G. Foster, gr. to H. HAMMOND SPENCER, Esq., Teignmouth, taking the 1st position with a collection of meritorious flowers, well set up, and comprising the following varieties amongst others:—Australie, Graphic, Princess May, Robt. Owen (fine), Silver King, Oceana, Miss Dorothea Shea, Madame Ad. Chatin, Miss E. Addison, Mr. J. Hollingworth, Van den Heede, Madame Carnot, Deuil de Jules Ferry, Mutual Friend, Duke of York, Mrs. C. H. Wheeler, Mons. Chenon de Leché, John Seward (good), Madame E. Capitant, Phœbus, and Miss E. Teichmann. Mr. Wilkins, gr. to Lady THEODORA GUEST, was a good 2nd, having, among others, very fine Phœbus, Mrs. J. Shrimpton, and Madame A. Chatin; 3rd, Mr. Mairs, gr. to Sir J. SHELLEY, Bart., whose stand lost much in effect through the low and flat setting up of the blooms.

For eighteen Japanese blooms, Mr. T. Hill, gr. to the Rev. T. HUTCHINS, was 1st in a close competition, having good flowers of the following varieties:—Madame Carnot, Edith Tabor, Duke of York, M. G. Biron, Madame A. Chatin, M. Chenon de Leché, Australie, Lord Brooke, J. C. Schwabe, Miss Dorothea Shea, M. Gruyer, and Melle. A. Galbert; 2nd, Mr. FOSTER, in whose stands were noteworthy flowers of several varieties.

For twelve Japanese there was a strong competition, Mr. MAIRS being 1st with a good stand, among which Madame Carnot, Miss Dorothea Shea, and Primrose League, were noticeable blooms; 2nd, Mr. G. Lane, gr. to T. TURNER, Esq., Cullompton.

Incurved blooms were not largely represented. In the class for twelve distinct, Mr. Stiles, gr. to Miss FRIPP, Teignmouth, was 1st, with medium-sized flowers; 2nd, Mr. FOSTER.

Mr. PROTHERO was 1st for a stand of six bunches of singles, with Gold Star, Snowflake, Queen of Singles, Calliope, Tisiphone, and Souvenir de Londres.

Miscellaneous Exhibits of a non-competitive character considerably added to the attractiveness of the show. Messrs. R. VEITCH & SON staged fifty dishes of highly-coloured Apples and various plants, including the pretty winter-flowering Begonia, Gloire de Lorraine. The Exeter Nursery Co.'s exhibit included a fine collection of well-grown Chrysanthemum plants, intermixed with ornamental-leaved plants.

Mr. C. J. SCLATER, Devon Nurseries, staged eighty dishes of Apples. Messrs. JARMAN & Co., Chard, also exhibited a large collection of Apples.

Fruit.—Forty-three classes are devoted to fruit at this exhibition, chiefly Apples and Pears, the classes being arranged very much on the lines of the Crystal Palace show of the Royal Horticultural Society, many being devoted to single dishes. Compared with this exhibition, however, the Devon samples fell considerably behind as regarded size, although, taken as a whole, the colour was perhaps better.

For three bunches of Alicante Grapes, seven good stands were tabled, 1st, G. W. MATTHEW, Esq., Exmouth, whose exhibit was stated to have been grown without artificial heat; 2nd, Mr. DAVEY.

Mr. Seward, gr. to Sir J. D. FERGUSON DAVIE, Bart., was a good 1st for Muscats, and also for three bunches of any other variety with good Gros Maroc; Mr. DAVEY being 2nd, with fine Gros Colman.

The competition was very keen in the class for thirty dishes of Apples, distinct, Mr. SEWARD being again successful in winning the 1st award with a very even collection; Mr. Garland, gr. to Sir T. D. ACLAND, Killerton, was a good 2nd.

For twelve varieties, Mr. Cornish, gr. to W. MINIFIE, Esq., was 1st; and for six varieties, Mr. T. Stark, gr. to the Hon Lady WALROND, was 1st. Among nine lots of Blenheim Orange Pippin, Mr. STARK was 1st.

Pears were shown in fewer numbers, although some very fine samples were staged. Mr. GARLAND was a good 1st for nine varieties, six dessert and three culinary.

WINDSOR CHRYSANTHEMUM.

NOVEMBER 5, 6.—The fifth annual autumn exhibition was held in the Albert Institute, and was a successful one. Groups of Chrysanthemums were a distinct feature, the plants being dwarf, thoroughly well suited for the purpose, besides being plentifully clothed with foliage; while they carried good blooms. The arrangements were in every way satisfactory.

Mr. Cole, gr. to Mrs. E. B. FOSTER, won premier position; and Mr. Wood, gr. to Lord BOSTON, Hedsor, was 2nd. To the 1st prize group was also awarded the Bronze Medal, given by the National Chrysanthemum Society for the most meritorious exhibit of Chrysanthemums in the show.

Mr. R. Cawte, gr. to W. B. AVERY, Esq., staged the finest specimen-plants. They were well-grown examples of leading varieties.

A Silver Challenge Vase was offered for one naturally-grown plant, and this was won by Mr. F. J. Paul, gr. to Mrs. BOWERING, who had a large plant of W. Tricker, profusely flowered.

NOTTINGHAM AND NOTTS CHRYSANTHEMUM.

NOVEMBER 6, 7.—A very successful exhibition by this Society was held on the above dates in the Mechanics' Hall. Although there were only three competitors in the open class for twelve incurved and twelve Japanese blooms, distinct varieties, Mr. Goodacre, gr. to the Earl of HARRINGTON, was well deserving of 1st place. Among Mr. Goodacre's Japanese blooms, however, were none equal to Mr. SILAS COLE'S Mutual Friend, with which Earl SPENCER'S gardener carried off the prize for the champion Japanese bloom. Mr. COLE'S incurved blooms were, however, unequal to those of Mr. Goodacre, but his exhibit was well worthy of 2nd prize; 3rd place being taken by Mr. W. Ball, gr. to Mr. R. ENFIELD.

This is the first year in which prizes have been offered for balcony decoration with groups of Chrysanthemums, and of the two competitors Mr. J. FOLGHAM displayed the best taste in the matter of arrangement. Mr. Yarnell, gr. to Mr. J. W. TURNER, accomplished a very creditable performance in carrying off 1st prize in four of the open classes for specimen plants, and for a table decoration.

Mr. F. COX had some splendid blooms in the first of the classes open to all members, amongst his incurved Chrysanthemums being specimens of Alfred Salter, Robt Petfield, and Lord Alcester, while included in his six Japanese were a fine Madame Carnot and a equally good Viviand Morel.

For some years Mr. J. BELL has been an exhibitor, and now he has been rewarded, his blooms, which placed him 2nd to Mr. COX, being a great credit to him, his M. Chenon de Leché being particularly noticeable. In the next four classes, both the incurved and Japanese blooms were excel-

lent, and altogether the entries were quite satisfactory. It was, however, in the artisan classes that the entries were the most numerous, and in one case there were as many as fifteen, while in another there were but two less. An interesting exhibit, and one which demonstrates that even outdoor some very nice Chrysanthemums may be grown, is that staged (not for competition) by Mr. C. SHAW, who has previously proved himself an excellent grower of the summer nd autumn varieties of this plant.

LOUGHBOROUGH CHRYSANTHEMUM AND FRUIT.

NOVEMBER 6, 7.—The efforts made earlier in the year to bring about the amalgamation of the two societies into which the original Loughborough Chrysanthemum and Fruit Society had split having been successful, the annual show of the once more happily united members was opened on Friday afternoon, November 6, at the Loughborough Corn Exchange. Although the weather has not been over favourable to the growing of Chrysanthemums, the specimens sent in were of exceptionally fine quality, many very beautiful blooms being staged.

In the open classes Mr. J. SMITH was the most successful exhibitor, carrying off no fewer than five out of the possible six 1st prizes, and thus winning the Bronze Medal awarded by the National Chrysanthemum Society this year to each of the affiliated societies in celebration of the jubilee of its existence.

In the amateurs' classes the National Society's Certificate was awarded to Mr. BURROWS. The amateurs' and cottagers' classes were well filled and the competition in nearly every case was excellent. A fine collection of fruit was exhibited.

KINGSTON-ON-THAMES CHRYSANTHEMUM.

NOVEMBER 10, 11.—This well-known society held its twentieth annual show on the above dates, and as usual in the spacious Drill Hall. The show was better furnished with trained plants than has been the case for some two or three years. The miscellaneous groups, although pretty, are invariably at this time of the year dull, lacking floral colour whilst the Chrysanthemum groups were of the usual solid stereotyped order, giving fine, but very formal banks. If these two groups could be blended, the prizes added, and half as much space again given to each, some splendid groups might result. As next year will see the society's majority, a good opportunity will offer for some break in the monotony of perennial classes.

Plant Groups. The best one of miscellaneous form was arranged by Mr. Ridge, gr. to C. SWINFEN EADY, Esq., Weybridge, light and graceful, but wanting more colour.

Chrysanthemum Groups were of the usual order, but the one set up by Mr. Forbes, gr. to D. NICHOL, Esq., Surbiton, if formal, had a well-raised point, and sloped down to a double edging of La Petite Amie, a white Japanese in 6-inch pots, the plants 18 inches in height, and capitally flowered. The general quality of all Mr. Forbes' Japanese flowers was excellent. Mr. W. French, gr. to Mrs. BARCLAY, Wimbledon, was 2nd; and Mr. G. H. Sage, gr. to Earl of DYSART, Ham House, 3rd.

Trained Plants.—The best six of these came from Mr. J. Swan, gr. to G. MURRAY SMITH, Esq., Weybridge, who had really good specimens, not too big, of Mrs. G. Rundle, Dr. Sharpe, W. Tricker, Viviand Morel, Sunflower, and J. Salter. Mr. S. Pead, gr. to R. S. BOND, Esq., Surbiton, was 2nd, but his plants were far too hardly tied, and short of bloom.

Mr. J. Plowman, gr. to C. LAVERS SMITH, Esq., Long Ditton, had the best three trained plants in unnamed varieties.

The finest three large-flowered standards came from Mr. F. King, gr. to A. F. PERKINS, Esq., Holmwood, who had Richmond White, Christine, and Chinaman; Mr. Watkins, gr. to R. W. MONRO, Esq., Coombe Warren, coming 2nd.

Mr. SWAN had the best four trained Pompons in Golden Marthe, M. Montels, W. Westlake, and Snowdrop.

Primulas.—Mr. Mileham, gr. to A. T. MILLER, Esq., Leatherhead, had the best six doubles, fairly well bloomed; and Mr. PEAD the best singles, of fair quality. The best six *Bouvardias* came from Mr. ATKINS. Mr. Maxgrega, gr. to the Dowager Lady HAY, Putney, had the best nine table-plants, a pretty selection; and the best berried plants, pretty erect bushes of Solanums came from Mr. ATKINS; large fruited Capsicums, from Mr. FRENCH, coming 2nd; and well-fruited Physalis Alkekengi, from Mr. SEX, 3rd.

Cut Flowers; The Challenge Vase.—The new Vase, a very handsome silver fruit-bowl, was on this occasion competed for by but four competitors, the interest the competition once created being now much discounted elsewhere. It was won this time by a worthy exhibitor, who has frequently tried hard—Mr. G. Hunt, gr. to P. RALLI, Esq., Ashtead Park. His incurved, really a capital lot of blooms, included Duchess of Fife, very fine; J. Agate, Alfred Salter, W. Tunnington, S. Coleman, Norman Davis, C. B. Whitnall, Lord Alcester, Globe d'Or, Empress of India, John Lambert, C. H. Curtis, M. C. Kingston, Robert Petfield, and J. Salter. And his Japanese included good blooms of Madame Carnot, Viviand Morel, Jas. Myers, Madame A. Chatin, M. Pankoucke, Edith Tabor, Madame Gruyer, W. C. Mewett, Silver King, A. Molyneux, Mr. W. H. Lees, Ch. Dawes, Rose Wynne, &c.; Mr. W. Jinks, gr. to EDGAR BRUCE, Esq., Watton, was 2nd, having in his stand the premier Japanese, a beautiful Madame Carnot; Mr. F. KING was 3rd.

Incurved Blooms.—The best twenty-four, capital flowers, were staged by Mr. Higgs, gr. to J. B. HANKEY, Esq., Fetcham Park. He had Chas. Curtis, a superb flower, and premier of the section; also Major Bonnaffon, too like the preceding; W. Tunnington, M. C. Kingston, Globe d'Or, John Lambert, Princess of Wales, Miss Haggas, Empress of India, Percy Norman, all good. Mr. G. HUNT came 2nd, with excellent flowers; Mr. JINKS being placed 3rd.

With *twelve incurved*, Mr. F. KING was 1st, having Robert Cannell, Lord Alcester, Empress of India, Golden Empress, Globe d'Or, Robert Petfield, J. Agate, C. B. Whitnall, Ch. Curtis, Queen of England, Miss Haggas, and Mrs. H. King; Mr. A. Felgate, gr. to the Dowager Duchess of WELLINGTON, Walton, was 2nd.

Mr. Springthorpe, gr. to W. A. BEVAN, Esq., Coombe Warren, had the best six blooms in Baron Hirsch, Ch. Curtis, Globe d'Or, J. Agate, Princess of Wales, and Jeanne d'Arc; Mr. MILEHAM was 2nd.

The best six blooms of one variety were broad, but rather flat Ch. Curtis, from Mr. SPRINGTHORPE; fair Empress of India coming 2nd, and Globe d'Or 3rd.

Japanese Blooms.—Mr. HIGGS was again 1st with a fine lot of flowers in the class for twenty-four, having Mdlle. Marie Hoste, Chas. Davis, Ethel Addison, Hairy Wonder, International, M. Chenon de Leché, Mdlle. Ricoud, Viviand Morel, Madame Carnot, M. Pankoucke, and Mrs. C. E. Shea of the best; Mr. Coombes, gr. to W. FURZE, Esq., Teddington, was 2nd, having very good Miss W. T. Drowett, C. Shrimpton, Mutual Friend, and others; Mr. J. HUNT was 3rd.

Twelve Blooms. Mr. F. KING led here with good Madame Carnot, Miss Elsie Teichmann, Viscountess Hambledon, Madame Therese Rey, Phœbus, M. C. Molin, and others; Mr. J. Cook, gr. to S. SAMSON, Esq., Walton, was 2nd; and Mr. H. Squelch, gr. to W. C. BOND, Esq., Dorking, was 3rd. Mr. MASTERMAN had the best six Japanese, Mr. J. PLOWMAN coming 2nd; and with six blooms, one variety, Mr. SPRINGTHORPE was again 1st, having the rich yellow Phœbus in fine form; Madame Carnot, from Mr. COOK, coming 2nd.

Reflexed.—These were few, and seem fast going out of cultivation. Mr. H. Hawkes, gr. to G. B. TATE, Thames Ditton, had the best twelve, in quite old varieties; Mr. Pitcher, gr. to W. M. DUNNAGE, Esq., Surbiton, coming 2nd.

Anemone, large-flowered, made a strong class, the flowers being exceptionally good. Mr. W. JINKS was 1st with twelve blooms, including J. Bunyan, Enterprise, Delaware, M. Dupanloup, Madame Cabrol, W. W. Astor, Sir W. Raleigh, &c.; Mr. A. Turner, gr. to C. F. Murray, Esq., Epsom, was 2nd. With twelve Pompons in trebles, Mr. CARTER was 1st with good blooms of Perle des Beautés, Osiris, W. Westlake, Charles Dickens, Prince of Orange, La Vogue, &c.; Mr. PLOWMAN being 2nd. The latter had the best Anemone Pompons.

Singles in trebles made a very telling class, Mr. ATELGATE coming 1st, having Hemfray, Jessie Carpenter, Miss Brown, Yellow Giant, D. Windsor, Duchess, Elizabeth, &c.; Mr. FORBES was 2nd. The latter had the best eighteen blooms in trebles of the three Rundles, making a nice class. A First class Certificate was awarded by the judges to Japanese Mrs. Maling Grant, very similar to M. Chenon de Leche, shown by Mr. JINKS as a seedling.

Fruit and Vegetables. The best collection of four dishes came from Mr. C. J. Waite gr. to the Hon. Col. TALBOT), Esher, who had Alicante Grapes, Coe's Golden Drop Plums, still good; Beurré Diel Pears, and Cox's Orange Pippin Apples. Mr. G. H. SAGE was 2nd. The latter had the best four dishes of Pears, in Beurré Bachelier, Easter Beurré, Duchesse d'Angoulême, and Uvedale's St. Germain. Mr. Sage also had the best six dishes of Apples, Lord Derby, Emperor Alexander, and Prince Albert, and Cox's Orange, Blenheim and Ribston Pippins, all good. Black Grapes were very few; the best were good Gros Colman, coming from Mr. Elliott, gr. to Captain McDonald, West Moulsey; and Mr. G. A. Cole-Fettam had the best White in fair Muscat of Alexandria. Mr. W. TAYLER, Hampton, and Mr. J. Miller, gr. to Lord FOLEY, Ruxley Lodge, showed excellent collections of fruit.

Vegetable competitions were limited to six kinds only, in large baskets, and Mr. C. J. WAITE was, as usual, an easy 1st. Many smaller and local general classes have to remain unnoticed. The weather was excellent and the attendance large. The new secretary, Mr. Victor Donet, seems to have given every satisfaction.

Obituary.

JOHN EDWARD GRAY.—On the 8th inst., suddenly, at Naples, the day after his arrival there to occupy the Cambridge University table at the Zoological Station, John Edward Gray, B.A., Scholar of King's College, Cambridge, second son of S. O. Gray, of 71, Belsize Park Gardens, N.W., and great-nephew of the late Dr. John Edward Gray, of the British Museum, aged twenty-two years.

VEGETABLES.

SUTTON'S FAVOURITE CABBAGE LETTUCE.

I was able to cut from plants out of doors the first week in the present month (with only a little protection at night) heads of this valuable variety. They were raised from seeds sown at the end of the month of July, and transplanted to a south border. They were ready for use as soon as the Cos varieties were over. Where Lettuce is in demand all the year round, as it is here, this variety cannot be too highly valued. It is of excellent flavour and good in colour *A. B. Wadds, Clivedon, Bucks.*

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (−) the Mean for the week ending November 7.	Temperature. Accumulated. Above 42° for the Week.	Below 42° for the Week.	Above 42°, difference from Mean since December 29, 1895.	Below 42°, difference from Mean since December 29, 1895.	Rainfall. More (+) or less (−) than Mean for the Week.	Rainfall. No. of Rainy Days since Dec. 29, 1895.	Rainfall. Total Fall since Jan. 1, 1896.	Bright Sun. Percentage of possible Duration for the Week.	Bright Sun. Percentage of possible Duration since Dec. 29, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	2 −	11	26	+ 152	− 252	5 −	211	48·0	12	23
1	3 −	10	33	+ 94	− 166	4 −	177	24·3	34	30
2	4 −	11	28	+ 169	− 165	2 +	161	20·7	29	29
3	4 −	14	34	+ 133	− 168	0 aver	158	21·4	42	35
4	6 −	10	46	+ 122	− 176	3 −	153	20·6	40	32
5	5 −	16	29	+ 229	− 205	2 −	143	21·3	44	38
6	5 −	13	35	+ 182	− 152	8 −	182	37·7	28	32
7	6 −	11	33	+ 255	− 194	3 −	169	29·9	25	32
8	7 −	16	37	+ 294	− 132	9 −	150	25·6	44	41
9	4 −	13	28	+ 179	− 166	7 −	194	33·9	30	28
10	7 −	17	41	+ 258	− 126	8 −	166	29·8	40	33
*	4 −	33	0	+ 412	− 109	6 −	168	24·0	34	46

The districts indicated by number in the first column are the following:—

0, Scotland N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending November 7, is furnished from the Meteorological Office:—

"The *weather* during this week was mostly fine and bright, but showers were experienced in many places during the early days of the week—especially in the north-east—and considerable quantities of rain fell very generally at the close of the period. Thunder and lightning occurred at some of the extreme southern stations on Sunday.

"The *temperature* was again below the mean, the deficit ranging from 2° in 'Scotland, N.,' and 3° in 'Scotland, E.,' to 5° or 6° in many other districts; and to 7° in 'England, S.W. and 'Ireland, S.' The highest of the maxima were recorded on rather variable dates, and ranged from 55° in 'England, S.W.,' to 50° in the 'Midland Counties.' The absolute minima, which occurred generally about the middle of the week, were again very low; they ranged from 19° in the 'Midland Counties,' 'Scotland, W.,' and 'England, S.W.,' to 24° in 'Scotland, N.' and 'England, N.W.,' and to 34° in the 'Channel Islands.' The lowest reading, reported from instruments exposed on the grass, was 14° at Worksop on the 6th and 7th.

"The *rainfall* somewhat exceeded the mean in 'England, N.E.,' and just equalled it in 'England, E.;' elsewhere, the fall was less than the normal; and over Ireland and the south-west of England the deficiency was very large.

"The *bright sunshine* exceeded the mean in all districts excepting 'Scotland, N.' The percentage of the possible duration ranged from 44 in 'England, S. and S.W.,' and 42 in 'England, E.,' to 25 in 'England, N.W.,' and to 12 in 'Scotland, N.'"

LAW NOTES.

THE AGRICULTURAL RATES ACT.

THE market-gardeners in the Brentford and Richmond Unions are already being furnished with evidence that their position under the new Agricultural Rates Act is not all they had been led to believe it would be. The Brentford Union Assessment Committee recently instructed the overseers of the different parishes in its large area to prepare lists of property to which the Act might be applied, and engaged an assessor, upon whose report all glasshouses and land under glass were included as being entitled to contributions from the Imperial Exchequer. This view was arrived at upon a careful consideration of the Worthing case, which was read as holding that the presence of glass on land does not alter the agricultural character of the land. To this view the surveyors of taxes demur strongly, and, acting under the instructions of the Board of Inland Revenue, are appealing against the arrangement. In Richmond a conference has been held, and the view there was strongly in favour of concurring in the view of the Inland Revenue authorities. This wide divergence of opinion leaves apparently open only one course—recourse to Quarter Sessions, and the Brentford Union Assessment Committee express the view that they will not alter the position they have taken up until an adverse opinion is given by the higher authorities. Another view the surveyors of taxes take is, that occupied buildings upon land are to be assessed for local rating purposes at nothing below the figure they are assessed at for the house-duty. The effect of this is in several cases to make the assessment of the house alone greater than that for the entire holding, and to absorb in the house, for which no grant is of course given by the Government Exchequer, the value of the land, and so prevent the holder of the latter receiving that benefit which the Act contemplated he should have. The Assessment Committee, moreover, cannot give him any help by adding a fresh assessment to his land, as they are, by the Act, bound to leave the assessment of the whole holding as it is at present, and neither make it greater nor less. Consequently, if the views of the surveyors of taxes are correct, and the Assessment Committee accept them as such, the gardener who happens to have a habitable building on his land stands a chance of losing a grant in aid of his rates for five years, and even if he should appeal, as he has the right to do as soon as the lists under the Act are published, and succeed in inducing the Assessment Committee to lower the assessment on the house, he would be too late to derive any benefit. This point again is put forward by the Inland Revenue authorities, and nothing less than an appeal to the law courts will decide the question. Obviously it behoves gardeners themselves to look into these questions, and themselves procure such information as can lead them to help those who are trying to protect them against the construction of the Act as applied by a Government department.

MARKETS.

COVENT GARDEN, NOVEMBER 12.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistras, per doz.	12 0	30 0
— specimen, each	5 0	15 0
Chrysanthemums, per doz.	6 0	12 0
— specimen plants, each	1 6	2 6
Coleus, per doz.	2 0	4 0
Dracænas, each	1 0	7 6
— various, p. doz.	12 0	24 0
Evergreen Shrubs, in variety, doz.	6 0	24
Ericas, p. doz.	10 0	12 0
Ericas, hyemalis, per doz.	12 0	15 0
Ferns, small, doz.	1 0	2 0
— various, doz.	5 0	12 0
Ficus elastica, each	1 0	7 6
Foliage plants, per doz.	12 0	36 0
Marguerites, p. doz.	6 0	10 0
Palms, various, ea.	2 0	10 0
— specimens, ea.	10 6	84 0
Pelargoniums, Scarlets, p. doz.	6 0	8 0
Solanums, p. doz.	12 0	15 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Anemone, doz. bun.	1 6	2 6
Arums, p. 12 blooms	4 0	6 0
Bouvardias, per bn.	0 6	0 9
Carnations, 12 blms.	1 0	2 6
Chrysanthemums, doz. bun.	3 0	6 0
— doz. blooms	1 0	4 0
Eucharis, per dozen	2 6	4 0
Gardenias, per doz.	1 0	3 0
Gladiolus, coloured, per doz. sprays	1 0	2 0
Lilac, wh. (French), per bunch	3 6	5 0
Lilium Harrisi, per doz. blooms	4 0	8 0
— lancifolium, doz. blooms	2 0	3 0
Lily of the Valley, dozen sprays	0 9	2 0
Maidenhair Fern, per 12 bunches	4 0	8 0
Marguerites, per 12 bunches	2 0	4 0
Mignonette, per doz. bunches	2 0	4 0
Mimosa (French), per bunch	1 0	1 6
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 bm.	2 0	6 0
Pelargoniums, scarlet, per 12 bun.	3 0	6 0
— per 12 sprays	0 4	0 6
Pyrethrums, 12 bu.	2 0	4 0
Roses (French), per doz. blooms	1 0	2 0
— Tea, per doz.	0 9	1 6
— yellow (Maréchal), per doz.	6 0	9 0
— red, per dozen	1 0	2 0
— pink, per doz.	3 0	4 0
— Safrano, p. doz.	1 0	2 0
Stephanotis, per 12 sprays	4 0	6 0
Tuberoses, 12 blms.	0 3	0 6
Violets (Fr.) Parme, per bunch	2 6	4 0
— — Czar, per bunch	2 0	3 0
— — doz. bun.	1 6	—
— (Eng.), per doz. bun.	1 6	2 6

ORCHID-BLOOM in variety.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Apples, cooking, in variety, per sieve	2 0	3 0
— dessert, in variety, per ½-sieve	2 6	4 0
Grapes, Alicante, 1st quality, per lb.	1 0	1 3
— Alicante, 2nd quality, per lb.	0 6	0 8
— Gros Colmar, per lb.	1 3	1 6
— Gros Colmar, 2nd qual., per lb.	1 0	—
— Muscats, English, 1st quality per lb.	2 6	3 0
Grapes, Muscat, 2nd qual., p lb.	1 0	1 6
— Gros Maroc, per lb.	1 0	1 3
Medlars, per ½-sieve	2 6	3 0
Melons, each	2 0	2 6
Nuts, Cob, per 100 lb.	25 0	27 6
Pears, Doyenné du Comice, per ½-sieve	7 0	8 0
— Duchess, per ½-sieve	5 0	6 0
Pine-apples, St. Michael, each	5 0	6 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Beans, French, Channel Is., per lb.	1 0	—
Cauliflowers, p. tally of 5 doz.	5 0	7 6
Cucumbers, home-grown, per dz.	2 0	3 0
Mushrooms, (Indoor) per lb.	1 0	—
Tomatos, home-grown, smooth, per doz. lb.	3 6	—
selected	4 0	4 6
— ordinary kinds, do.	1 0	2 0
— Canary Islands, per case, about 12 lb.	3 6	4 0

POTATOS.

Stocks have greatly increased since last report, and prices easier. Dunbars, 90*s.* to 100*s.*; Lincoln Main Crop, 80*s.* to 85*s.*; Blacklands, 40*s.* to 45*s.* per ton. *J. B. Thomas.*

SEEDS.

LONDON: *November* 11.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., report to-day's market inactive. Clover seeds are for the moment receiving less attention; meantime values, all along the line keep steady, whilst American Red is cabled higher. Italian Rye-grass is firm, at the late rise. As regards Turkish Canary-seed, the remarkable upward movement in freights has quite stopped shipments to England. The new Hemp seed comes good and cheap. There is no alteration in either Mustard or Rape seed. Some fine Canadian Haricots just landed showing good quality, and being reasonable in price, attract attention. Full rates are realised for White Runners. Linseed is dull. The Board of Trade Returns give the imports of Clover and grass-seeds into the United Kingdom for the first ten months of this year as 317,708 cwt., value £609,350; as against 309,943 cwt, value £688,741 for the corresponding period of 1895.

FRUIT AND VEGETABLES.

GLASGOW: *November* 11.—Averages of the prices ruling during the past week:—Fruit: Pears, 6*d.* per pound; Apples, 1*s.* to 2*s.* 6*d.* per stone; Tomatos, Guernsey, 5*d.* per lb.; do., Scotch, 6½*d.* do.; Grapes, home, 1*s.* to 2*s.* do.; do., foreign, 6*d.* to 1*s.* do. Vegetables: Turnips, white, 2*s.* to 2*s.* 6*d.* per dozen bunches; do., Swedes, 1*s.* to 1*s.* 3*d.* per cwt.; Savoys, 1*s.* to 1*s.* 3*d.* per dozen; Cabbages, 8*d.* to 9*d.* do.; do, late, 1*s.* to 1*s.* 6*d.* do.; do., Red, 2*s.* 6*d.* to 3*s.* do.; Cauliflowers, 2*s.* to 2*s.* 6*d.* do.; Parsnips, 4*s.* 6*d.* per cwt.; Herbs, assorted, 1*d.* to 2*d.* per bunch; Leeks, 1*s.* to 2*s.* 6*d.* per dozen bunches; Mint, green, 6*d.* per bunch; Onions, Dutch, 3*s.* to 3*s.* 6*d.* per bag; do., Portugal, 1*s.* per stone; do., Globe, 3*s.* to 3*s.* 6*d.* per cwt.; Parsley, 5*s.* to 6*s.* do.; Greens, 4*d.* per bunch; Celery, table, 2*s.* do.; do., common, 9*d.* to 1*s.* do.; Potatos, best, 8*d.* per stone; Carrots, 2*s.* 6*d.* to 3*s.* 6*d.* per cwt.; Artichokes, 10*s.* to 14*s.* do.; Cucumbers, 4*s.* to 4*s.* 6*d.* per dozen; Lettuces, 6*d.* to 9*d.* per dozen; do., Cos, 9*d.* do.; French, 1*s.* do.; Radishes, 9*d.* to 1*s.* per dozen bunches; Horseradish, 2*s.* 6*d.* per bunch; Broad Beans, 1*s.* to 1*s.* 6*d.* per stone; French Beans, 4*d.* to 6*d.* per peck; Scarlet Runners, 1*s.* 6*d.* per stone; Mushrooms, 1*s.* to 1*s.* 3*d.* per lb.; Beetroot, 7*d.* per dozen; Cress, 3*d.* per basket; Brussels Sprouts, 1*s.* 6*d.* to 1*s.* 9*d.* per stone.

LIVERPOOL: *November* 11.—Averages of prices at the following markets:—St. John's: Potatos, 8*d.* to 10*d.* per peck; Grapes, English, 1*s.* to 2*s.* 6*d.* per pound; do., foreign, 6*d.* to 8*d.* do.; Pines, English, 4*s.* to 8*s.* each: Mushrooms, 1*s.* per pound. Birkenhead:—Potatos, 6*d.* to 8*d.* per peck; Grapes, English, 2*s.* to 3*s.* 6*d.* per pound; do., foreign, 4*d.* to 6*d.* do.: Pines, English, 4*s.* to 6*s.* each.

ENQUIRY.

"He that questioneth much shall learn much."—BACON.

HORÆ SYLVANÆ.—*Studies of the Forests, &c., of North-west America*, by R. Brown. Who was the publisher of this book, and where can a complete copy be obtained? *Massachusetts.*

NOTICES TO CORRESPONDENTS.

*** *We have received reports of Chrysanthemum shows held at Hull, Brighton, Lewes, and many other places, which we are quite unable to notice in the present issue, through insufficiency of space.*

BEGONIA ROOTS EATEN: *A. H. M.* Weevil grubs, probably Otiorhynchus. Remove all the present earth, and burn it, together with any plants badly infested. Carefully wash the roots in Gishurst Compound, or with some other insecticide before replanting. As the perfect weevils feed at night, shake the plants after dark over a sheet of paper, and destroy the insects. *R. McL.*

BLACK CURRANT BUDS DISFIGURED: *Main & Co.* The buds are infested by the Currant-bud mite. The mites will spoil the whole of the bushes another year if you do not cut off and burn the affected shoots, and spray the bushes now and in the spring with petroleum emulsion. To make the emulsion, take soft-soap 1 lb., petroleum ½ pint, and water 3 gallons. First dissolve the soap and the water, then add the oil, and keep the whole well agitated whilst using it.

"BOTANY FOR BEGINNERS": *J. W. W.* We think this is out of print. Apply to Messrs. Bradbury, Agnew & Co., Bouverie Street, Fleet Street.

BRIAR STOCKS WITH BUDS OF TEA ROSES INSERTED IN THEM: *W. H. B.* In mild winters no harm will accrue to the buds, but in a severe one it will be advisable to fasten some strawy litter or bracken round the stock at the part in which is the bud, or bend the head of the stock down into a hole thrown out to one foot in depth, cover with soil; secure the plant in that position with a stout peg, and cover the stocks with litter.

CATTLEYA SHEATHS NOT DEVELOPING: *Pomona.* It is probable that your Cattleya labiata produced more buds than it could develop, and hence some have expanded and some failed.

CELERY ROTTING AT THE HEART: *A. U. S.* When this occurs at the present season, it is usually the effect of depriving the heart-leaves of light whilst growth is still active. This is brought about by a too rapid earthing-up, and the decay commencing with the leaves extends downwards to the root. It would occur with any variety in any kind of soil.

CUCUMBERS IN ILL-HEALTH: *C. F. R.* There is not the slightest trace of Bacteriosis or of any fungus disease in your Cucumbers. The foliage is very much spotted, but the spots are not caused by fungus, and there is no trace of mycelium. Close microscopical examination has failed to furnish any clue to the mystery, which can only be found on the spot. *M. C. C.*

FORCING HELLEBORUS NIGER: *T. J., Constant Reader.* The plant will not bear much forcing, and it suffices to pot up the clumps, and place them in a light position in the greenhouse or pit, with a minimum degree of warmth of 45°, to have them in flower in December. They are better for being established in pots or small tubs, one or two years in advance. The plant is showing its flower-buds even at the present time on out-of-door plants.

HOLLIES: *K. G. M.* Unless you can transplant them with large balls they should remain where they now are till April.

INSECT: *A. H.*—A plant-bug of the genus *Lopus.* See answer to "Puzzled" in our number for October 3. *R. McL.*

INSECTS IN CUCUMBER-HOUSE: *C. B. W.* Kindly send specimens of the insect which curls up like a woodlouse. Meanwhile, try the effect of carbolic acid, or of borax in powder strewn in their haunts, in driving the creatures out of the place. Baking the soil before making use of it would kill the larvæ and insects. Exposing to very strongly fermenting stable-dung in a close pit would have an almost equally good effect.

Lilies Diseased: *R. F.* A bulb of Lilium Harrisi, sent in bad condition, although when potted six weeks ago it was all right. The scales at the tips, and in other parts, exhibit brown patches of rot; but in these we can distinguish no fungus mycelium. There are some minute cells, resembling bacteria, but not numerous, and it is an open question whether they have anything to do with the disease. *R. F.* complains that his bulbs went in the same manner last year. Very soon after exposure, the diseased spots are covered with a saprophytic mould. *M. C. C.*

Lye: *A. E. D.* Wood-ashes mixed with water, allowed to stand for a time till it is clear, when it is fit for use.

Names of Fruits: *Sherrington.* Pear, Beurré Diel; Apple, Claygate Pearmain.—*H. K.* 1, Doyenné Boussoch(?); 2, Comte de Lamy; 3, King of the Pippins. *E. Beck.* Pear, Beurré Bosc; Apples, 1, Col. Vaughan; 2, Rymer.—*A. L. T.* 26, King of the Pippins; 43, Fearn's Pippin; 49, Court of Wick; 47, Sturmer Pippin; 34 and 50, not recognised.

Names of Plants: *Correspondents not answered in this issue are requested to be so good as to consult the following number.—S. P.* 1, Pteris aquilina; 2, Solidago virga aurea (Golden Rod); 3, Polygonum species.

Phalænopsis: *Garden.* The injury may have happened to the Phalænopsis from the cause you describe, but it is more likely that it has been brought about by cold, or by being kept too wet and cold occasionally.

Scale on Holly: *F. Fitzwater.* The "scales" on Holly are a species of Aspidiotus, probably new to this country; the hedge is very badly attacked, and it is singular it had not been previously noticed. Time will determine whether your application of petroleum has been beneficial. It is very difficult to "get at" scale insects, because the scale often protects the young brood underneath it. A very simple "wash" has been recommended, viz.:—2 lb. of hard laundry soap to the gallon of water: it is worth trying. *R. McL.*

The Recipe for Canker in Fruit: *J. M., Cornwall.* We will ascertain if it be one, the use of which is recommended by the nurseryman named.

Tomatos in Ill-health: *N. S.* We find no trace of fungus disease in the Tomatos sent. The peculiar condition of the fruits is the same as we have observed in two or three consignments to us for report, and from the fruits themselves we are unable to say anything. We are disposed to attribute the wrong to some external circumstances, or to climatic conditions, to which the fruits themselves furnish no clue. *M. C. C.*

Varieties of Different Kinds of Hardy Fruits: *J. M., Cornwall.* Not a very good one as regards Gooseberries, Strawberries, and dessert Pears and Apples. It should always be remembered that the best varieties fetch the highest prices, and they are generally as productive as inferior ones, therefore to be recommended for market purposes and cottager's cultivation. The kitchen varieties of Apples consist largely of early varieties.

White Cactus: *S. T.* We do not know exactly what plant you mean, but no Cactus fruit is poisonous; and some, like the Opuntia, are used in places as dessert fruits.

Communications Received.—S. T.—W. H. W.—W. B.—F. C. H.—Smithsonian Institute.—D. T. F.—W. Wood & Sons.—W. F. C. R. M.—N. E. Br. Hurst & Son.—J. K. B., Utrecht.—J. R., Quedlinburg.—J. B.—A. C. F.—Yorkshire Gardener.—N. E. B.—D. T. F.—A. P.—J. Allsop.—J. H.—W. W.—J. McI.—D. R. W.—E. B.—E. C.—W. G. S.—T. Goacher; could you send another schedule?—J. H. Hart.—D'Heleneveld, Contich.—E. E. S.—J. G.—E. H. C.—R. C. Lichtheld.—R. Hullister.—J. Bowden.—A. W. H.—E. M.

Photographs, Specimens, &c., Received with Thanks.—Messrs. Sander, Bruges.—W. Bull.

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

Important to Advertisers.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

Increased to the extent of more than 90 per cent., and that it continues to increase weekly

Advertisers are reminded that the "Chronicle" circulates among country gentlemen, and all classes of gardeners and garden-lovers *at home, that it has a specially large* foreign and colonial circulation, *and that it is preserved for reference in all the principal Libraries.*

MATS SUPERSEDED BY USING

"FRICI DOMO" CANVAS.

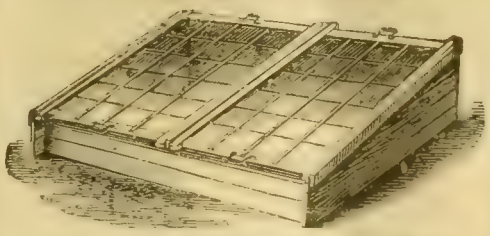
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Made of prepared Hair and Wool, a perfect protection to all Plants & Blooms. Cheaper than any kind of mat, and will last for years.

To be had from all Nurserymen and Seedsmen.

GREAT REDUCTION IN FRAMES

OUR WELL-KNOWN MAKE.



PORTABLE CUCUMBER FRAMES.

These Frames are made of the Best Materials, and can be put together and taken apart in a few minutes by any one.

Sizes and Prices, Glazed and Painted.		£	s.	d.
1-light, 4 ft. by 6 ft...	CASH	2	0	0
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ILLUSTRATED CATALOGUE FREE.

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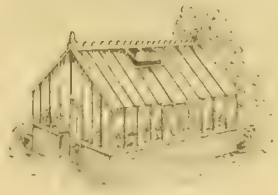
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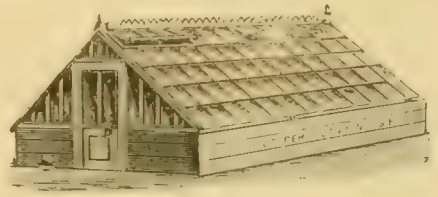
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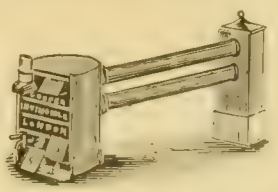
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II.—Poultry, Kennel, Rabbit, and Pigeon Appliances, &c.	65— 98
III.—Rustic Work	99—134
IV.—Iron Buildings and Roofing, Church Furniture, &c.	135—178
V.—Heating Apparatus, Cooking Stoves, &c. ...	179—228



Complete Apparatus, £3.

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VIII.—Horticultural Timber	268—280
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Frames from 17s.

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THE GARDENERS' CHRONICLE

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Publishing Office and Office for Advertisements,
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All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months. Post-office Orders to be made payable at the Post-office, Great Queen Street, London, W.C., to H. G. COVE.

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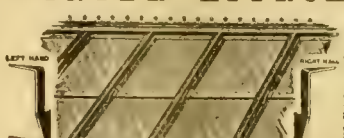
QUALITY OF WORK UNSURPASSED.

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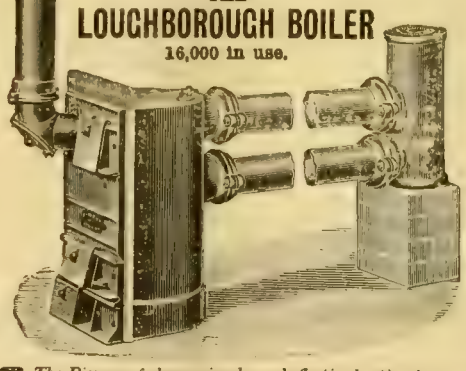
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Owing to improved facilities for the manufacture of these Boilers, and a consequent cheapening in the cost of production, we are enabled to reduce the prices as follows:—
No. 1, £2 12s.; No. 2, £3 15s.; No. 3. £5; also larger sizes.
Complete Apparatus from £4 8s. Lists and Estimates on application.

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SAVE HALF THE COST.

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Is admitted by the leading Nurserymen to be the **Best Quality** obtainable in the Trade.

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Consumers should **Buy Direct** from the Owner of these Celebrated and Extensive Pits, which contain a practically inexhaustible supply of Splendid Sand, and thus *save half the ordinary cost.*

Apply direct to the Proprietor for Samples and Price free on Rail or Canal. *All Orders executed with the utmost promptness and under personal supervision.* Special Railway Rates in force to all parts. All kinds of **PEAT** supplied at lowest possible prices. Sample Bag sent on application to **GEO. GARSIDE, Jun., F.R.H.S., Leighton Buzzard, Beds.**

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100 TONS BEST ENGLISH CRUSHED,
1 inch, ½-inch, ¼ inch, and Meal.
Especially prepared for Vine Borders.
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The very best for all purposes.

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Used by every Orchid Grower of any note all over the World.
The CHEAPEST and BEST.
Half-pints 1/1, pints 2/6, quarts 4/6, half gallons 7/6, gallons 12/6, 5-gallon Drums 10/6 per gallon.
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A large stock of the finest quality ORCHID PEAT. Also for Stove and Greenhouse Plants, Ferns, Rhododendrons, &c. By the sack, cubic yard, ton, or truck-load. Can be seen in bulk at London Wharf. Immediate despatch either from London or Grounds. By Rail or Steamer. Prompt and Special Quotations for delivery to any Station or Port.

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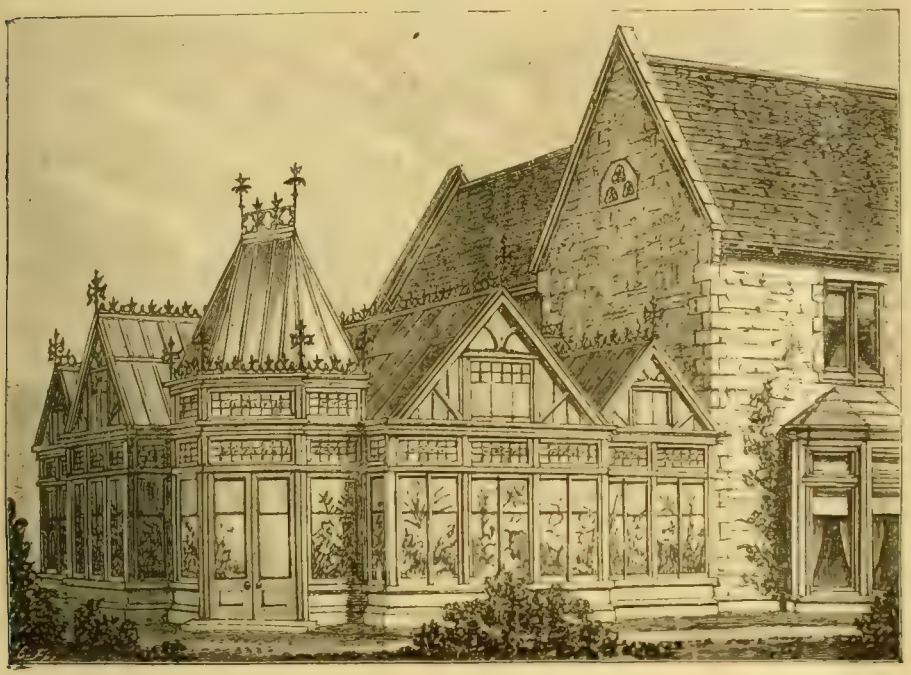
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All Materials and Workmanship of the Best Quality.

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The Patent "DUPLEX" Upright Tubular Boilers of all Sizes, conditionally GUARANTEED FOR TEN YEARS.

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Good Quality, 15-oz. in 50-ft. Boxes.

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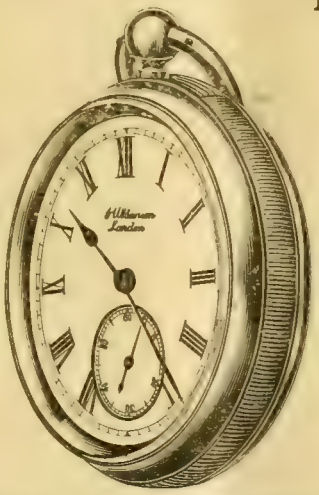
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"LUDGATE" WATCH

BEATS ALL OTHERS FOR
ACCURACY,
DURABILITY, and
PRICE.

FOR GARDENERS.



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COMBINED PICK AND SHOVEL

SYNDICATE (Limited).



Patented in **seventeen** different countries.

These tools are now being made in all shapes, sizes, and weights, suitable for Gardening, Sporting, and all purposes where the Pick, Shovel, or Hoe is required.

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On receipt of P. O.

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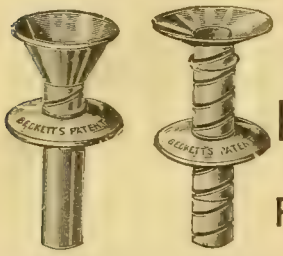
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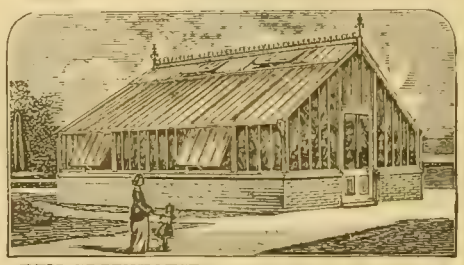
On receipt of 4s. a sample blind, 4 ft. by 6 ft. drop length will be forwarded.

ORCHID BASKET MANUFACTURERS,

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EXHIBITION
FLOWER TUBES
FOR
Chrysanthemums, Roses, &c.
To be had of all Seedsmen and Nurserymen.
LIST FREE on application to
STILL & CO., 24, Charles St., Hatton Garden, LONDON, E.C.

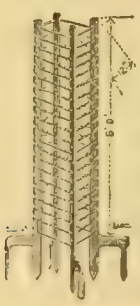


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Superior Portable Frames, large stock ready for immediate use, well made, painted four coats, glazed with 21-oz. glass, carriage paid:—1-light frame, 4 × 6, 36*s.* 6*d.*; 2-light frame, 6 × 8, 58*s.*; 3-light frame, 12 × 6, 85*s.* 6*d.*
Span-roof Frames, 6 × 4, £2 5*s.*; 9 × 5, £3 15*s.*
HARDY BRUIN & CO., LEICESTER.

HILL & SMITH, BRIERLEY HILL, near DUDLEY;
And at LONDON & DUBLIN.



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TREE GUARD.
The Maximum of Utility with the Minimum of Cost. Is a perfect protection against SHEEP, HORSES, or STOCK. It is made 6 feet high, by 12 inches square (in halves, which bolt together), of Barb Wire, attached to an Iron Frame.



Price, 9*s.* and 10*s.* each.
Catalogues free on application, naming this advertisement.

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6 PENCE WILL BUY A BOTTLE WHICH WILL MAKE 60 CLASSES IN 6 MINUTES OF DELICIOUS,
Non-Alcoholic Wine
FOR CHILDREN'S PARTIES.
Sample Bottle, Post Free for 9 stamps.
In all Fruit Flavours.
Try the Ginger or Elderberry; These are Special Favourites.
MASON'S EXTRACT OF HERBS for making Delicious Non-Intoxicating Beer. A 6d. Bottle makes 8 Gallons. Sample Bottle, 9 stamps, or a Sample of both Post Free for 15 stamps.
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Mr. C. COOMBER, for the last six years Gardener to the Westgate-on-Sea estate, as Head Gardener and Bailiff to LEACH LEWIS, Esq., Sackett's Hill, Broadstairs.

Mr. WM. HUTCHINSON, until recently Gardener, Balmedie, Aberdeen, as Head Gardener to D. TOD, Esq., of Eastwood Park, Giffnock, Renfrewshire.

Mr. AUSTIN CALDWELL, for the past four and a half years Gardener in Stagoden Gardens, Park Crescent, Southport, and formerly of Eaton Hall Gardens, Chester, as Head Gardener to Mrs. BIBBY, Hart Hill, Allerton, Liverpool.

Mr. R. G. MICHIE, late of Holmacre, Fallowfield, as Head Gardener to C. ROSKEL, Esq., Brokehurst, Didsbury.

Mr. G. H. CLACK, late Foreman in the Gardens at Hampton Court House, Hampton Court, as Gardener to Major DOHERTY, Vernon House, Weston Park, Bath.

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COUNTY COUNCIL LECTURES.

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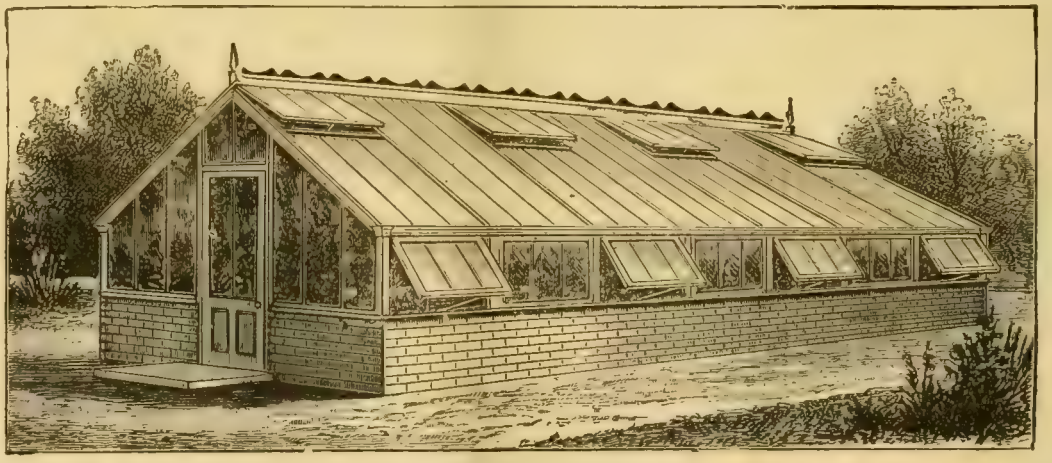
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The Gardeners' Chronicle

ESTABLISHED 1841. No. 2917.

No. 517.—Vol. XX. { Third Series. } SATURDAY, NOVEMBER 21, 1896. [Regt. as a Newspaper. { PRICE 3d. POST-FREE, 3½d.

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NOTICE TO ADVERTISERS.

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Plant in November.

BARR'S OLD ENGLISH TULIPS, to which were awarded the Gold Medal of the Royal National Tulip Society at the Temple Show, London, May, 1896.
Full Descriptive LIST of the finest Named Varieties on application.
BARR'S CHOICE MIXTURE, from the Largest Collection of Old English Tulips in existence, per 100, 15*s.*; p. doz., 2*s.* 3*d.*
BARR & SONS, 12, King Street, Covent Garden, London.

NOW is the TIME to PLANT PÆONIES and DELPHINIUMS.
Catalogue of KELWAY AND SON, Langport, Somerset.

TO THE TRADE. — SPECIAL CHEAP OFFER to clear. White Roman Hyacinths, first size, 8*s.* 6*d.* per 100; second size, 7*s.* 6*d.* per 100. Double Roman and Mixed Polyanthus Narcissus, 2*s.* 6*d.* per 100.
JOHN R. KING, Seed Grower, Coggeshall.

TULIPS.—TULIPS.—TULIPS.
LATE and RARE SINGLE GARDEN SORTS.
Some very rare and scarce.
Write,—HARTLAND, Seedsman, Cork, Ireland.

CARNATIONS. — JAMES DOUGLAS begs to announce that his CATALOGUE for Autumn, 1896, and Spring, 1897, is now ready. It contains descriptions of the New Border and New Malmaison Carnations, with Cultural Directions. SEEDLING CARNATIONS, best strains, 3*s.* 6*d.* per dozen; 15*s.* per 100. Best CARNATION SEED, 1*s.* 6*d.* and 2*s.* 6*d.* per packet. Catalogue post-free.
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KENT, THE GARDEN OF ENGLAND.—GEORGE BUNYARD & CO., Merchant Nurserymen, Pomologists, &c., beg to say the following Catalogues will be sent post free:—ILLUSTRATED FRUIT AND ROSE LIST, six stamps; General Catalogue OF ROSES, free; GENERAL NURSERY CATALOGUE, free; HERBACEOUS PLANT LIST, free; STRAWBERRY LIST (CULTURAL), free; BORDER CARNATION LIST, free; MARKET GROWERS' FRUIT LIST, free.—The Royal Nurseries, Maidstone.

THE ORCHID-GROWERS' MANUAL.—Seventh Edition: Enlarged and Revised up to the present time, containing 800 pages, and 311 Illustrations, making the most complete, up-to-date work on Orchids yet published. Super-royal 8vo. Price 25*s.*; Free by Parcel Post, in the United Kingdom, 25*s.* 10*d.*
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GRAVEL.—RED SCREENINGS, best quality and colour, for Garden Paths, binding without sticky clay in it. GRAVEL STONES, or RED GRAVEL, as dug, unsifted, 3*s.* 6*d.* per ton, free on Rail, Camberley, S.W. Railway
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OHLENDORFF'S GUANO GARDEN MANURE and CHINCHAS PERUVIAN GUANO, the Best for all Horticultural Purposes. Produce good results without exhausting the soil. Unrivalled for Tomatos Cucumbers, and other Vegetables. A boon to Gardeners and Prize-takers. Supplied by Seedsmen and Nurserymen.

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SALES BY AUCTION.

Lower Edmonton.

CLEARANCE SALE of FERNS, BEDDING PLANTS, HORSE, VANS, UTENSILS, &c; also the Lease of the Property. By order of Messrs. Young & Son, who are relinquishing the Business.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, The Town Road Nursery, Town Road, Lower Edmonton, five minutes' walk from Lower Edmonton Railway Station, on THURSDAY NEXT, November 26, at 12 o'Clock precisely,

30,000 FERNS,

in great variety, and well-grown plants.

2000 BEDDING GERANIUMS, and other Plants.

1000 GENISTAS.

Capital Horse, two Vans, Harness, Chaff-cutting Machine, Glazed Lights, Tools, New Boxes, and other items.

Also the LEASE of the PROPERTY, consisting of Brick-built Dwelling-house, Stabling, and Van-shed, held for 17 years unexpired, at £40 per annum, with the erection of 17 Greenhouses and 2 Pits. Thousands of feet of Hot-water Piping, Boilers, &c.

May be viewed any day prior to the Sale. Catalogues may be had on the Premises; at the Golden Lion Hotel, Lower Edmonton; and of the Auctioneers and Valuers, 67 and 68, Cheapside, London, E.C.

Thursday Next, November 26.

SPECIAL SALE of HARDY PERENNIALS, comprising PYRETHRUMS, PHLOXES, IRIS, Double and Single, PÆONIES, TRITOMAS, LILIUMS in variety, TEA and other ROSES, BEGONIAS, CARNATIONS, DAHLIAS, and other BULBS.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on THURSDAY NEXT, November 26, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next.

By order of Messrs. W. L. Lewis & Co.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on FRIDAY NEXT, November 27, at half-past 12 o'Clock, 100 specially selected plants of LÆLIA PRÆSTANS, true original type, mostly grand masses, a grand lot of ODONTOGLOSSUM INSLEAYI, and CATTLEYA ACLANDIÆ, and others, together with ESTABLISHED ORCHIDS, from various owners.

On view morning of Sale, and Catalogues had.

Tuesday, December 1.

A CONSIGNMENT OF

695 CASES OF JAPANESE LILIES,

Received direct for Unreserved Sale, ccomprising—

30,300	LILIUM	AURATUM.
12,900	,,	SPECIOSUM ALBUM.
5,810	,,	,, RUBRUM.
600	,,	,, variety, green-stemmed.
5,420	,,	LONGIFLORUM GIGANTEUM.
420	,,	BROWNII.

Also—

12,000 Seeds of KENTIA BELMOREANA.
24,000 ,, ,, FOSTERIANA.

Together with AZALEA INDICA and MOLLIS, CAMELLIAS, and RHODODENDRONS, from Belgium; STANDARD and other ROSES, English-grown LILIES, STOVE and GREENHOUSE FERNS and PLANTS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY, DECEMBER 1, at Twelve o'Clock.

On view morning of Sale, and Catalogues had.

DUTCH BULBS.

SALES EVERY DAY (Saturdays excepted).

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., EVERY DAY (excepting Saturdays), at 12 o'Clock, large consignments of NAMED HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other BULBS from Holland, received direct for Unreserved Sale. Lotted to suit the Trade and Private Buyers; together with white ROMAN HYACINTHS, paper-white NARCISSUS, SNOWDROPS, special TULIPS, &c.

On view morning of Sale, and Catalogues had.

MONDAY, TUESDAY, WEDNESDAY, THURSDAY, and SATURDAY NEXT.

DUTCH BULBS-DUTCH BULBS

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., as above, at half-past 12 o'Clock precisely each day—

SPLENDID CONSIGNMENTS OF HYACINTHS

TULIPS, CROCUS, NARCISSUS, &c.,

FROM LEADING GROWERS,

in the finest possible order, and lotted to suit all buyers.

On view mornings of Sale, and Catalogues had.

DUTCH BULBS-DUTCH BULBS

SALES NEARLY EVERY DAY TILL THE END OF DECEMBER.

MR. J. C. STEVENS begs to announce that he has arranged with several of the first Nurserymen in Holland to Continuously Supply his Sales, during the present season, with only really First-class Bulbs, of the best quality.

Wednesday Next.

IMPORTANT SALE.

800 Choice named Standard (in three sizes), Dwarfs, and other ROSES, from celebrated English and German Growers.

Lilium auratum, L. Brownii (?), and L. longiflorum. from Japan; CHINESE SACRED LILIES.

A Choice Selection of Fruit Trees.

Ornamental Shrubs, a fine Collection.

English and Foreign Palms and Azaleas.

Collection of Gladioli and Narcissus. Lilium Harrisi.

60,000 Best Berlin Lily of the Valley Crowns.

An Immense Importation of specially fine DUTCH BULBS.

A Collection of Carnations and Border Plants.

Together with a large variety of BULBS and ROOTS.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, November 25, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

Thursday Next.

TRADE SALE of BULBS and PLANTS.

Twenty Cases of Araucaria excelsa, just imported, to be sold as received direct.

75 000 Best Berlin Lily of the Valley Crowns.

7 000 Spiræa japonica and varieties.

Several Hundred Standard Roses. A fine Assortment of beautifully-grown ORNAMENTAL SHRUBS, and a large lot of LILIUMS, &c., from Holland.

Lilium auratum and Others, from Japan.

And an

Enormous Importation of Dutch Bulbs. Daffodils GLADIOLI, FREESIAS, L. HARRISII, &c.

800 Standard and Climbing Roses.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY NEXT, November 26, at half-past 12 o'Clock precisely,

On view morning of Sale, and Catalogues had.

"THE CALDERSTONES,"

Calderstone Road, Allerton, near Liverpool.

MR. JOHN COWAN has been favoured with instructions from Chas. McIver, Esq., owing to his prolonged absence from home, to SELL by AUCTION on the Premises, "The Calderstones," Calderstone Road, Allerton, on THURSDAY, November 26, 1896, at half-past 11 o'Clock, prompt, his grand collection of choice

STOVE and GREENHOUSE PLANTS,

Including fine specimen CROTONS, DRACENAS PANCRATIUMS, ADIANTUM CUNEATUM, AZALEA INDICA, ASPIDISTRAS, ASPARAGUS PLUMOSUS, DECORATIVE BEGONIAS, Late-flowering CHRYSANTHEMUMS, STRAWBERRIES in Pots, &c; a large quantity of the plants being of useful size for House and Table Decoration. Together with a choice and well-grown lot of—

ORCHIDS,

Comprising CŒLOGYNES, DENDROBIUMS, CALANTHES, CATTLEYAS, LÆLIAS, AERIDES, CYMBIDIUMS, ODONTOGLOSSUMS, ONCIDIUMS, &c, in great variety.

There will also be included over 100 Head of High-class POULTRY, and Stack of RICH MEADOW HAY, early crop of 1895.

"Calderstones" is about ten minutes' walk from Messley Hill Station on the L. & N.-W. Railway.

On view any day prior to Sale, on applying to the Head Gardener, Mr. Tunnington. Catalogues may be obtained from the Head Gardener; or post-free from the Auctioneer, Mr. JOHN COWAN, The Vineyard, Garston, Liverpool.

Southwick, Sussex.

Within 2½ miles of Brighton (West).

IMPORTANT SALE of MARKET-GARDEN LAND.

MESSRS. WM. WOOD, SON & GARDNER will SELL by AUCTION, at the "Old Ship" Hotel, Brighton, on THURSDAY, November 26, 1896, at 4 o'Clock P.M. sharp, very highly desirable MARKET GARDEN HOLDINGS of about 4½ acres each. Rich soil. Easy reach of capital Markets.

Particulars and Conditions of Sale may be had of W. F. VERRALL, Esq., Solicitor, Worthing; and of Messrs. WM. WOOD, SON, AND GARDNER, Land Agents and Surveyors, Crawley, Sussex.

WANTED, to RENT, with view to Purchase, 500 to 1000 feet of GLASS, LAND, and COTTAGE. N. S., 41, Wellington Street, Strand, W.C.

WANTED to PURCHASE, a FLORIST'S BUSINESS, where Plants, Seeds, Sundries, &c., are also retailed. Price must be moderate. Full investigation required.—Particulars to X. Y. Z., *Gardeners' Chronicle* Office, 41 Wellington Street, Strand, W.C.

WANTED to RENT a SMALL NURSERY with Glass Erections heated, and one or more acres of Land with or without stock.—J. MARSHALL, Wooler Road, Weston-super-Mare, Somerset.

SMALL NURSERY and FLORIST'S BUSINESS, old established; small market town, Midland counties. A seedsman wishes to DISPOSE OF THIS BRANCH of the Business. 1½ acres ground, low rent. Satisfactory reasons. Price £100, for Greenhouses, Frames, Plants, Trees, Shrubs, &c.—Address first, FLORIST, *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, London.

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FOR SALE, quantity of 4-inch HOT-WATER PIPING, BENDS, &c., complete, in good condition, for Greenhouses (about 12 to 14 tons).

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HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.C. Prompt cash.

ORCHIDS in Bud, from 1*s.* 6*d* each; or if Growing in West's Patent Orchid Baskets, from 2*s.* 3*d.* Carriage paid. Catalogue free.

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FOR DISPOSAL, SMALL NURSERY, FLORIST'S, and SEEDSMAN'S BUSINESS in the Midland Counties. Low Rent. Within 1 mile of Market in a thriving town. Satisfactory reason for disposing, and if necessary part of the purchase-money might remain.—Apply, P. S., 41, Wellington Street, Strand, W.C.

GARDEN and OLD-FASHIONED ROSES. —25 strong plants for 22*s.* 6*d.* Distinct varieties, such as have been exhibited in such fine form during the past season, including Bardon Job, Janet's Pride, Copper Austrian, Gustave Regis, Single Yellow Austrian, Pepita, Laurette Messimy, Crimson Rambler, York and Lancaster, Persian Yellow, Rose de Meaux, &c., forming a very charming collection of the best old-fashioned and garden Roses. New Rose list, post free.

GEO. COOLING AND SONS, The Nurseries, Bath.

TO THE TRADE ONLY.

NEW ZEALAND GROWN SEEDS

ALSO

SEEDS of NATIVE FOLIAGE, and FLOWERING SHRUBS and TREES, obtainable from

NIMMO AND BLAIR,

Seed Merchants and Seed Growers, Dunedin, New Zealand.

London Agency:—W. G. INNES AND CO., 22, St. Mary Axe.

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500,000 very Healthy Thriving young FRUIT TREES for SALE,

OF THE CHOICEST MARKET SORTS, IN LARGE OR SMALL QUANTITIES.

CATALOGUES on application to—

J. SMITH & SON,

MARKET GARDENERS AND FRUIT TREE GROWERS,

SIPSON, WEST DRAYTON, MIDDLESEX,

And 458 & 459, COVENT GARDEN MARKET, LONDON.

Great Sale of First-class Dutch Bulbs.

MORLE AND CO. have just had consigned to them 27 cases of first quality DUTCH BULBS for absolute Sale during the next 4 days. They are overstock of a noted Grower of Haarlem, Holland. The whole are in first-rate condition, and are offered at most ridiculous prices for Cash, to effect a clearance.

HYACINTHS for pots or bedding, mixed, from the best sorts, per 100, 7*s.*; very fine ditto, 9*s.*

TULIPS, Duc Van Thol, per 100, 9*d.* Duchess de Parma, red and yellow, bold, large flower, per 100, 1*s.* 6*d.*; per 1000, 12*s.* Couleur Cardinal, per 100, 2*s.*; per 1000, 18*s.* Belle Alliance, brilliant scarlet, per 100, 2*s.* Wouverman, the best rich purple, per 100, 1*s.* 6*d.* Artus or Crimson King, per 100, 10*d.* Lac Van Ryn, variegated foliage, per 100, 2*s.* 6*d.* Fine mixed from the above, and other varieties, per 100, 1*s.*; per 1000, 9*s.* Also Cardinal's Hat, 2*s.*; Keizerskroon, 2*s.*; Rosa Mundi, 2*s.* 6*d.*; Remb andt, 2*s.*; Potter, 1*s.* 6*d.*; Blanc Border, 1*s.* 6*d.* per 100; and others.

LILY OF THE VALLEY, fine Berlin Crowns, grown in Holland, per 100, 4*s.*; per 1000, 35*s.* SPIRÆA JAPONICA, fine clumps, per doz., 2*s.*; p. 100, 12*s.* Lilium lancifolium, roseum, and rubrum, doz., 2*s.* 6*d*; p. 100, 18*s.* Agapanthus umbellatus, the blue African Lily, large, 4*s.* per doz. Also a fine lot of AMARYLLIS, very choice sorts, to colour, 12*s.* per doz.

MORLE AND CO. have received their first consignment of LILIUM AURATUM in splendid condition, which they offer at 26*s.*, 40*s.*, and 50*s* per 100; 4*s*, 6*s.*, and 9*s.* per doz.

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FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

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Important to Mushroom Growers.
CUTHBERT'S SPÉCIALITÉ MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5s.
E. AND G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

ONCIDIUM CRISPUM, IN SPIKE.
Fine, healthy unflowered plants,
5s., 7s. 6d., 10s. 6d., and 15s. each.
W. L. LEWIS AND CO., Southgate, London, N.

RASPBERRY CANES. — Northumberland Fillbasket, Carter's Prolific, Norwich Wonder, Falstolf. Well-rooted planting canes. Price and sample on application.
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20,000 CLEMATIS, IVIES, and other Climbers, in pots. All the best kinds of above and many other rare Climbers are described in our New Catalogue, post free.—CLIBRAN'S Nursery, Altrincham; also at Manchester, Bangor, and Llandudno Junction.

ASPARAGUS for Forcing.—Five years old, splendid roots, 12s. 6d. per 100; extra fine, 6 years old, 15s. per 100. On rail, cash with order. My Asparagus always makes top price at Covent Garden.
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W. ICETON'S well-known GIANT BERLIN LILY OF THE VALLEY.—100,000 Planting Crowns at 12s. 6d. per 1,000, 1 and 2 years; also a few thousand retarded Crowns. Price on application to—
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MR. COOPER, F.R.H.S., is the largest grower in the kingdom of the above for sale. Plantations near Reading. Price Lists and Pamphlets on application to—
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STRAWBERRIES, Strong runners.—Royal Sovereign, 2s. 6d. per 100; Sir Joseph Paxton, 1s. 6d. per 100; Vicomtesse H. de Thury, 1s. 6d. per 100.
RASPBERRY CANES.
Carter's Prolific, 3s. per 100; Semper Fidelis, 3s. per 100; Hornet, 3s. per 100. Special quotations for large quantities. Carriage paid on orders of £1 value.
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FOR SALE, 40 PINES, in their Fruiting Pots. Apply to—
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Calvat's Set and New Varieties of 1896, 1s. 3d. each.
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Young Gooseberry Trees.
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The finest Raspberry ever sent out.
Per dozen, 3s., post-free, 3s. 9d., per 100, 18s; extra strong, 6s. per doz. Price per 1000 on application.
For description see Strawberry Catalogue.
Illustrated Fruit Catalogue, six stamps.
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FOR SALE.—500 LILIUM HARRISI, in 48-pots, strong; 1500 ARALIA SIEBOLDI, 48's and 60's; 500 BOUVARDIA HUMBOLDTII CORYMBIFLORA, in 48's, 1000, in 60's; 2000 CALLAS; 1000 EULALIA JAPONICA VARIEGATA; 1000 OPHIOPOGON JABURAN VARIEGATUM; SIX SPECIMEN PLANTS of IMANTOPHYLLUM MINIATUM.
Prices on application.
GEO. BLUNDELL, Oak Villa Nursery, Friern Barnet.

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will be ready shortly, when I hope to submit additional varieties of sterling worth to the many others of exceptional merit now in commerce.
In addition to the Cultural Articles in my Guide, I have much pleasure in announcing one from the pen of Mr. W. H. LEES, whose reputation as a grower is world-wide.
POST FREE FOR EIGHT STAMPS.
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LAURUS NOBILIS (Sweet Bay), in all sizes, Standards or Pyramids, at very favourable prices
KALMIA LATIFOLIA, showing flower, 60 francs per 100.
AZALEA MOLLIS, small clumps, 30 francs per 100, or 250 francs for 10,000, and 2250 francs for 100,000.
AZALEA MOLLIS with seven to ten flower-buds, 25 fr. 50 c. per 100; with from ten to thirty flower-buds, 35 francs per 100.
HYBRID RHODODENDRONS, in bud, strong plants, 100 francs per 100.
PHORMIUM TENAX, fine plants, in tubs (cuves), 5 francs each.
PRUNUS LAURO-CERASUS, Common Laurel, 10 francs per 100.
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FELIX SAP, Horticulteur, Thielt, Belgium.

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EARLY WINTER EXHIBITION
DECEMBER 1, 2, and 3.
Valuable Prizes for Chrysanthemums, Cyclamen, Chinese Primroses, and Berried Plants.
Schedules of Prizes on application to—
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FOR DISPOSAL (owing to want of room), a Pair ARAUCARIA EXCELSA (Norfolk Island Pine), about 10 feet, well furnished; also, 1 PHŒNIX RECLINATA, 8 to 9 feet. Open to a reasonable offer.
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50,000 EUONYMUS, Green and Golden, all splendid bushy plants.—GREEN: 12 in. to 15 in., at 30s. per 100; 15 in. to 18 in., at 40s. per 100; 18 in. to 21 in., at 55s. per 100; 21 in. to 24 in., at 75s. per 100; 25 in. to 40 in. at special prices.
GOLDEN: 5 in. to 12 in., at 3s. to 8s. per dozen. Cash with order. J. J. CLARK, Goldstone, Brighton.

FERNS AND DECORATIVE PLANTS!—(TRADE):—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 12s. 100; ditto, large, in 48's, 10 best selling sorts, 6s. doz.; strong seedlings, 6s. 100, 50s. 1000; Adiantum cuneatum, in 48's, for cutting, 6s. and 8s. doz.; ditto, for making large plants quickly, 16s. and 20s. 100; Cyperus, Aralias, Grevilleas, Solanums, in 48's, 6s. per doz.; Marguerites, Chrysanthemums, and Erica gracilis, Solanums, in 48's, 9s. per dozen; Palms, Ficus, Dracænas, Crotons, Bouvardias, Erica hyemalis, Cyclamen, in 48's, 12s. per dozen. Lists free. Packed free. Cash with order.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

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DOUGLAS SPRUCE
(Abies Douglasii).
In view of the growing demand for this splendid Forest Tree, we hold immense stocks at exceptionally low prices for qualities offered.
DICKSONS NURSERIES, CHESTER.

RHODODENDRONS.
Best Kinds. Well Budded. Beautiful Foliage.
£7 10s. to £15 per 100.
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150 ACRES OF TREES & SHRUBS.
In the finest possible condition, for The Villa, The Mansion, The Plantation, or The Game Covert. All in vigorous, healthy condition, not stunted, starved, or closely grown and drawn. Carefully and frequently moved, and the roots consequently are a mass of fibre, ensuring safe removal when sold.
NEW CATALOGUE, with descriptions of above, and of many Rare and New Plants, post-free from—
CLIBRAN'S Nursery, Altrincham;
Also at MANCHESTER, BANGOR, and LLANDUDNO JUNCTION.

FRIDAY, NOVEMBER 27, 1896.
BY ORDER OF MESSRS. W. L. LEWIS AND CO., SOUTHGATE, N.
THE UNSOLD PORTION OF
CATTLEYA ACLANDIÆ.
TRULY MAGNIFICENT PLANTS IN GRAND ORDER.
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The true, original, and large-flowered type. About 100 plants, including many extra fine specimens.
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We hold a large and varied stock of the above, in first-rate quality, and at reasonable prices.
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OVER 50 HOUSES OF PALMS
ICETON'S
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ORCHIDS — ORCHIDS.
Clean, healthy, well-grown plants at reasonable prices; many large specimens and rare varieties.
CHOICE DENDROBES A SPECIALTY.
PLEASE WRITE FOR LIST.
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Price, 6s. per bushel, 1s. extra for package; or, 1s. per cake, free per Parcel Post.
WM. CUTBUSH AND SON, Nurserymen and Seed Merchants, Highgate Nurseries, London, N., and Barnet, Herts.

KIRK'S VINE and PLANT FOOD.
The production of Mr. Kirk, F.R.H.S., Alloa, N.B.
460 HIGHEST AWARDS have been obtained by its use, including Challenge Silver Tea and Coffee Service; 9 Cups; 8 Medals; Dr. Neil's Bequest of £30 in 1893; 1st at Crystal Palace in 1894; 1st, Dublin, 1895; 1st, Newcastle, 1896; and 1st, Edinburgh, September, 1896.
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COMPOUND LIQUID
QUASSIA EXTRACT.
½ gallon, 2/6; 1 gallon, 4/3; 5 gallons, 19/2; 10 gallons, 37/6
40 gallons, 3/6 per gallon.
CHEMICAL WORKS, BARROW-ON-HUMBER, HULL.

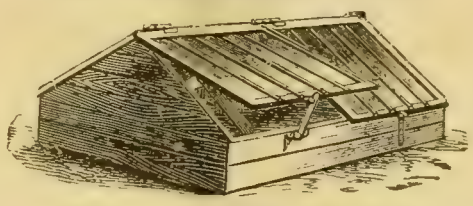
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FOR THE COMING WINTER!!!
WALTERS & CO.'S
WOOD ROLLER BLINDS.
Suitable for Covering Frames, and for the Protection of Half-Hardy Plants and Crops.
1s. 3d. per sq. yard. Roller, 2d. per foot run extra.
On receipt of 4s. a sample blind, 4 ft. by 6 ft. drop length will be forwarded.
ORCHID BASKET MANUFACTURERS,
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GREAT REDUCTION IN FRAMES
OUR WELL-KNOWN MAKE.



PORTABLE PLANT FRAMES.
These Frames are made of the Best Materials, and can be put together and taken apart in a few minutes by any one.

Sizes and Prices, Glazed and Painted.		£	s.	d.
6 feet long, 3 feet wide	CASH	2	0	0
6 feet „ 4 feet „	CASH	2	5	0
12 feet „ 4 feet „	PRICES,	4	0	0
6 feet „ 5 feet „	CARRIAGE	2	15	0
12 feet „ 5 feet „	CARRIAGE	4	15	0
12 feet „ 6 feet „	PAID.	5	12	6

Larger sizes at proportionate prices.

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ROYAL HORTICULTURAL WORKS,
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London Agent, Mr. H. SKELTON, Seedsman, &c., 2, Holloway Rd., N.

HILL & SMITH, BRIERLEY HILL, near DUDLEY;
And at LONDON & DUBLIN.



PORCUPINE TREE GUARD.
The Maximum of Utility with the Minimum of Cost. Is a perfect protection against
SHEEP, HORSES, or STOCK.
It is made 6 feet high, by 12 inches square (in halves, which bolt together), of Barb Wire, attached to an Iron Frame.
Price, 9s. and 10s. each.
Catalogues free on application, naming this advertisement.

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6 PENCE
NON-ALCOHOLIC.





WILL BUY A BOTTLE WHICH IN
FOR CHILDRENS PARTIES
6 MINUTES WILL MAKE
60 GLASSES OF DELICIOUS WINE
Sample Bottle, Post Free for 9 stamps.
IN ALL FRUIT FLAVOURS.
Try the Ginger or Elderberry: these are Special Favourites.
MASON'S EXTRACT OF HERBS for making Delicious Non-Intoxicating Beer. A 6d. Bottle makes 8 Gallons. Sample Bottle, 9 stamps, or a Sample of both Post Free for 15 stamps.
NEWBALL AND MASON, NOTTINGHAM.
Agents Wanted.

THE GARDENERS' CHRONICLE

PUBLISHER'S NOTICES.

GARDENERS' CHRONICLE TELEGRAMS.—*The Registered Address for Foreign and Inland Telegrams is "Gardchron, London."*

ADVERTISEMENTS.

SCALE OF CHARGES FOR ADVERTISING
HEAD LINE CHARGED AS TWO.

4	Lines	..	£0	3	0	15	Lines	..	£0	8	6
5	„	..	0	3	6	16	„	..	0	9	0
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7	„	..	0	4	6	18	„	..	0	10	0
8	„	..	0	5	0	19	„	..	0	10	6
9	„	..	0	5	6	20	„	..	0	11	0
10	„	..	0	6	0	21	„	..	0	11	6
11	„	..	0	6	6	22	„	..	0	12	0
12	„	..	0	7	0	23	„	..	0	12	6
13	„	..	0	7	6	24	„	..	0	13	0
14	„	..	0	8	0	25	„	..	0	13	6

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If set across two Columns, the lowest charge will be 20s.
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Advertisements for the current week MUST *reach the Office by first post, Thursday morning.*

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements, 41, WELLINGTON STREET, STRAND, W.C.

SUBSCRIPTIONS.

All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months. Post-office Orders to be made payable at the Post-office, Great Queen Street, London, W.C., to H. G. COVE.

Subscribers who experience any difficulty in obtaining their copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint.)

PAULS' NURSERIES WALTHAM CROSS

12 MILES FROM LONDON. CLOSE TO WALTHAM CROSS AND THEOBALD'S GROVE STATIONS, G.E.R.

WM. PAUL & SON,
ROSE GROWERS
By Appointment to Her Majesty the Queen.
Tree, Plant, Bulb & Seed Merchants.

SPECIALITIES:

ROSES in all forms	Priced Catalogue free.
FRUIT TREES of all kinds ...	Priced Catalogue free.
HARDY TREES AND SHRUBS.	Priced Catalogue free.
HERBACEOUS PLANTS... ...	Priced Catalogue free.
BULBS AND CAMELLIAS ...	Priced Catalogue free.
SEEDS & GARDEN SUNDRIES	Priced Catalogue free.

The Success achieved by Exhibitors at past and present Chrysanthemum Shows, notably Aquarium, Nov. 3, 1896, has clearly demonstrated, by examples staged, that the

XL ALL MANURES

are of the greatest importance to those who wish to have fine blooms and superior fruit.

Registered Trade Mark. Registered Trade Mark.

XL ALL LIQUID MANURE.

There's something in it which cannot be obtained in a Dry Manure.

To be used one part to fifty of water, making the cheapest Plant Food in the market.
Read the remarks below of a Champion Grower.
1 pint, 1*s.*; 1 quart, 1*s.* 6*d.*; 1 gallon, 3*s.* 9*d.*; 4 gallons, 12*s.* Cheaper in bulk.

XL ALL PERFECTLY SOLUBLE MANURE (Dry Powder.)

FOR TOP DRESSING or APPLYING IN SOLUTION.

Where there is a Heavy Crop of Fruit or Flowers to finish off—Use this!

TO OBTAIN A QUICK and BENEFICIAL RESULT.

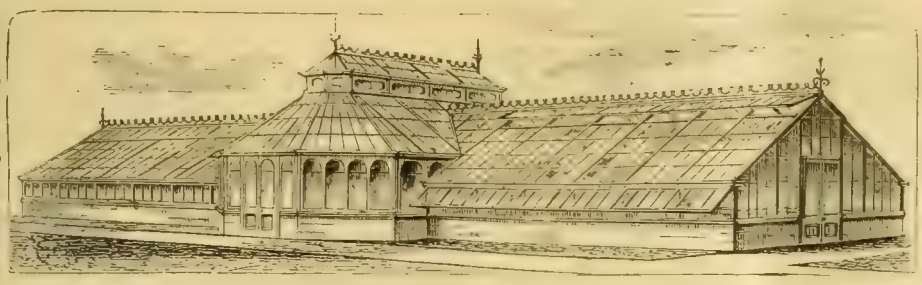
In 1*s.*, 2*s.* 6*d.*, 5*s.*, and 10*s.* tins. The small quantity necessary will make it a cheap manure.

Mr. W. H. LEES, The Gardens, Trent Park, New Barnet, one of the most successful exhibitors of Chrysanthemum Blooms. This celebrated grower writes:—"I have used your new Liquid Manure on many things this season with highly satisfactory results—especially on Chrysanthemums."

The above and all other XL ALL SPECIALITIES can be obtained from all Nurserymen and Seedsmen, or direct from the Proprietor—

C. H. RICHARDS, OLD SHOT TOWER WHARF, LAMBETH, LONDON, S.E.

Five 1st Prize Medals recently awarded in open competition.



Five 1st Prize Medals recently awarded in open competition.

R. HALLIDAY & CO.,

HOTHOUSE BUILDERS and HOT-WATER ENGINEERS,

ROYAL HORTICULTURAL WORKS, MIDDLETON, MANCHESTER.

Vineries, Stoves, Greenhouses, Peach Houses, Forcing Houses, &c, constructed on our improved plan, are the perfection of growing houses, and for practical utility, economy, and durability cannot be equalled. We only do one class of work and that THE VERY BEST.

Conservatories and Winter Gardens designed architecturally correct without the assistance of anyone out of our firm, from the smallest to the largest. **Hot-water Heating Apparatus**, with really reliable Boilers, erected, and success guaranteed in all cases. **Melon Frames, Sashes, Hot Bed Boxes, &c.**, always in Stock.

Plans, Estimates, and Catalogues Free. Customers waited on in any part of the Kingdom.

Our Maxim is and always has been—

MODERATE CHARGES. FIRST-CLASS WORK. THE BEST MATERIALS.

GOOD GLASS! CHEAP GLASS!

Good Quality, 15-oz. in 50-ft. Boxes.

Sizes 10×8 12×8 12×9 13×9 14×9 12×10 14×10 at 4*s.* per box.

4ths, 15-oz. in 100-ft and 200-ft. Boxes.

Sizes { 12×10 12×12 12×14 14×16 12×18 12×20 / 12×24 14×16 14×18 14×20 14×24 16×18 / 16×20 16×24 18×20 18×24 ... ... } 100 ft. 200-ft. at 7/6 14/- per box.

20-oz., in 100-ft. and 200-ft Boxes.

4ths, 21-oz. { 12×8 ... ... at 8*s.* per 100-ft. box. / 12×10 14×10 12×12 ... at 9*s.* " "

9×7 10×8 12×8 12×10 14×10 in 200-ft boxes { 4ths, 16*s.* per box / 3rds, 18*s.* "

4ths, 21-oz. { 12×14 12×16 12×18 12×20 12×24 / 14×16 14×18 14×20 14×24 16×18 / 16×20 16×22 16×24 17×13 20×13 / 18×20 18×22 18×24 20×15 ... } 100-ft. at 10*s.* 6*d.* 200-ft. at 20*s.* per box.

3rds, 21-oz., 100-ft. Boxes.

12×10 12×12 14×12 16×12 18×12 20×12 16×14 / 18×14 20×14 18×16 20×16 20×18 24×18 ... } at 11*s.* 6*d.* per box.

3rds, 21-oz., 200-ft. Boxes.

20×14 18×16 20×16 24×16 20×18 22×18 24×18 at 22*s.* per box

NOTE.—No box can be divided, and one size only is contained in each box.

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1¼×3 sashbar, at 5*s.* 9*d.* per 100 feet.
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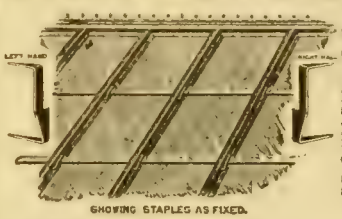
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2*s.* 6*d.* nett; per post, 2*s.* 10*d.*

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GROWING STAPLES AS FIXED.

Thorpe's Patent Glazing Staples.

Broken panes replaced instantly and without top putty. Will not rust. Practically everlasting. Sample gross assorted right and left hand, sent post-free, 1/9.

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Manufacturers of the High Grade "Marriott" Bicycles and Tricycles. CATALOGUE on application.

MATS SUPERSEDED BY USING

"FRIGI DOMO" CANVAS.

Registered Trade Mark.

Made of prepared Hair and Wool, a perfect protection to all Plants & Blooms. Cheaper than any kind of mat, and will last for years.

To be had from all Nurserymen and Seedsmen.

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COCOA-NUT FIBRE REFUSE.

6*d.* per bushel; 100 for 30*s.*; truck, loose (about 2 tons), 60*s.* Bags, 4*d.* each.

SPECIALLY SELECTED ORCHID PEAT.

LIGHT-BROWN FIBROUS PEAT, 5*s.* 6*d.* per sack; 5 sacks, 25*s*; sacks, 4*d.* each.
BLACK FIBROUS PEAT, 5*s.* per sack; 5 sacks, 22*s.*; sacks, 4*d.* each.
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YELLOW FIBROUS LOAM, PEAT-MOULD, and LEAF-MOULD, 1*s.* per bushel.
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MANURES, GARDEN STICKS, TOBACCO CLOTH, RUSSIA MATS, &c. Write for Price LIST.
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World-renowned

ROSES.



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The Finest Dwarf Early Wrinkled Marrow Pea,

ENGLISH WONDER.

We are in a position to make advantageous offer of this Pea.

SHARPE'S QUEEN PEA.

Finest Blue Wrinkled Marrow.
Trade Price on application.

SHARPE'S VICTOR POTATO. Earliest of all Earlies.

To obtain the True Yellow-Fleshed Variety apply to—

CHARLES SHARPE & CO., Limited,
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GEORGE PRINCE'S
CELEBRATED
OXFORD ROSES,
14, MARKET STREET, OXFORD.

50 best varieties, including 7 H.T.'s and 9 Teas, packing free, for 35s. Half Collection, 18s.
GUARANTEED ON SEEDLING BRIAR.

20 ACRES OF FRUIT TREES.

In all the best sorts and forms, for the Villa Garden, or the Orchard. Free from Blight and Disease. Clean, healthy stems and branches. Carefully pruned in good form. Roots a mass of fibre. Sizes from maidens to trees 6 to 8 years old, of many kinds, and all TRUE TO NAME.

NEW CATALOGUE with Descriptions and Prices post-free.

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WORLD-FAMED

ROSES

CANNOT BE SURPASSED.

WE GROW NOTHING ELSE.

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PRICES ARE LOW.

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PLANTING SEASON.

HARDILY-GROWN

Forest, Fruit,
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Trees & Plants
Evergreens,
Roses, &c.

Stocks quite Unequalled for "QUALITY," "VARIETY," & "EXTENT."

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RIVERS'

FRUIT TREES & ROSES

A LARGE AND SELECT STOCK IS NOW OFFERED FOR SALE.

WRITE FOR OUR

Illustrated and Descriptive Catalogue,

Post Free, 3d.

THOMAS RIVERS & SON,

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FOREST TREES

ADAPTED

For Profitable Planting, Shelter, Game, or Ornament.

One of the Largest, Hardiest, Healthy, and Most Select Stocks in Europe.

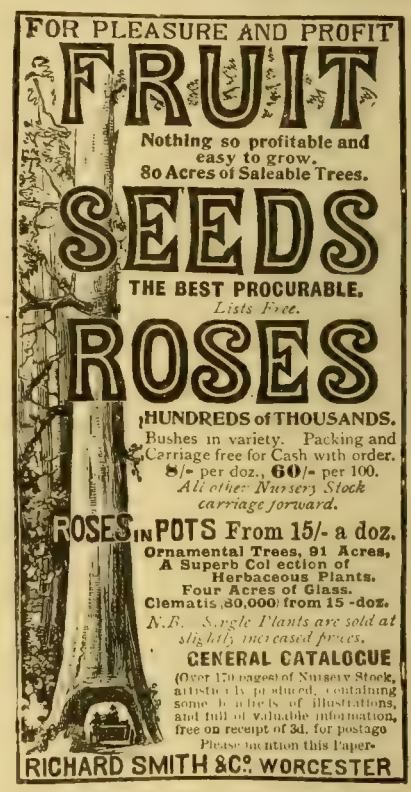
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WOOD FORESTERS FOR CROWN LANDS,

CARLISLE.



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SPECIAL OFFER.—CASH WITH ORDER.

STANDARD APPLES.

£7 10s. per 100. All leading and best kinds, our selection.
12 assorted Standard Apple, Cherry, Pear, and Plum, 18s.
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12 assorted Trained Trees for walls.
Apple, Cherry, Nectarine, Peach, Pear, and Plum, all best trees and good varieties, 40s. per dozen.
GOOSEBERRIES, all named, 2s. 6d. per dozen; 18s. per 100.
CURRANTS, assorted Black, Red, and White, 2s. 6d. per doz. 18s. per 100.
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Roses, best named Hybrid Perpetuals, our selection, 35s. per 100; 20s. per 50. 12 packed and paid per Parcel Post, for 7s. 6d.
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Tea Roses, in pots, including Maréchal Niel, Gloire de Dijon, Niphetos, and other varieties, 12s. and 24s. per dozen.
VINES, strong planted canes, 4s. each.
ASSORTED EVERGREENS, good plants, 4s. to 18s. per dozen.
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ASSORTED STANDARD TREES—*e.g.*, Thorns, Limes, Mountain Ash, Planes, &c., 18s. per dozen.

CLIMBERS.

Ampelopsis Veitchi, the best for covering walls, requires no nailing, 1s. each.
Clematis Jackmani, and other sorts, 15s. per dozen; our selection, 1s. 6d. each.
Ivies, in sorts, 9d., 1s., and 1s. 6d.

GARAWAY & CO., Durdham Down Nurseries, Clifton, Bristol.

ROSES.—ROSES.

ALL THE BEST KINDS.

WELL-GROWN, WELL-ROOTED PLANTS.

IN VIGOROUS HEALTH.

CATALOGUES FREE.

DICKSONS NURSERIES, CHESTER.

MELON SEED.

Our fruit has won Two Silver Medals (Royal Horticultural Society) &c., Two First Prizes, Certificate of Merit.

Sucrin de Tours, 3*s.* 6*d.* per packet.

Hero of Lockinge ... ... } 2*s.* 6*d.* per packet
Earl's Favourite... ... ... }

American Pineapple... ... } 2*s.* per packet ...
Vert Grimpant, &c., &c.... }

A packet of each of these varieties, 10*s.*

And other good Market and Table Fruits.

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Order early. Only a limited quantity.

E. J. SARJEANT & CO.,
BROUGHAM ROAD, WORTHING.

PAUL & SON'S
CHESHUNT ROSES.

NEW CATALOGUES OF

POT ROSES FOR FORCING.
Five Silver Cups. Their great specialty.

STANDARD ROSES,
The finest in the Trade.

DWARF and CLIMBING ROSES,
Nearly all on the Briar.

DWARF TEAS & HYBRID TEAS
In large quantities, for massing.

GARDEN ROSES & Single Species
The finest collection in Europe.

NEW and CHOICE ROSES,
Turner's Crimson Rambler, Alister Stella Gray, &c.

PAUL'S CARMINE PILLAR,
The grand New Single Pillar Rose.

Paul & Son's
CHESHUNT FRUIT TREES

STANDARD APPLES for Orchards,
The largest stock of the finest trees.

Ornamental TREES & SHRUBS,
for Avenues & Parks. New & Rare kinds.

HOLLIES and CONIFERS,
Specimen Hollies & Rhododendrons 10 ft. high.

HERBACEOUS and ALPINE PLANTS.
ALSO
BULBS, SEEDS, CANNAS, and OTHER SPECIALTIES.

New Priced Catalogues post-free from

THE "OLD" NURSERIES, CHESHUNT.

ALLINGTON PIPPIN.—The finest new Dessert sent out for thirty years.
Maidens, 5*s.*; 2-yr, 7*s.* 6*d.* each; larger to 21*s* each.
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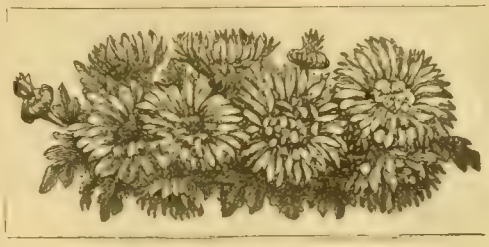
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THE

Gardeners' Chronicle.

SATURDAY, NOVEMBER 21, 1896.

THE RECESS COMMITTEE AND FORESTRY.

THE report of Mr. Plunkett's Recess Committee on the advancement of agriculture and other industries in Ireland by the establishment of a special Board, is well worth perusal by those who regard the rural population of the country as something more than a "submerged tenth" which has fallen behind in its ideas and methods of living. A glance through its pages almost makes one ask, "Why should England wait?" for if the suggestions made are duly carried out, they would far exceed anything which is being done or attempted in Great Britain. But the special feature of the report which interests us more particularly is the view taken by the Committee upon the forestry question. That they fully realize the importance and true significance of forests in national economy is shown by the following passage: "No one can enquire with any thoroughness into the subject of forestry without being convinced that this is one of the most important of all the directions in which, with the aid of the State, the wealth of Ireland may be increased."

This is a truth which ought to be instilled into the public mind not only in Ireland, but throughout the British Empire. In the most recently published trade statistics it appears that the value of the timber and wood-pulp imported during ten months of 1896 exceeded that of the corresponding period of 1895 by 3½ millions, and this with a somewhat similar number of acres of comparatively waste land, and select committees on the unemployed! In reviewing the forestry question the Committee chiefly confine themselves to quotations and extracts from the report of M. Howitz, a Danish forestry expert who gave evidence before the Eardly-Wilmot Committee of 1886. In addition to being a little out of date, this report is also a little imaginative. For instance, M. Howitz "calculated" that some 3,000,000 of acres might be planted, prepared, and fenced, at a cost of £3 to £6 per acre, and that the modest sum of £20,000,000 would do more than cover the outlay on planting 4,000,000 acres. This is credible enough, but the free use of ciphers looks a little suspicious of somewhat easy-going calculations. But it is when he comes to the expected returns that M. Howitz seems possessed of a highly optimistic temperament. Remunerative thinnings six years after planting, and full returns in twenty-five years' time sound well; but one would like to see the data from which these computations were made. In the State forests of Prussia, nett yields of 20*s.* per acre are exceptional, yet M. Howitz puts this yield as the lowest that may be expected; and on the strength of this estimate the Committee show a profit of £3,000,000 per

annum on the same number of acres planted. At this rate, forestry in Ireland ought to attract the attention of company-promoters and capitalists. It is rather unfortunate that the opinion of men acquainted with the state of the timber trade, and the demand for home-grown wood in Ireland, was not obtained by the Committee, for information derived from such sources is usually of a more prosaic nature than that of enthusiasts. With every care, and in possession of all possible information, the estimation of the yield from timber crops to be cut in fifty to a hundred years' time is quite unreliable, for it is impossible to predict the price of timber in general or of that of a particular species so far in advance.

In sketching the work to be taken in hand by the suggested forestry bureau, the committee say, "The great work of re-afforesting Ireland, the possibilities of which are indicated in Part II., might be brought to nought for our time if it were botched at the start through being entrusted to inferior and unskilful hands. A very recent warning on this point is furnished by the experience of the Congested Districts Board, whose later reports contain a confession of several failures in its forestry operations as a result of ignorance of this extremely technical business. We feel bound to state our conviction that it will be necessary to go to the Continent for an expert capable of undertaking this branch of the new department's work . . . ." The Woods and Forests Department of India might be expected to furnish the requisite man—and we do not say that it would not; but Indian experience, being acquired amid a tropical vegetation, does not seem available for forestry work in our climate."

When we consider that any intelligent labourer who understands the planting of cabbages, is equally competent to plant a forest, and that forest-planting is usually considered to be the branch of forestry in which the *bonâ fide* British forester least needs instruction, we cannot but come to the conclusion that the Congested Districts Board, whose forestry operations have been entirely confined to planting work, has either been unfortunate in its choice of men, or that the failure must be attributable to other causes than the one suggested. Perhaps the old proverb, that "Too many cooks spoil the broth," may find application here. The committee is also in error in supposing that the question of climate affects the principles of forest science in any way. That an Indian forest officer first entering upon his duties in this country would have a good deal to learn regarding the peculiarities of the local climate and its effect upon sylvicultural methods, goes without saying; but an expert from the continent of Europe would probably be at an equal disadvantage as compared with one who had had several years' experience in the locality. The duties of the expert suggested would be rather of an administrative nature than relating to the actual sylvicultural operations of the forest, and it seems more reasonable to suppose that a native of this country would grasp the political and social side of his position more readily than a foreigner. Not only this, but the question of grazing-rights, and its successful settlement, which the Committee recognise as a necessary preliminary to afforestation, will depend in a great measure upon the tact, judgment, and due appreciation of the native character shown by this official, and a foreigner would obviously be at a great disadvantage regarding these points for a considerable period after taking office. If Cooper's Hill has not turned out a man competent to fill this post within the last few years, something is wrong somewhere.

Whether the scheme mapped out by the Committee will ever be carried out in earnest remains to be seen, but the fact that they give it a prominent place in their report is an encouraging sign. So far, any afforestation-work undertaken by public departments of the State in this country has been made little more than an excuse for leaving the great bulk of the work undone. State-work ought to set a good example to the individual, and not merely consist of the maximum expenditure of money with the minimum of results. Let us hope that, if genuine State forestry is established in Ireland, the principle may also be extended to England, Scotland, and Wales, whose need, if less urgent, is almost as great.

NEW OR NOTEWORTHY PLANTS.

ANSELLIA CONFUSA, *N. E. Br.*

THIS is one of the most beautiful of all the Ansellias, and one in which the botanical features for regarding it as a species, apart from its greater floral beauty. It bears an ascending, branched, many-flowered inflorescence, each flower measuring 2 inches across. The sepals and petals are ovate, and equal in colour, which is cream-white barred with purple. The three-lobed labellum has purple-coloured stripes on the white interior of the side-lobes. The two keels running from the base of the lip are strongly defined, and give the best test for the species. These keels are of a bright-yellow colour, and the anterior-lobe of the lip is also yellow; the column is white freckled with purple. A plant is now in flower in the collection of rare Orchids belonging to the Hon. Walter Rothschild at Tring Park, Tring. *J. O'B.*

AMERICAN SEEDS.

IN reference to an article which appeared recently in these columns, showing that our colonies derived their seeds largely from the United States, Messrs. D. Landreth & Sons, communicate a long letter to the *Florists' Exchange*, from which we extract the following details. If our home climate is not suitable for ripening all seeds, it is certain that many of our colonies could perfectly well raise their own crops. The Americans with their high protective notions would, of course, admit that the "colonists would be right" to do so. "We were once colonists ourselves, and we were right." Let us hope that a sense of our reciprocal dependence will make it right all round.

It might be asked, Why does not this firm increase the proportions of its importations? To which we reply, that it is our business to grow American seeds, and because we believe in American seeds and American everything else.

The seed farms owned in fee simple by this firm are: Bloomsdale, 500 acres; Reedland, 146 acres; Monaskon, 222 acres; Granville, 472 acres. And rented from the estate of David Landreth, Georges, 75 acres; Hunton's, 185 acres; Bellemont, 200 acres. On these particular farms, in summer, is employed a force of 200 hands, and in harvest-time the force is increased to 450 hands. Here is a total of 1803 acres, and not a bushel or a pound of anything sold off these lands except garden seeds; all agricultural seed, hay, corn, and feeding stuffs bought from neighbouring farmers.

It is true, seeds produced upon these farms cost us more than we can purchase them for from London houses, but they are dryer and consequently of better vitality, and, more than that, they keep their vitality; for they show a higher percentage when two years old than the European seeds do at one year. For English seeds are not only frequently defective immediately after harvest, but during the ocean voyage to America suffer a further loss of ten to twelve points in vitality.

The London correspondent of the *Chronicle* admits Americans can grow Pumpkin seed, but says all their Beet, Cabbage, Celery, Carrot, Spinach, Radish, Turnip, Lettuce, Onion, Mangel, Cauliflower, and Swede, is obtained from Europe. He does not know that every one of these except the last three are grown profitably in the United States, and in large quantity, as for example, about 1,000,000 pounds of Onion seed is annually grown in the United States. We do not know how much Lettuce and Carrot, but immense quantities, as well as large quantities of Turnip, Cabbage, Beet, Celery, Radish, and Spinach.

The American crops of Peas, Beans, and sugar-corn are immense, and while the Canadian product referred to by the *Chronicle* correspondent amounts possibly to half a million bushels annually, garden sorts and Marrow Fats combined, it is surpassed by the product of garden Peas alone raised in the two States of Michigan and Wisconsin. And yet we would ask if the *Chronicle* correspondent takes the ground that these Peas grown in Canada are not American.

Perhaps the correspondent of the *Chronicle* fails to realise that we have a wide range of climates and soils in the United States—climates as variable as those from Denmark to Algeria, England to southern Russia. Why should we not grow seeds

An Englishman familiar with the large products in Europe of Mangel, Sugar-beet, and Swede, and comparing those vast quantities with the infinitesimal quantities grown in the United States, might jump at the conclusion that this is not a seed-growing country; but that would be a misapprehension on his part, for America more than balances that account by an enormous product of seeds of Water Melon, Cantaloupe, Cucumber, Tomato, Squash, Pumpkin, Egg-plant, Peas, Bush Beans, Lima Beans, and other pole Beans—very small quantities of which are grown in Europe.

If the correspondent of the *Chronicle* will turn to the United States Census Report, 1880, he will read that there are in the United States 596 seed-farms (evidently an incomplete return) with a total of 169,951 acres, 96,500 acres of which are devoted exclusively to the growing of vegetable and flower-seeds; while one million bushels of selected grains of corn, Wheat, and Oats for seed are grown on other farms not included in this enumeration.

The report shows that of the 596 seed-farms, 258 are in the North Atlantic division, 157 in the North Central division, 89 in the South Atlantic division, 57 in the South Central division, 35 in the Western division: total, 596.

The value of the implements used in the culture of the seed crops of these farms is over 221,000 dols. The value of the farms, buildings, and implements, is stated to be over 18,000,000 dols. Quite 90 per cent. of these farms have come into existence since 1860, but the seed farmers, excepting the almost innumerable number of those who grow Vine-crops, and Peas, Beans, and corn, are now much depressed by competition from England, France, and Germany, for in those countries seeds not of semi-tropical habit can be produced at less cost because of larger yields per acre, due to greater moisture, and because of cheaper labour. These two conditions unfavourable to the American seed grower are aggravated by the reduction of the tariff to 10 per cent. The duty to be protective should be 40 per cent., and it looks as if that happy day was not far distant. At present it is impossible, so far as the growing price goes, to compete with Europe on parallel lines in the production of Cabbage, Turnip, Beet, Carrot, Radish, and a long list of other seeds; yet this firm still keeps at it because American seeds are wanted, and wanted badly.

Through colonial days, so far as is recorded, all seeds for the field and garden were imported from Europe, there being no traditions of any seed-merchants in the Colonies till after the revolutionary war. The first seed-merchants in America established themselves in Philadelphia, one in 1784, another about 1792, and another about 1794, and a fourth in 1801. The first still continues in business, the others only transacted business for a few years.

The fifth seed firm in antiquity of foundation was established in 1802 in New York, and still continues, soon to reach the age of 100 years. *D. Landreth & Sons, Philadelphia, Pa., Seed Farmers and Merchants since* 1784. (*The Florists' Exchange, Oct.* 24, 1896.)

NYMPHÆA CHROMATELLA.

This, another of M. Marliac-Latour's cross-bred hardy Water Lilies (see ante, p. 558), the leaves are of a brownish olive-green colour blotched with dark purple, and the flowers, which are of large size, are pale sulphur-yellow in the centre, becoming yet paler towards the circumference. Our illustration (fig. 107) was taken from a specimen grown by Mr. Hudson in the open air in a small lake at Gunnersbury.

FOREIGN CORRESPONDENCE.

UNITED STATES.

I HAVE read the notes of "A. M. O." and others in the *Gardeners' Chronicle* on Maize or Indian-corn, and think I can give your readers some facts in the case that will enable them to grow corn that will

mature, possibly not ripen enough to keep for another year's seed, but certainly ripe enough to eat and to be enjoyed as "green corn," or "roasting ears," as we call it here.

Now, there is corn and corn, just as there are Apples and Apples in your country; that is, there are hundreds of varieties of corn here, just as there are hundreds of varieties of Apples with you, and of these hundreds of varieties but very few are ever used for cooking as "green corn" or as "roasting ears." The great majority of these varieties are of the classes known as "field corn," and are grown and used for food for animals, or for starch and alcohol-making, and not at all for table use. The corn that is used for table use is known as "sweet corn," and of this there are many varieties that vary in colour, size, sweetness, size and length of cob, earliness of maturity, &c. As a rule, the white varieties are preferable for table use, and as a rule are sweeter and of better flavour than the yellow kinds; still, we have a black and a red variety that are sweet and much liked by many, although their colour is not attractive for table use. *En parenthèse*, I might say that the corn we use for grinding into "corn-meal" is not derived from the varieties generally used for eating as "green corn," but is obtained from field varieties. In the Eastern States, yellow corn-meal is generally used, while in the West and South, white meal alone is supposed to be fit for the human stomach! The field varieties are coarser and not so sweet as what are known as "sweet corn."

For field culture in the more northerly States and in New England, those having short and small cobs, and only eight or twelve rows of kernels on the cob, are grown, as the season of freedom from frost is short, and hence we aim to get kinds that mature in about four months from the planting of the seed to its thorough ripening. In the west and south, larger kinds are grown, and are generally of the class known as "Dent," or "Horse-tooth," from the size and shape of the kernels. The plant of this corn grows to a height of from 10 to even 15 or 18 feet; while that grown in the north eldom exceeds 5 or 6 feet in height. Most of the varieties of sweet corn are



Fig. 107.—Nymphæa chromatella: hardy water-lily. flowers pale primrose-coloured. (see p. 620.)

quite short, and much of it very dwarf, often when fully grown not exceeding 3 feet in height. In your climate none but the dwarf kinds of the sweet corn should be grown, and of these I feel sure there are several that would mature fit for table, as up to if not above the north limits of England. It grows well and matures in Vermont, New Hampshire, Maine, Minnesota, Oregon, and States along our northern frontier. Of the sweet corn the following are the earliest and dwarfest:—

Cory Early: this is the earliest, height about 3 feet. White Cob Cory: this is very early, and about 3 feet high. Early Minnesota: is early, but of poor flavour. Extra Early Adams: early and good, cob about 6 inches long. Crosby's Early: early and excellent, dwarf. Perry's Hybrid: cob about 6 inches long, flavour good. Rosyln's Early Hybrid: is early and good. Moore's Early: one of the best, but not earliest. Henderson: very good, medium season kind. Ne Plus Ultra: Late, but very good. Squantum: extra good, but too late except for southern and western counties of your country. Stowell's Evergreen: A most excellent late variety; it has the peculiarity of remaining fit for table-use longer than any other variety I am acquainted with. This would be a good kind for your warmest and most sheltered valleys. From what I have seen and heard, you do not, as a rule, pluck your ears when they are fit for use—you pluck too early, and while the kernel is watery; you should not pluck the cob until the kernel is "in the milk," that is not until the fluid in the grain has passed from mere water to a rich thick milky fluid. But you must not go to the other extreme, and not pick till the grain is "glazed," for then it is not fit for table-use. It is in the prime when the fluid contents are thick and white, like rich milk. I also fancy you do not cook it properly. If left in the water in which it is boiled after it is cooked, it becomes watery and "soppy," and is not fit to eat. It should be cooked as one would boil an egg, namely, until the fluid is thoroughly coagulated, and that is about all. Our rule is to have the water at full boiling-heat, then drop into it the properly-stripped ear, and let it boil only from five to ten minutes, and then you will have a "dish fit for a king." As to eating the corn off the cob, anyone with good teeth can bite it off, but those who do not wish to eat it in that way can, with a sharp table-knife, cut it off the cob without getting any of the woody cob along with the grains. Then having flavoured it with a little salt and butter, and black pepper, if that is liked, you can eat it with a fork or spoon. If eaten off the cob the butter and salt should be put on the grains of corn. What we know as "roasting ears," is the corn fit for eating off the cob, but in preparing it for use it is roasted (toasted if you will), before a quick fire. This way of preparing it is generally followed where it is prepared outdoors, say by hunters and the like, and is the plan universally used in the south by the "darkies" when robbing the cornfields of the planters. If I were going to try to grow corn in England I should select two or three of the earliest kinds, and Stowell's Evergreen, and should grow in cold frames, planting the seed about 1 inch deep, say in March, and in May should transplant in to a non-shaded part of the ground, putting the plants at least 30 inches apart each way, and the Stowell plants 4 feet apart. Keep the soil around the plants well stirred, but not "hilling up" the plants at all. The soil should be fairly rich, but not too much so, or you will get stalks and foliage, but not ears. If the soil is very sandy or chalky, water should be given occasionally, but only when the blades begin to curl their edges. When water is given, it should be given in abundance, and then withheld until this curling is again noticed. The dwarfer varieties will mature ears fit for use in sixty days from transplanting. In warm sheltered valleys I have no doubt you can mature the plant from out-door planting. In this case you should plant the seed not more than an inch deep about May 20, and in four months I have no doubt you would have excellent corn fit to eat from the cob. Any of your seedsmen can procure from their correspondents in New York, Boston, or Philadelphia any of the dwarf, sweet corn I have named. *Doctor, Chicago.*

ORCHID NOTES AND GLEANINGS.

MORMODES BUCCINATOR.

THE extraordinary variability of this species is now demonstrated in the Hon. Walter Rothschild's remarkable collection at Tring Park, where no fewer than seven varieties of it, differing very widely in colour, are in flower. The typical M. buccinator has greenish sepals and petals, and whitish up-turned trumpet-shaped labellum, peculiar to all the forms of the species. M. buccinator flavida has brownish sepals and petals, and clear yellow lip. M. B. aurantiaca has greenish sepals and petals, with brown lines and rich orange lip, and M. B. lentiginosa, has Indian-yellow flowers, mottled and spotted with chestnut-brown. Another variety has brown-striped sepals and petals, and blush-white lip; and others still differ from any of these. Other Mormodes in flower are M. Cognauxi, M. Rolfeana, M. ignea maculata, the singular hairy-lipped M. Lawrenceana; and another species, with very handsome, delightfully fragrant flowers, in which the sepals and petals are gamboge-yellow, spotted with chocolate, and the showy lip rose-pink, spotted with reddish-purple. It is allied to, or a fine variety of, M. tigrina, Rodrig. Varieties of M. pardina are also about to expand their flowers, and promise great variety in that species also.

Of allied plants the handsome Cycnoches maculatum, C. Egertonianum, and a large number of Catasetums are in flower. These plants are easily managed at Tring Park by Mr. E. Hill, growing them in a similar manner to the deciduous Dendrobiums, and suspended near the roof as much as possible. They are watered liberally while making growth, and until the stout fleshy pseudo-bulbs are completed and the leaves begin to turn yellow, after which water is almost entirely withheld until they grow again. *J. O'B.*

CYPRIPEDIUM CHARLESWORTHI.

There is a whole house, quite 60 feet long, filled with Cypripedium Charlesworthi in the Heaton Nurseries, Bradford. It presents at this time a remarkable sight, with quite 1000 flowers expanded. The variety of this species is greater even than most others of our acquaintance. The dorsal sepal varying from those fine lustrous vinous shadings and lines to a pale blush. The substance of some of the varieties is great, not only in the dorsal sepal, but in its petals and pouch, and as one of the intermediate race with a peduncle half and between niveum on the one hand, and the barbatum race on the other, it presents a stylish appearance. It is growing away with thousands of fellows with quite ordinary attention, and, but for its plentifulness, would be much more appreciated. *J. A.*

BURFORD, DORKING.

One of the many pleasures of inspecting the famous collection of Orchids in the gardens of Sir Trevor Lawrence, Bart., the President of the Royal Horticultural Society, is the extraordinary variety of the species it includes, and which ranges from the earliest specimens introduced to gardens, to the latest novelty, and those still undetermined, and which have yet to be named and described. Of the former class, the historical specimen of Renanthera coccinea is one of the earliest introductions of Asiatic epiphytal Orchids, and perhaps the oldest cultivated plant of the same class known. Many other examples in contradiction of the theory that Orchids must necessarily degenerate, and ultimately die under cultivation, are to be found at Burford, and the carefully-labelled plants in many cases give ample proof of their being old inhabitants of the Burford Orchid-houses. For example, a few noted promiscuously were Odontoglossum aspersum violaceum, purchased fifteen years ago; O. crispum guttatum, now in flower fourteen years; O. Hallii, seventeen years; and the rare Zygopetalum Burkei, described in the *Gardeners' Chronicle* December 1, 1883, from plants which Burke collected for Messrs. James Veitch & Sons, the plant now about to flower at Burford being one of the first distributed.

In most of the houses, the showy species and the lesser pretty botanical kinds are evenly balanced, for here it is the practice to put the lesser in stature wherever they may be found to thrive best, instead of having houses set apart for them alone, and it is this provision for giving such various conditions under which they may be grown, which, in a great measure, accounts for so many tiny gems thriving here which have speedily vanished from other collections. In all cases, however, the small plants are brought near to the glass of the roof in the house which they are placed. In the first house entered we found a fine show of Cypripedium Charlesworthi, C. Spicerianum, and C. × Leeanum superbum, with a fine example of C. L. giganteum, and other forms of the same showy hybrid, the greater number of which were raised at Burford. Here, too, was a grand specimen of C. insigne violaceo-punctatum, which is still one of the finest of its class; also the fine C. i. Dormanianum, and the matchless yellow and white C. i. Sanderæ; a panful of the pretty C. Schlimi, the plant well furnished with flowers; the showy C. × radiosum (Lawrenceanum × Spicerianum), a number of neat plants of the yellow Oncidium cheirophorum, and of the mauve O. ornithorhynchum; the singular and pretty Epidendrum Lancheanum, with a raceme of flowers very distinct from those of other species; the new Trichocentrum longicalcaratum, with white flowers with crimson blotch, and in which the spur is singularly elongated; and a graceful specimen of Platyclinis Cobbiana.

In the next house, a cool one, are some fine examples of Oncidium varicosum, O. spilopterum (generally known as O. Saintlegerianum), some few species of Odontoglossums in bloom, and also Cœlogyne ocellata, Epidendrum inversum, Oncidium O'Brienianum (Reich. f.), a Paraguay species of the O. pubes class; and Seraphyta multiflora, a Mexican species, recently shown as Epidendrum profusum—it is of the habit of the slender-stemmed Epidendrums, and bears a branched inflorescence of greenish-coloured flowers.

The intermediate-house which comes next, had in flower some plants of Cattleya labiata, with richly-coloured flowers; the pretty Lælia pumila; some of Cattleya Dormaniana, C. O'Brieniana; the handsome and still rare Trichopilia brevis, illustrated in the *Gardeners' Chronicle*, Nov. 30, 1895, p. 641; a batch of the pretty Vanda Kimballiana, and two of the finest specimens of Vanda Amesiana ever seen in gardens, one possessing eleven pairs of leaves, and three very robust spikes of flowers. These wonderful plants were acquired by Sir Trevor Lawrence from Messrs. Otto Froebel of Zurich, when last he visited Switzerland.

In the large warm-house, which has a water-tank in the middle, were noted remarkable collections of Catasetums, some Cycnoches, Bulbophyllum, and Cirrhopetalum, which are suspended from the roof, and all thrive equally well in spite of the fact that they naturally inhabit widely separated countries with different climates. All of the Catasetums hang on one side of the house, and that part of it nearest to the side staging, thus having the width of the walk between them and the tank. Glancing along them, we noticed how remarkably the air-roots sent out around and beneath the baskets and pans in which the plants were grown, all turned obliquely and directly towards the tank, the thousands of roots all pointing in one direction, giving the appearance seen in the slender branches of trees over which a gale of wind is blowing. The Catasetums and allied plants are grown like the deciduous Dendrobes, and rested after the leaves have fallen; and this seems to be the chief thing necessary to preserve these singular plants, which formerly used to be considered very difficult to keep in good health. Of those in flower, we remarked splendid forms of Catasetum Bungerothi, one having purple sepals and petals; some equally handsome C. × splendens, the showiest having flowers of rich orange with purple spots on the sepals and petals; C. Christyanum, C. purum, and others; and C. imperiale, the richest purple Catasetum, is also sending up a spike. Of the Cirrhopetalums

the oldest inhabitant is a pan filled with C. Cumingi, about 2 feet across, and which with its numerous rosy-red umbels of delicately-poised flowers forms a a charming object. Cirrhopetalum Mastersii, with heads of beautiful coppery-yellow coloured flowers, and a few others, are also in bloom. Besides these were Bulbophyllum Dearei, B. Careyanum, the singular small-growing Madagascan B. Pervillei, and Trias disciflora were in flower. In this same house, and placed above the tank, species of Phalænopsis are doing well, including P. antennifera in many varieties, and a few others which were in bloom. Here also a supposed new white Schomburgkia was sending up a flower-spike, and S. rhionodora var. Kimballiana was about to produce its handsome blooms. Among other Orchids in flower were Dendrobium sanguinoleutum, D. glomeratum, D. × rhodopterygium, D. macrophyllum, Lælia peduncularis with many spikes, Cattleya luteola, and just beginning to flower a grand array of the Burford hybrid Calanthes, some of which have dark, rich colours, and all have some distinguishing feature to render them desirable. Here, too, were some good pansful of Ancectochili, the A. (Macodes) petola growing and increasing rapidly.

One small house held a charming display of the varieties of Dendrobium Phalænopsis Schroderianum, no two of which are alike, though all are beautiful, and especially the white varieties with the delicate rose-tinted segments. In this house were numbers of Eulophias and Lissochilus, those of the former in bloom being E. virens, a rather pretty and graceful species. In the adjoining house many curious species were in flower, one of them, Polystachya Buchanani, reminding us of John Buchanan, the sturdy pioneer of the Upper Zambezi, who sent it and other interesting plants from that part of Africa, but who died on his way home on the 9th of March last. Here in flower were Liparis reflexa, Acampe papillosa, Angræcum bilobum, and other Angræcums; and suspended in a corner was a very remarkable Dichæa sp., which might be said to be a disappointing plant, for it looks as though it were dead, but it is healthy enough, and flowering with faded-looking flowers, the seeming decay being natural and peculiar to the plant. Other pretty things in bloom were the richly-coloured Epidendrum phœnicum, an old but very handsome species, Dendrobium Mooreanum, and other Dendrobiums.

In the large stove the giant Grammatophyllum speciosum is growing with vigour, but it does not flower; Vanda Hookeriana, which formerly gave some trouble, has reached to the roof, and still has leaves down to the pot; so also its charming hybrid, V. × Miss Joaquim, which it is hoped will soon flower. In this house lately one of the plants of Vanilla had over sixty pods; and the charming collection of novelties in Bertolonia and Sonerila have leaves as handsome in their way as the showiest flowers. In the larger Cattleya-house stands the gigantic plant of Cattleya Lawrenceana, of which we recently gave an illustration, and it is none the worse for its heavy crop of flowers. Here was remarked a fine batch of Pleiones in flower, consisting chiefly of masses of P. lagenaria, P. maculata, and lesser plants of the white P. maculata alba. These Pleiones Mr. W. H. White, the Orchid grower at Burford, remarks, are never divided after the manner advocated by some, but they are, when repotted, merely turned out, reduced in size, and as long as practicable, returned to the same comparatively small pots, and hence the profuseness with which they bloom. Cattleya × Harrisii, Lælio-Cattleya × Juvenilis, some grand Cattleya Bowringiana, including the purple-tinted C. B. lilacina, Lælia tenebrosa, and others, were in bloom; and it was noted that the many varieties of L. anceps were about to make a good show.

The Burford hybrid Dendrobiums occupying one side of a house, are in grand condition, and some of them about to flower; and the little house devoted to the raising of hybrids, contains many strange crosses, and among the pretty things in bloom we noted Cypripedium × concolawre, C. × Lawrebel, and C. × barbatum Warneri × bellatulum, one of the brightest rose-purple flowers of its class.

A splendid collection of Sobralias, consisting of all obtainable species and varieties, was observed. In the cool-houses in flower were Maxillaria lepidota, a graceful species, with hundreds of its long, narrow-petalled flowers; fine plants of M. grandiflora, M. picta, Miltonia candida grandiflora, M. Clowesii, Epidendrum vitellinum majus, Masdevallia tovarensis, M. leontoglossa, M. macrura, and other Masdevallias; and Pleurothallis. In a warm-house a batch of Habenaria militaris was still flowering, and also one or two H. carnea. These charming plants were supposed to be almost unmanageable until Mr. White worked out the problem at Burford, and now they are being well grown in many gardens. *J. O'B.*

POLLINATION OF PEAR-FLOWERS.

All over the country there are large healthy Pear-trees which blossom most beautifully every year, but it is not followed by any fruit. The owner will do well to try planting Pears of another variety in their neighbourhood, so that the pollen of the flowers of the new-comers may find its way to the flowers of the now barren trees.

An exhaustive inquiry, conducted by Merton B. Waite, under the direction of B. T. Galloway, just published as *Bulletin No. 5*, Division of Vegetable Pathology, United States Department of Agriculture, reaches the following general summary and conclusions:—

"In the pollination work on the Pear two distinct kinds of experiments have been tried—1, simple bagging experiments, in which bags of paper, cheese-cloth, or netting with meshes (ten to the inch) were placed over the unopened buds, and outside pollen thus excluded; 2, careful hand pollinations of flowers which were emasculated while yet in bud, and protected from all other pollen by paper bags. These experiments were carried on in large numbers, and at four different places—at Brockport in 1891, and at Scotland, Rochester, and Geneva in 1892—all in New York State. The conditions of the trees were widely different, as was also the weather at flowering-time. The work was done on a large number of varieties of Pears, several of the same varieties occurring in each of the four series of experiments. The results under these varying conditions have substantially agreed, in most cases being remarkably uniform. The fruits resulting from the different kinds of pollen showed interesting differences, which tend to corroborate the conclusions.

"It should also be noted that similar experiments were tried on the Apple and the Quince, along with the Pear work. The varieties of Apples are more inclined to be sterile to their own pollen than the Pears. With the former, in the great majority of cases, no fruit resulted from self-pollination. The results, as a rule, however, were less clear-cut than in the Pear, because with most of the self-sterile varieties an occasional fruit will set under self-pollination, and none of the varieties were very completely self-fertile. The Quince, on the other hand, seems to fruit nearly as well with its own pollen as with that of another variety. The following conclusions are, it is thought, fully warranted from the evidence which has been given, and doubtless many who read this will recall observations in practical orcharding which give further support:—

"1. Many of the common varieties of Pears require cross-pollination, being partially or wholly incapable of setting fruit when limited to their own pollen.

"2. Some varieties are capable of self-fertilisation.

"3. Cross-pollination is not accomplished by applying pollen from another tree of the same grafted variety, but is secured by using pollen from a tree of a distinct horticultural variety—that is, which has grown from a distinct seed. Pollen from another tree of the same variety is no better than from the same tree. This failure to fruit is due to sterility of the pollen, and not mechanical causes.

"4. The impotency of the pollen is not due to any deficiency of its own, but to the lack of affinity between the pollen and the ovules of the same variety.

"5. The pollen of two varieties may be absolutely self-sterile, and at the same time perfecty cross-fertile.

"6. The state of nutrition of the tree and its general environment affects its ability to set fruit either with its own pollen or that of another tree.

"7. Bees and other insects are the agents for the transportation of pollen.

"8. Bad weather during flowering-time has a decidedy injurious influence on fruitage by keeping away insect visitors, and also by affecting the fecundation of the flowers; conversely, fine weather favours cross-pollination and the setting of fruit.

"9. Pears produced by self-fertilisation are very uniform in shape. They differ from crosses not only in size and shape, but also in some cases in time of maturity and in flavour.

"10. Among the crosses the differences were slight or variable, so that their variations are not to be ascribed with certainty to differences in pollen.

"11. Self-fecundated Pears are deficient in seeds, usually having only abortive ones, while the crosses are well supplied with sound seeds.

"12. Even with those varieties which are capable of self-fecundation, the pollen of another variety is prepotent, and unless the entrance of foreign pollen be prevented, the greater number of fruits will be affected by it, as shown by the study of Buffum Pears.

"13. The normal typical fruits, and in most cases the largest and finest specimens, either of the self-sterile or self-fertile sorts, are crosses.

"Practical Conclusions.

"1. Plant mixed orchards, or at least avoid planting solid blocks of one variety. It is not desirable to have more than three or four rows of one variety together, unless experience has shown it to be perfectly self-fertile.

"2. Where large blocks of trees of one variety which blossomed well have failed to fruit for a series of years without any apparent reason, it is exceedingly probable that the failure is due to lack of cross-pollination. The remedy is to graft in other varieties and supply foreign pollen.

"3. Be sure that there are sufficient bees in the neighbourhood, or within 2 or 3 miles, to properly visit the blossoms. When feasible, endeavour to favour insect visits to the blossoms by selecting sheltered situations, or by planting windbreaks." *American Agriculturist.*

The Rosary.

SOME NEW VARIETIES OF THE ROSE.

Among the finest varieties of recent introduction are Enchantress, Queen Mab, Sylph, and Zephyr, natives of Waltham Cross; Muriel Grahame and Helen Keller, the former introduced, and the latter originated by Messrs. Alexander Dickson & Sons, of Newtownards; Fiametta Nabonnand, for which we are indebted to the eminent French rosarian bearing the latter portion of that name; Carmine Pillar, which we owe to Mr. George Paul, of Cheshunt, who has rarely given us a more brilliant variety, or one more serviceable for garden decoration; and Duchess of York, of exquisite complexion, raised by Messrs. Cocker, of Aberdeen.

Enchantress, which I had the pleasure of seeing for the first time at Waltham Cross last year, is, I understand, a cross between a China and a Tea. Hence, probably, its almost unprecedented perpetuality and free-flowering qualifications. It is a beautiful creamy-white Rose, with a suggestion of buff in the centre. It is large, full, and globular in form, with glossy-green foliage, which forms a graceful contrast to the fascinating flowers, the latter of which are produced in great profusion.

Queen Mab, which is of Chinese extraction, is undoubtedly the most distinctive variety of this special class that has been produced since Laurette Messimy. It is vigorous in growth, and, unlike the French Rose

to which I have just alluded, has flowers of great substance; it blooms with much facility. Its colour is delicate apricot, shaded in the centre with orange, the exterior petals being faintly flushed with rose. Mrs. W. J. Grant (called in America Belle Siebrecht), and Grand Duke de Luxembourg, the former raised by the Newtownards firm, the latter by Soupert & Notting, in 1892, are highly interesting additions to the race of Hybrid Teas. Mrs. W. J. Grant, which gained some years ago the Gold Medal of the National Rose Society, I have already described in a previous contribution to the *Gardeners' Chronicle*. It combines the attributes of Lady Mary Fitz-William with those of the fragrant and distinctive La France. Modern pink-coloured Roses are for the most part somewhat deficient in the matter of fragrance; but this is an exception. I am not yet sufficiently acquainted with the character and tendencies of the new hybrid perpetual entitled Helen Keller, to pronounce a decisive opinion upon its value; but it appears to be a very promising variety, though I cannot believe that it will ever rival Marchioness of Downshire, Earl of Dufferin, or Mrs. Sharman Crawford. Sylph and Zephyr are admirable Roses for the garden, with large full flowers almost white in colour, of highly refined aspect; but by reason of the peculiar silkiness of their closely folded petals, exceedingly susceptible, like Mrs. James Wilson, to the influence of rain. Muriel Grahame, described as a valuable variation from that prolific parent of modern Tea Roses—Catherine Mermet; but I hope, ere long, to have this gratification, for I intend to add it next month to my collection. It opens, I am glad to learn, with greater facility than the fairest of its sisters, the incomparable Bride.

Fiametta Nabonnand, whose name, I find, is seldom printed accurately, by reason, presumably, of its unfamiliarity, has bloomed with great freedom and to to some artistic purpose, in my garden this year. It is a sport from Papa Gontier, one of the most attractive of modern Tea Roses, but is considerably larger and fuller than its parent, though somewhat less productive. Its colour is fascinating; satiny-white, delicately tinted with rose. Only in the texture of its beautiful petals does it give evidence of the influence of the law of heredity. Its flowers are invariably of a globular form; in this respect they somewhat resemble those of Souvenir de S. A. Prince, but they have not the regrettable pendulous tendency of that snow-white English Rose.

A yellow Hybrid Perpetual of considerably deeper colour than Gloire Lyonnaise would be a great acquisition; but a variety of this character has not yet appeared. Nor has a pure white Marie Baumann or A. K. Williams, with the perfection of form and fascination of fragrance possessed by those varieties, as yet proved a possibility to our British rosarians. Nor, though we have achieved a Madame Hoste, a Medea, and a Perle des Jardins, does there seem to be any hope of our ultimately obtaining a less delicately constituted, more perpetual, Maréchal Niel. *David R. Williamson.*

TREES AND SHRUBS.

HYPERICUM MOSERIANUM VARIETY TRICOLOR.

THIS variegated variety of H. Moserianum is a very meritorious novelty. Its leaves are beautifully edged and marbled with white and brilliant red. Presently with me the white is absent, and the red and green leaves are very effective. To bring out the colouring of this little shrub to perfection, it requires to be grown in poor sandy soil with a sunny exposure. It is a decided acquisition; its golden-yellow flowers, with centre of darker coloured stamens, are sufficient to commend it for general cultivation—add to these its variegated character, and we have a plant deserving special attention. It is at home on the sunny side of a rockery, or the front of a herbaceous border. *Michael Cuthbertson, Rothesay.*

CUPRESSUS GOVENIANA.

When seen in a flourishing condition, which, unfortunately, is not often the case in this country, Cupressus Goveniana is at once one of the most interesting and beautiful of the hardy, or rather half-hardy, Cypresses. I have just had an opportunity of examining probably the largest, certainly the healthiest, specimens of this tree in the country, and of comparing it with the not very widely distributed C. cornuta, which by some authors has been elevated to specific rank. The two are in every respect identical, the bright green, scale-like leaves and curious horn-like projections at the scale-tips being well pronounced in both. Like the Chinese Juniper, one of the greatest points of attraction in Cupressus Goveniana is the pollen-cones, they being so thickly produced as to impart to the specimen a very unusual and beautiful appearance. The seed-cones, too, are freely produced, and are of the most harmonising tints of dark and light brown, and rendered distinct from every other species by the curious projections at the scale-tips, each of these being half an inch long. To the casual observer, Cupressus Goveniana looks like a dwarfed, globose specimen of the better known C. macrocarpa; indeed, it is always bushy and dense of habit. The finest specimens of this and many other Cypresses that I have seen are throughout Ireland, both north and south; and one of C. Goveniana only thirty miles from Belfast is nearly 40 feet high, and fully half that in branch-spread. It occupies no sheltered situation, and yet the foliage is green as a Leek, and thickly and equally arranged on every side of the tree. The soil is moist loam.

C. Goveniana glauca is, for ornamental purposes, superior to the species, the hoary, glossy-blue foliage-tint reminding one of that of the Tamarisk-foliaged Juniper. This pretty variety is rare in cultivation, but it should not remain so long if the batch of young plants that I saw are to be placed on the market. *A. D. Webster.*

BOOK NOTICE.

DICTIONNAIRE ICONOGRAPHIQUE DES ORCHIDÉES.*

IT goes without saying, that a work projected, carried out, and edited by that clever authority on Orchids, Monsieur A. Cogniaux, and in which the drawings and coloured plates are the work of Monsieur A. Goossens, whose power of artistically figuring Orchids is known far and wide, must be of the highest merit. Indeed, all works of the kind are good and useful in a greater or lesser degree, publishers being careful not to incur the very heavy cost inseparable from the publishing of such works without certifying themselves that a reasonable accuracy characterises the letter-press, together with beauty and faithfulness in the plates.

In the work under notice a new element has been introduced, viz., the publication of the plates, each with the accompanying descriptions, references, cultural remarks, &c., in handy little portfolios, so that each plate and the matter relating to it is complete in itself; and the collection, when completed in the portfolios, each of which will be lettered on the back with the name of the genus contained in it, will give a readier means of studying Orchids, and identifying them, than has previously existed. The utility of this plan of giving detachable illustrations of Orchids might be much enlarged upon, but it will be sufficient to point out how useful and interesting such portable means of conveying a correct notion of what is meant, these plates will be to amateurs in their correspondence, and what a pleasant pastime it will be for them to compare their flowers with those given in the illustrations.

A commencement will be made of each set of plates with the type forms, which are to be followed by the leading known varieties, and also new forms as they appear. As for example, the Odontoglossums which are illustrated in the first issue (which was intended to be devoted entirely to that genus), had not unforeseen difficulties delayed some of the illustrations. No. 1 is typical Odontoglossum crispum; 1 *a*, O. c. stellatum, which is the form usually avoided in gardens; 1 *b*, O. c. var. de Madame Madoux, a finely spotted form; and 1 *c*, O. c. var. Bousiesianum, which resembles that known to us as O. c. punctatissimum. Necessarily at the commencement a strong continental character will be found in the varieties illustrated, but British amateurs doubtless have only to supply the material to see their own treasures also represented.

With the illustration of the type of each genus, the history, general characters, and geographical distribution are given, and engravings furnished showing the habit of the plant, and the pollinia, and other points necessary for purposes of identification. In fact, the style of the work has been well considered and matured. The plates, which measure about 7 inches by 5½ inches, will be double when necessary, as in the case of Lælia purpurata in the present issue. The other plants illustrated are Miltonia vexillaria, M. v. superba, M. v. radiata, M. spectabilis, M. s. bicolor, M. s. Moreliana, and Cattleya Brymeriana. When we consider the large number of Orchids which have as yet not been figured, and those figured which are not of easy access, it is pleasant to contemplate the great addition which this work forms of materials for reference purposes. The plates are to follow each other rapidly, and we shall watch with interest the development of this novel publication.

* *Dictionnaire Iconographique des Orchidées.* Directed and Edited by A. Cogniaux; Illustrated by A. Goossens. (Schaerbeek: Bruxelles, 24, Rue Quinaur.)

CEYLON.

I AM sure you will sympathise with us in the great loss we have sustained in the death, from paralysis, of Henry Trimen. He was a beloved friend to those who were closely acquainted with him, as we have been during his residence of sixteen years in Ceylon. The scientific world has lost a most keen, true, and careful observer and investigator of natural history, not only in the one special study of botany, but also of many subjects which generally follow the footsteps of a man of culture and learning. He was of a most genial disposition, kind, and attentive to his subordinates, and very ready to assist the poor and needy. We may say he died with his pen in his hand, endeavouring to finish that valuable record of his labours, the *Flora of Ceylon*. It is some satisfaction to his friends to learn that it was almost completed at the day he was struck down. *J. A.*

THE HERBACEOUS BORDER.

PLANTING HERBACEOUS PHLOXES.

THOUGH hardy perennials, as a whole, are usually regarded as among those things that may be planted at almost any season, I am assured that this is a mistake with respect to many of them—that is, if they are planted with a view of securing good results. Many groups of species or individual plants are well suited for being planted in the autumn, and among the former may be mentioned the herbaceous Phloxes, which are included under the general head of P. decussata, in which are also included P. paniculata, P. pyramidalis, and others. These plants produce annual stems, and do not remain evergreen, as do the forms of P. suffruticosa, a totally distinct group of early varieties, with foliage, in many instances, like some of the Pentstemons. These sub-shrubby kinds, however, are not so much grown as the herbaceous section, being generally more difficult to suit in the matter of soil and situation, while the P. decussata varieties are at home in almost every kind of soil. It is of these latter kinds that I now wish to speak. If planted at this season, they will be quite established before hard frosts usually begin. The chief requirements for these Phloxes is a deepish, very rich soil, and in these respects it is scarcely possible to err. Trench the soil 2 feet deep, incorporating plenty of manure with it as the work proceeds.

It is not necessary to bury the manure deeply, as Phloxes are largely surface-feeders. Select a spot quite in the open, and if a damp spot can be found in the garden, this will suit the Phloxes. Avoid planting near to the shrubs in shrubberies, or where the roots of trees extend, or their branches overhang. In planting, bury the crowns 2 inches below the surface, pressing or treading the soil firmly. Avoid the high-mounded bed, which throws off the water that the plants require, but give preference to the bed that is sunk below the surrounding level. The late Mr. R. Parker grew one of the finest collections of Phloxes at Tooting ever seen, and the plan he adopted with his beds of specimens was to flood the land twice or thrice a week, the beds being earthed up at the margins so as to keep in the water. When in flower, his plants formed a grand sight, and were well worth going many miles to see. Plants out of pots may be planted at varying seasons, but even these are better in their permanent positions as soon as possible, shaking all the soil from them prior to planting, so as to give them a fair start. *J.*



Fig. 108.—Pereskia aculeata : flowers creamy-white.

CHRYSANTHEMUM CHAT.

(*Continued from p. 592.*)

The Edinburgh Chrysanthemum Show.—The verdict is that the flowers are late this season, and on the whole scarcely so fine as in some recent years. A somewhat doubtful statement.

The following are some of the finer blossoms or plants noted among some of the more notable market growers around Edinburgh, and the champion growers of cut-blooms and plants in pots, such as Mr. Carruthers, Mr. Cavanagh, and others: Chas. Davis, Duchess of Wellington, Etoile de Lyon, Edith Tabor, a fine yellow; Mrs. Weeks, Van den Heede, President Borel, Phœbus, Mutual Friend, exquisite, light rose; Mrs. E. G. Hall, Mrs. Bernard, M. Gruyer, Mrs. Godfrey, graphic, rose and white; Thos. Wilkins, Emily Silsbury, Baron Rothschild, W. Tucker, Hairy Wonder, Calvat's Australian Gold, Princess May, Avalanche, Col. W. Smith, Viviand Morel, Commandant Blussett, J. Shrimpton, Madame de Sevin, Bouquet de Dame, Madame Hoste, Mrs. Cox, L'Isère, Col. W. Smith, Niveus, Louis Bœhmer, Mr. Shea, Madame Cambon, Mrs. C. E. Shea, Deuil de Jules Ferry.

The Newest Hairy Chrysanthemums.

Notwithstanding the acknowledged fact that Chrysanthemums, generally, have lost much of their novelty and importance, the "hairy" varieties, the first of which, Mrs. Alpheus Hardy and Louis Böhmer, came from Japan, and are now well known, continue to enjoy popularity. And just as, at the beginning of the present craze for novelty, the slightest difference in form, size, colour, suffices to constitute a new variety, this peculiar group has received additions of much merit in recent years. These novelties are M. d'Ambrière, rose-pink with stripes of a lighter shade, the central florets incurving, and this showing the bronze-coloured reverse furnished with golden-hued hairs; Raphael Collin, light pink with saffron-coloured edge, the reverse of these florets saffron-yellow with golden hairs; Duvet Blanc, a very large flower with snow-white florets covered with long white hairs; Mygall, a flower of pleasing form, the florets leather-yellow and old-red, at the base crimson, the central florets green, and the hairs fawn-coloured; Madame Sekarek, under silvery-rose colour, with large florets covered with numerous long hairs; Plume d'Or, a large cone-shaped flower, light-yellow in hue, with the reverse of the florets thickly furnished with hairs, the best yellow of this race; Hairy Wonder, a flower of immense dimensions, heavily haired, is pretty well known in this country. *Illustrierte Garten Zeitung.*

PERESKIA ACULEATA.

For the opportunity of figuring flowers of this old inhabitant of our gardens, we are indebted to Mr. Burbidge, the Curator of the Botanic Garden, Trinity College, Dublin. The plant is a true Cactus, but, like its fellow Pereskia Bleo, recently figured, it bears flat leaves. It grows under Mr. Burbidge's care in a warm stove, and is 15 feet and upwards in height, and produces its whitish flowers almost every year. It is commonly known as the Barbados Gooseberry, as in the West Indies the yellow fruits are eaten in the form of preserves (see fig. 108).

The Apiary.

DAIRY SHOW.

At the show which has recently been held at the Agricultural Hall, there was an exceptionally fine lot of honey exhibited, both in sections and in run, and from the good quality shown from all parts of England, we may consider we have had a fairly good honey season. And there is at this show a meeting of the largest and best bee-keepers, who are always willing to give any information they can towards the further development of bee-keeping, and often to indicate (if not buyers themselves) where a customer for your produce may be found, as sometimes a surplus is left over where a good many hives of bees are kept. There is also a good opportunity of seeing and examining all new appliances, and obtaining a thorough insight into the use of them; and to beginners it is of special interest, as they can

decide as to which system it is best to adopt before commencing bee culture. Having decided which hive to adopt, commence having them made, or make them, during the winter months, to be ready for use in the spring. The hive I use and like best is the ordinary bar frame, but made on the tiering system. Be quite sure it is of the standard size with hollow walls, so that it can be packed with saw-dust or cork-dust, which prevents a good deal of frost from penetrating into the hives. The great advantage of the tiering system is, that you can place an empty crate of sections under the full one, which will not disturb the bees very much, and by placing a "super clearer" between the full and empty crate the sections can be taken away without any trouble or fear of stings.

SUPER-CRATES.

These should also be got ready in the winter months, as it is very awkward to find your bees ready for them where there is none to hand, which means loss of honey and swarms when they are not required.

PROTECTOR SKEPS.

A very simple plan is to get an ordinary cheese-box, cut out the bottom, and place over the skep, which can be covered with an old pan or slate, and then covered with sacks or cloths; another plan, and a good one too, is to get from a gunsmith a powder-tin, cut out the top, and place this over the skep—this can be painted.

REMOVING BEES.

Frosty weather is a good time to remove stock, because they do not notice the removal so much, as they are all snug and warm in their winter quarters. Before removing, secure the entrance, and also screw down a piece of wood on each side of the frames to keep them from moving; or place a few bricks on them, which will often do as well, but always be sure to keep the hive upright.

EMERGENCY BOXES AND BAR FRAME.

I hope to give a description of these and their advantages in my next article.

GRAPE-VINES IN LONDON.

To the present generation of Londoners the sight of ripening Grapes on sunny walls in and around the town, is of rarer occurrence than was the case when suburban residences were very necessarily protected against unlawful entry by high brick walls.

A red brick wall is all very well when it gets old, and its fiery colour toned down by sooty deposits and moss, Linaria cymbalaria, Wall Rue, Wallflowers, and Snapdragons, and our forefathers very properly did their best by planting Ivy, Jasmine, Roses, fruit trees and Vines to transfigure the fiery-looking horror into a thing of beauty. Some of these old walls exist in many of the suburbs, or what once were suburbs, but which are now incorporated with London proper. The varieties of Grape-vines planted were usually Miller's Burgundy, and varieties of Sweetwater, whose fruits ripen in ordinary summers if the Vines are suitably pruned winter and summer, the shoots kept thinly disposed, and new fruiting shoots laid in yearly. Usually a wall Vine gets as little attention as regards its roots and shoots as an Ivy plant, with the certain consequence of its fruits being poor in quality, and ill-ripened; whereas, given the care bestowed on a Peach or Fig tree, the Vine would reward the cultivator as generously as those.

The writer has in his mind's eye a roomy house of great age, situated near the site of the present Imperial Institute, once doubtless the habitation of a wealthy citizen, and the tiled roof of which was almost covered with a Sweetwater Vine. This Vine may have had at one period of its existence the benefit of suitable pruning, training, and manuring, but in the last years of its life it was utterly neglected; still it would in good years ripen off large quantities of delicious fruit. The main stem and branches rested on a stout framework of wood, which enabled the bunches to hang clear of the tiles.

Seeing the success of the Castle Coch vineyards at Cardiff, it is certain that out-of-doors Grape-culture, if properly followed up, would pay in the London area.

THE WEEK'S WORK.

PLANTS UNDER GLASS.

By JNO. MCINTYRE, Gardener, Woodside, Darlington

Fernery.—Many species of Ferns are now in a state of inactivity, and some at rest; still, it is possible to make the fernery attractive. If it is the practice to bring on Adiantum capillus-veneris in successional batches, a fernery may be made fresh-looking even now. All decaying fronds should be removed once or oftener in a week. Resting plants if in pots placed elsewhere should be kept out of sight, scale insects sponged off the larger and more enduring fronds. Pockets and bracket-shells and other devices should be nicely edged with small Ferns having fresh young fronds, or with Isolepis gracilis, sinking the small pots in the mould, and generally making the most of the materials at hand. These efforts are always much appreciated in the dull months.

The Forcing-house.—Roman Hyacinths for flowering about Christmas-tide should be introduced in quantity, also pots of Narcissus, not forgetting some of the Tenby Daffodil (obvallaris) and Pseudo-Narcissus or common Daffodil, as the plants stand forcing well, and affords quantities of blooms for cutting, as do also the large and small flowering Hoop-petticoat Narcissus in white and yellow varieties, Indian Azaleas, may now be freely forced for flowering in December, selecting varieties with a good set of flower-buds, and in various colours. One of the best white Azaleas Deutsche Perle, should be grown in quantity for forcing, and small plants well set with flower-buds can be cheaply bought. As a good deal of heat is required in this house, say from 65° by night to 75° to 80° by day, a considerable amount of damping down will be called for, and the syringe used on hard-wooded plants three or four times a day in bright weather, and never less than twice. Nothing is more conducive to healthy growth than a genial bottom-heat of about 80°, obtained by means of a deep bed of tree-leaves, or leaves and stable-manure, although it is now customary to rely much more on the heating apparatus.

Bulbs for Forcing and otherwise.—If these bulbs are plunged in coal-ashes, or kept in some other manner from the light, they should now be examined, and those which have made a fair quantity of roots so as to begin to cover the outside of the ball of soil with a network of roots should be, removed to low brick pits, and placed near the glass, fire-heat being employed to keep out frost, but for no other purpose. To prevent the frost sealing up the coal-ash beds containing bulbs, it is well to cover them with a layer of stable-litter 2 feet thick, or it may be difficult to open them in the event of hard frosts occurring. The Lilies which are to flower late in the spring, or early in the summer, should remain in coal-ash beds, or in beds of tree-leaves, on the north side of a wall throughout the winter. L. longiflorum var. Harrisii, which will not stand frost for any length of time, should be well protected against it. Lily bulbs often get eaten by rats and mice in hard winters, and many a valuable bulb is lost thereby; but protection against these creatures is not difficult. Each pot should stand on a piece of tile or slate, and be covered with another piece, which will do no harm to the growth of the stems if the pots be examined betimes late in the winter, Lily bulbs being usually potted low down in the pots, for the sake of earthing-up the stems as they grow. Having protected the pots in the manner described, tree leaves or coal-ashes (fine) may be packed around and laid on above them. If leaves be used, it should not be in such quantity as will produce heat.

FRUITS UNDER GLASS.

By W. POPE, Gardener, Highclere Castle, Newbury.

Earliest Forced Pot Vines.—Vines that were started at the beginning of the present month should be showing signs of growth at this date, and a slight increase of temperature, say, 55° at night and 65° by day, may be afforded as a maximum, a small amount of ventilation being given at the upper lights or ventilators on bright days when the warmth has risen to 70°, but avoiding a draught.

Early Vines in Borders.—To obtain ripe Grapes in the month of May the vinery should be closed at about this date, especially if the Vines are young and they grow with vigour, such requiring a longer time to start them into growth than aged ones, which may have been forced for a series of years. The canes should be depressed till the upper ends are as low as the point at which they bend upwards, so as to induce a regular break. If the canes are wetted twice or thrice daily with warm water, and a bed of fermenting materials be placed upon a raised wooden platform, breaking will be considerably favoured. Fire-heat will not be wanted for the first week or two, nor, indeed, till the Vines have broken into growth, unless the weather should be unusually cold. The heat of the manure should be kept up by the addition of fresh materials at short intervals of time. A temperature of 50° at night, and 55° by day, with a slight rise by sun-heat, will suffice till the buds begin to move.

The Late Vineries.—Much care is called for on the part of the gardener at this season in preserving the thin-skinned varieties of Grapes hanging on the Vines from decay. The bunches should be examined every day, and decaying berries removed, a gentle warmth being maintained in the hot-water pipes, so as to dispel damp, the temperature being kept about 50°. Ventilate these vineries freely whenever the weather is favourable for doing so. When the leaves have fallen, the Grapes may be bottled if a cool dry room be at command. The Vines may then be pruned and dressed, and as a longer season of rest will thus be afforded them, they will start more strongly next year. To secure the best results, the latest Vines should be started into growth early in the month of March, and Gros Colman even in February, which allows sufficient time for the fruit to ripen before the sunny season ends.

Figs, Early Pot Trees.—These trees should be put in order for a start being made soon. If the pots are placed on pedestals of brick or stone, the spaces between them may be filled in with fermenting material, which may be renewed from time to time as may be necessary, without moving the plants. Rather dry Oak or Beech leaves form the most suitable heating materials, if a small quantity of stable-litter be put with them. A strong rank heat is not desirable, 65° being high enough for the present. The top-heat should range from 50° to 55°. When the buds swell freely, the temperature may be increased to 55° at night and 60° in the daytime by artificial means, allowing 70° to 75° with sun-heat, ventilating as required early in the day. Sprinkle the trees with tepid water every morning, and in the early afternoons of fine days.

THE ORCHID HOUSES.

By W. H. WHITE, Burford, Dorking.

Cattleyas.—Many of the autumn-blooming Cattleya labiata will be at their best, needing much care in affording water at the root, the young pseudo-bulbs quickly turning black and decay if the compost be kept very moist; or if that does not occur, the plants may start to grow prematurely. After flowering those which produce roots freely from the base of the flowering growth, they may be re-potted or top-dressed, whichever may be necessary.

Cypripedium bellatulum.—Those who do not succeed with this species should put the plants in the coolest part of the Cattleya-house during the winter months, and keep them at the root rather on the dry side.

Odontoglossum-house.—The lovely Trichopilia (Pilumna) fragrans now in flower will require very little water after the flowers fade till growth recommences, when, if necessary, the plant may be re-potted with safety.

Winter Re-potting.—In large collections there will be at all seasons some Orchids requiring to be re-potted, but as a rule many plants will be at rest, and others less inactive are better if not unnecessarily disturbed. Those which can be safely re-potted now are Disa grandiflora, D. racemosa, D. tripetaloides, D. longicornu, and the hybrids D. Veitchi, D. Kewensis, D. Langleyensis, &c. When breaking up large masses of these plants, a good deal of care is called for on the part of the cultivator, the roots being brittle and easily injured. When the specimens are made up again, place the growths which are of one size together so that they may bloom at the same time. To increase the stock of any variety, the long white offsets may be left attached to the tubers, and these will in time make tubers and roots, and the following year they may be potted off singly. Disas root freely in black sandy peat, to which are added some chopped sphagnum-moss and small bits of lime-stone. The pots or pans used should be well drained. Plants not requiring to be re-potted should have much of the old soil picked out, and be surfaced with fresh material. During the winter the cool-house is the best one for Disas, but in early spring, when the Odontoglossums need shading, the Disas must be removed to the greenhouse. When Disas are well

established in the new compost, a few heads of live sphagnum-moss should be inserted in the surface of the compost sothat an equable degree of moisture about the roots may be maintained. Pleiones or Indian Crocuses are plants which also require re-potting, &c. at this season. The varieties P. concolor, Wallichiana, præcox, lagenaria, maculata, and its variety alba, are now going out of bloom, and as soon as the flowers fade, new roots push out from the base of the young green shoots; then is the time to re-pot the plants. To do this, turn the pseudo-bulbs out of the pot, remove most of the old soil, but instead of dividing the pseudo-bulbs and bedding them out, as some recommend, re-pot them in clumps, the pseudo-bulbs almost touching each other. Pots or shallow pans may be used, but those who prefer to grow the plants suspended, will find pans the more convenient receptacles. Ample drainage is a necessity, large supplies of water being required by the plants. Over the crocks place a thin layer of clean sphagnum-moss, then one of the potting material, upon which the base of the clump should rest; and having placed the pseudo-bulbs, fill up around them firmly with a compost consisting of equal parts of fibrous loam, peat, and sphagnum-moss, mixed with a moderate quantity of coarse silver-sand, the whole of which should have been previously well mixed together. Bare spaces between the pseudo-bulbs may be filled in with the roughest parts of the compost, giving preference however to the moss. The re-potted plants should be placed near to the roof-glass of the Cattleya or intermediate-house, and little or no water should be given. After the lapse of a few weeks, water may be afforded sparingly till the growths are well advanced, and when thoroughly established the plants will take almost unlimited supplies. The cooler varieties, as P. humilis and Hookeriana, having completed their growth, and as these generally flower in the month of February, they may be suspended close to the glass in the Odontoglossum-house, and afforded sufficient water to prevent the pseudo-bulbs shrivelling till that time. In the Mexican division, Lælia cinnabarina is starting to grow, and if a larger pot or fresh compost be required, attend to these matters forthwith. The compost best suited consists of fibry peat two-thirds, and sphagnum-moss one-third, with a moderate quantity of finely-broken crocks mixed in it. This species requires careful watering, for if kept very moist, the roots will decay. It is safe practice to let the soil become thoroughly dry before affording water. In this division Vanda teres will have made sufficient growth for the season, and plants which were given fresh material for the roots to cling to at the right time, have become firmly established. This plant should not be watered heavily as in summer, nor on the other hand, kept so dry as to cause the stems to shrivel, or some of the lowermost leaves will fall off; but afford it a slight dewing overhead whenever shrivelling is feared, and it will keep fresh, and in its proper season bloom abundantly. The flower-spikes on weakly plants of Lælia albida, L. autumnalis, and L. Marriottiana, should be removed, or the plants will dwindle away. Even strong-established plants of this fine species would be strengthened considerably if eased of their spikes immediately the flowers are expanded.

THE FLOWER GARDEN.

By Hedley Warren, Gardener, Aston Clinton, Tring.

Sweet Briar.—This species of the genus Rosa is receiving a much greater degree of attention than formerly as plants for making garden-hedges and for decorative purposes, and where a vigorous and hardy plant is required, and apart from the delightful fragrance of all of the varieties, and their varied colours, nothing is more suitable for planting. Lord Penzance's hybrid Briars form a very desirable collection, and every garden of any pretentions should include some of them. These hybrids impart to the garden at a dull season a good deal of desirable brightness of colour when the bushes are covered with haws. The following are among some of the finest varieties now in commerce, which can be well recommended to those who purpose planting:—Amy Robsart, deep rose, abundant bloomer, vigorous; Anne of Gierstein, dark crimson, graceful habit; Brenda, peach-colour, bright golden anthers, distinct; Catherine Seyton, soft rosy-pink, free-flowering, perpetual; Flora McIvor, pure white, blushed rose, large flowers, good; Jeannie Deans, semi-double, scarlet flowers coming in clusters; Julie Mannering, pearly-pink, deliciously scented, very good; Lady Penzance, copper-coloured, the base of petals a bright yellow, free, very fragrant; Lord Penzance, fawn, sometimes tinted with pink; Lucy Bertram, deep crimson, centre pure white, distinct; Meg Merrilies, bright crimson, abundantly furnished with fruits, one of the best; Minna, large pure white, tinted blush, of good habit, and vigorous; Rose Bradwardine, clear rose, free-flowering, robust habit.

Christmas Roses (Helleborus niger) may be somewhat hastened in their time of flowering if handlights or movable frames are placed over the clumps in the open air, keeping them close for a time. The glass should be covered at night if the weather is frosty. Some gardeners lift the plants and place them in gentle heat, but where a sufficient quantity of flowers can be obtained by covering the plants in the above manner it is preferable to do so, the plants being impatient of disturbance at the roots, and suffering from the application of artificial heat. Climate has a good deal to do with the successful culture of Hellebores, and the gardener is sometimes blamed for that which he is unable to prevent. A mild, moist climate appears to suit them best, a fact which may be supported by the enormous quantity of bloom annually grown for sale in Devon and Somerset; and from the fact that roots obtained from those districts persistently refuse to give satisfactory results when planted in gardens in some other counties.

Herbaceous Borders should now be cleared of all dead or decaying growths, if not already done, and the transplanting or re-arranging of the borders proceeded with; after which the surface should be mulched with decayed stable-dung, taking care that the labels are not buried or destroyed when this is done.

Ranunculus.—On light, warm soils, the present month is suitable for the planting of corms. The soil should be well dug or trenched, after affording it a liberal dressing of decayed manure. Plant in drills 2 inches deep, or throw out the whole of the soil to that depth, and let the corms be about 6 inches apart. The ground should have been well consolidated previously. The month of February is a more suitable time to plant if the land is heavy.

Gladiolus Colvilei and its Varieties may now be planted in a warm, sheltered position if early blooms are looked for, the soil being previously deeply dug, after liberally dressing it with rotten manure. If the ground can be slightly raised so much the better; for although the Gladiolus likes plenty of moisture, it should pass away quickly. Plant the corms 4 inches apart, in drills about 3 inches deep, at the bottom of which put a layer of sand for the corm to rest upon. In severe weather protect the beds with straw-mats, which are capable of warding off 10° to 12° of frost.

THE KITCHEN GARDEN.

By Charles Herrin, Gardener, Dropmore, Maidenhead.

Peas.—In gardens, the soil of which is of a moderately light kind, a plentiful sowing of Peas may be made about the 20th and onwards to the end of the present month. The sowing of Peas at this season is not generally advocated. A sowing made in heat in January coming as soon, or even sooner; and in heavy land, it is always better to wait till the New Year before sowing in the open. However, in light, warm soils, or where the conveniences for raising Peas in warm pits and frames do not exist, it is worth the risk to made a sowing in this month, which, should the plants pass through the winter safely, will furnish some early gatherings. For such cases I would advise the sowing of the drawf prolific variety Chelsea Gem on a south border. Sow the seed in rows at 3 feet apart in wide drills not more than 3 inches deep. It will be advisable to damp the seed with petroleum, and then roll it in dry red lead, or shake it in a box containing the red-lead powder. This will preserve it from loss by mice, which are troublesome in most country gardens. The seed having a long time to remain in the ground before it germinates, should be sown thicker than at other times, and a mixture of soot and dry wood-ashes sprinkled in the drills before the sowing is made. William I. and Ringleader are early varieties, growing 4 to 5 feet high, that may be sown on the open quarters. The land for these early crops should have been well worked, or some plot selected that has been trenched and heavily manured for the preceding crop. It will then suffice to afford it a dressing of wood-ashes or charred refuse and soot, and point the surface.

Herbs.—The shoots of Tarragon being much in request in many establishments all the year round, some of the roots should be lifted from the open and placed in rather deep boxes with some light soil stuffed tightly around the roots, and placed in a warm-house. The roots of Spearmint may be similarly treated, but Mint is not usually required by the cook at quite so early a time. Boxes filled with Parsley plants should be placed in a sheltered position, out of the reach of frost, such as under south walls, where sufficient protection for the present will be a garden-mat, or something of the kind, suspended over it during frosty nights.

Forcing Asparagus.—The roots will now force more readily, especially those which have been prepared for this purpose, and whose tops ripened off early. The late frosts will have induced a more perfect state of rest if the crowns were exposed to the air. A hot-bed about 4 feet in depth having been made up of well-prepared materials, place on it a 1, 2, or 3-light frame, or fill a brick-built pit heated by hot-water as regards the top-heat. To have a lasting but not violent heat, mix fresh stable-litter and Beech or Oak-leaves in the proportion of two of the latter to one of litter, and get these into a fermenting condition before making use of them. Trample and beat them whilst making-up the bed, and leave it untouched for a few days, then test the heat, and when it appears to be steady at 75° to 80°, and not before, cover the surface after making it up with more leaves—not litter, with a 3-inch layer of loam and leaf-mould mixed; on this place the roots close together, cover to a depth of 3 inches with light soil, and put on the lights. If the heat remains steady, the frame may remain covered with mats till growth commences, when, if green heads are required, light and air must be gradually admitted, affording the latter more or less in accordance with external conditions.

THE HARDY FRUIT GARDEN.

By G. Woodgate, Gardener, Rolleston Hall, Burton-on-Trent.

Planting Trees and Bushes.—If drier weather has rendered planting possible, let the work be rapidly pushed forward. The planter, before putting a tree or bush in the hole prepared for it, should not omit to cut-back the coarser roots, and such as may be bruised or broken, although many gardeners consider this unnecessary labour, a broken or bruised and twisted root healing and growing as well as one that is clean-cut. Roots with a decidedly downward trend should be bent to the horizontal position, or be cut hard-back. It should, however, be remembered, that no standard tree can exist without tap-roots to steady it, although bushes, pyramids, and espaliers may do so if otherwise supported. The roots should, however, be spread out when planting—radially, and with a very slight dip downwards. Those of the Quince and Paradise stocks, growing naturally near the surface, should not be deeply buried, and may in wet, cold soils, be planted in very shallow holes, the soil being mounded over them. On some stiff clayey lands the same kind of shallow planting is advised, trees on the tree-stock, or the trees may be planted on mounds that have been made beforehand. These should not be less than 12 feet in diameter, nor higher at the centre than 15 inches. This kind of planting on large mounds answers well for orchards under grass, but it is unsightly and inconvenient in gardens, seeing that it renders under-cropping in a measure impossible, and is undesirable as well. Whichever method of planting has to be adopted, a few barrowloads afforded to each tree of top-spit soil, of road-scrapings, potting-bench refuse-mould, a sprinkling of lime, charred earth, refuse, &c., all well mixed together, will always be of benefit to the trees. This mixture should be incorporated with the soil at the bottom of the hole, and used to cover the roots when filling in. Having planted the trees or bushes, at once proceed to make them secure against the wind, fastening wall-trees, espaliers, and cordons loosely to the wall or trellis; and standards, bushes, and pyramids if higher than 5 feet to a stout stake, or three stakes placed one foot distant from the stem, using new hay-bands for the fastening. These bands whilst steadying the trees or bushes allow the roots to sink with the soil. The final staking and tieing should be done in April. To prevent the ingress of frost, a mulch of rotten manure about 3 inches in thickness should be placed over the soil as far as the roots extend.

The Fruit-room.—Much early fruit will be getting past its best, and decay will have set in, in some of it, rendering a frequent examination of the shelves and racks a matter of importance, one rotten fruit soon spreading decay amongst sound fruits. The Apple crop this year being a poor one in some districts, every care should be taken of this kind of fruit.

APPOINTMENTS FOR THE ENSUING WEEK.

TUESDAY, Nov. 24 — Royal Horticultural Society's Committees, at the Drill Hall, Westminster.

SALES.

MONDAY, Nov. 23 — Dutch Bulbs, at Protheroe & Morris' Rooms. A splendid Collection of Dutch Bulbs, Liliums, Plants, &c., at Steven's Rooms.

TUESDAY, Nov. 24 — Dutch Bulbs, at Protheroe & Morris' Rooms. Dutch Bulbs, Roots, Rare Lilies, &c. at Stevens' Rooms. The Third and Concluding Portion of the valuable and well-known Collection of British Lepidoptera formed by C. A. Briggs, Esq., at Stevens' Rooms.

WEDNESDAY, Nov. 25 — Dutch Bulbs, at Protheroe & Morris' Rooms. The Third and Concluding Portion of the valuable and well-known Collection of British Lepidoptera formed by C. A. Briggs, Esq., at Stevens' Rooms. Roses, Fruit Trees, Border Plants, Azaleas, Palms, Shrubs, Lilies, Dutch Bulbs, &c., at Stevens' Rooms.

THURSDAY, Nov. 26 — Dutch Bulbs, at Protheroe & Morris' Rooms. Clearance Sale of Bedding Plants, Horse, Van, and Utensils, also the Lease, at the Town Road Nursery, Lower Edmonton, by order of Messrs. Young & Son, by Protheroe & Morris. Twenty Cases of Araucaria excelsa, Roses, Plants, Shrubs, Dutch Bulbs, &c., at Stevens' Rooms.

FRIDAY, Nov. 27 — Dutch Bulbs, at Protheroe & Morris' Rooms. Imported and Established Orchids, at Protheroe & Morris' Rooms. 400 Lots of Miscellaneous Effects, from various Private Sources, at Stevens' Rooms.

SATURDAY, Nov. 28—Dutch Bulbs, at Stevens' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—41·5°.

The Examinations of the Royal Horticultural Society.

THE Council of the Royal Horticultural Society announce that the next examination will be held in the various centres on Tuesday, April 6, 1897. The examination will comprise questions on some of the subjects detailed in the following syllabus, copies of which, with all further particulars, may be had from the Secretary of the Royal Horticultural Society, 117, Victoria Street, London, S.W.

ELEMENTARY KNOWLEDGE ON WHICH HORTICULTURAL PRACTICE IS BASED.

1. Soils, good and bad; their nature and composition. Weeds and their indications.
2. Requirements of growth—water, heat, air.
3. Seeds: nature of, duration of, vitality in, and modes of germination.
4. Roots: nature and functions of; fibrils and root-hairs; what they do, and how they do it—what helps and what hinders them.
5. Stems and branches; their nature, work, and uses; helps and hindrances to their work.
6. Leaves: what they are, what they do; helps and hindrances to their work.
7. Tubers and bulbs, leaf-buds and flower-buds.
8. Growth and development: increase in size and changes of composition and structure; formation and storage of food materials.
9. Flowers: their component parts; what they do; artificial fertilisation.
10. Fruit: changes and development during ripening; forms and varieties, as, e.g., Apple, Strawberry, Plum, &c.
11. Seed: formation of.
12. Variation and selection.
13. Names and orders of common garden-plants, trees, &c.

HORTICULTURAL OPERATIONS AND PRACTICE.

1. Surveying and landscape gardening: elements of.
2. Choice of site for garden.
3. Description and use of implements under each head.
4. Operations connected with the cultivation of the land, with explanations and illustrations of good and bad methods; digging and trenching; draining; hoeing, stirring the soil, and weeding; watering; preparation of seed-beds; rolling and raking, sowing, transplanting and thinning; potting, planting; aspects, positions and shelter; staking; earthing, blanching, &c.
5. Propagation. Elementary principles cuttings, budding and grafting, stocks used, layering, division, branch pruning, root pruning; old and young trees and bushes. Training.
6. Fruit culture; open air and under glass; Small Fruits; Apples and Pears; Stone Fruits; gathering and storing; packing and marketing. General knowledge of fruits, and selection of varieties.
7. Vegetable culture: tubers and roots; green vegetables; fruits and seeds; rotation of crops, and selection of varieties.
8. Flower culture, outside and under glass.
9. Manures and their application.
10. Improvement of plants by cross-breeding, hybridisation, and selection.
11. Arboriculture: trees and shrubs—their culture.
12. Insect and fungus pests: prevention and treatment.

Alfred Chandler.

ANOTHER of the links between the present and the past has disappeared. Times and circumstances have so changed, that but few of the present generation have anything but a hearsay knowledge of the once famous nursery at Vauxhall. The Camellia, for the culture of which Mr. CHANDLER earned his reputation, has gone out of fashion, and Vauxhall is about the very last place in which one would now look for a nursery.

The business was established early in the century, under the style of NAPIER & CHANDLER, and on the death of the latter, as CHANDLER & BUCKINGHAM. Subsequently it was known as CHANDLER & SONS, under which title it remained till 1858. About fifty years ago the nursery, during the Camellia season, was one of the sights of London, the long-house being certainly a beautiful sight, and unique in its way. Mr. CHANDLER was not only a skilful cultivator, but an excellent artist in water-colours. He figured many Orchids from Messrs. VEITCH's establishment, and leaves behind him an extensive collection of drawings, which will be of much interest a sa record of horticultural progress. A large number of varieties was also raised by Mr. CHANDLER at Vauxhall, some of which were found to be hardy in that situation, whilst several were illustrated in one or other of the works below mentioned.

In 1826 Messrs. CHANDLER & BUCKINGHAM published a quarto volume of plates under the title of *Camellia Britannica*, and in 1831 a series of plates which PRITZEL characterises as "pulcherrimæ" was published, the descriptions having been supplied by Mr. W. B. BOOTH, long an officer of the Royal Horticultural Society. The title of this work runs thus:—"Illustrations and descriptions of the plants which compose the natural order Camelliæ, and of the varieties of Camellia japonica cultivated in the gardens of Great Britain. The drawings by ALFRED CHANDLER, the descriptions by WILLIAM BEATTIE BOOTH. London, 1831, folio xii., 48 pp., 40 tab. col. (pulcherrimæ).

Mr. CHANDLER, who was in his ninety-third year, died at East Dulwich on the 19th inst.

Anthony Waterer.

THE announcement we have to make of the death, on the 16th inst., of Mr. ANTHONY WATERER, in his seventy-fifth year, will come with almost as much surprise as regret to those who conversed with him at the last meeting of the Royal Horticultural Society not a fortnight since. The name of ANTHONY WATERER, of Knap Hill, was a good deal more than a household word among his associates and fellow-countrymen. In the United States, on the Continent, wherever Rhododendrons can be grown, there were the name and fame of ANTHONY WATERER established. So long ago as 1832, we read of a hybrid raised by him between Rhododendron arboreum and R. caucasicum, whilst hundreds of Azaleas, even at that time, owed their origin to him. Since then not a year has passed without the introduction of new varieties; whilst so high was his standard, that the new introductions were certain to be improvements. A new race of Azaleas was raised by him from the Californian R. occidentalis only a few years since. In many cases, a particular variety which had won the commendation of the experts, was not allowed to get into commerce, either because it did not satisfy the exacting requirements of the raiser, or because he had still better in reserve.

But Rhododendrons and their allies were not the only objects of Mr. WATERER's predilection. There are fewer greater sources of pleasure in store for the lover of trees and shrubs than a visit to Knap Hill. The variety of ornamental and interesting trees, and Conifers, including Hollies and Yews, was only equalled by the care exercised in selecting and propagating the best. The introduction of the Spiræa known as Anthony Waterer, is comparatively recent, whilst the selected forms of Picea pungens known as argentea, is one of the most beautiful and most hardy of Conifers. Lilies and Primroses also received their share of attention; so that no matter at what season the visit is paid to these vast nurseries, there is certain to be much to interest the visitor.

A Statue to Darwin.

THE movement for the erection of a monument to CHARLES DARWIN in his native town of Shrewsbury was a good deal stimulated by the discussion on his theories at the Church Congress there last month. It is now announced that the long-debated scheme will be carried out forthwith. The Shropshire Horticultural Society has, we learn, with commendable public spirit, undertaken to bear the whole cost, which is estimated at from £1,000 to £1,200.

This act of the Shropshire Horticultural Society is worthy of the highest commendation. Few men have done more to advance the theory of horticulture, and as a consequence, the successful prosecution of the art, than DARWIN; but it has been left for what we had considered to be a great Flower Show Society, and nothing else, to do this great public duty.

AËRIDES LAWRENCEÆ.—By the kindness of Sir TREVOR LAWRENCE, Bart., we are enabled to illustrate the original form of this finest of all the species of Aërides, which was imported from south-east Mindanao in 1883, and named in honour of Lady LAWRENCE. In the habit of the plant, and in the bright and rich colouring of the flowers, it resembles Aërides quinque-vulnerum, also a Philippine species; but in the more dense arrangement of the flowers it is like Aërides odoratum, which inhabits India and China. To both species, however, it is infinitely superior in point of size, and in the stately beauty of its flowers



Fig. 109.—Aërides Lawrenceæ. (see p. 628.)

which are white, marked with rich amethyst-purple, the tip of the spur being green. Aërides Lawrenceæ requires to be grown in a warm, moist house.

Linnean Society of London.—November 5.—Dr. Günther, M.A., F.R.S., President, in the chair. Messrs. A. B. Freeman Mitford, C.B., and William Tyson were elected, and Messrs. Vernon H. Blackman and Percy Groom were admitted Fellows of the Society. Dr. Morris, C.M.G., exhibited specimens and slides illustrating the occurrence of raphides in the bulbs of the common Hyacinth of gardens (Hyacinthus orientalis and varieties). Forms of eczema were said to have been produced in persons handling and cleaning these bulbs. Although the fact was familiar to gardeners, the cause did not appear to have been clearly traced. Experiments and observations at the Jodrell Laboratory at Kew had shown that both dry and moist scales were capable of producing considerable irritation in certain cases when applied directly to the skin. There was little doubt that the raphides were the prime agents. These needle-shaped crystals (composed of oxalate of lime) varied from $\frac{1}{100}$ to $\frac{1}{200}$ of an inch in length, and were arranged in close bundles, easily dispersed by rubbing the dry scales. In the growing plants they were doubtless protective, as snails for instance avoided Hyacinth bulbs, but attacked others growing close by. Roman Hyacinths (var. albulus) were understood to cause greater irritation than other varieties. Dr. D. H. Scott described some experiments which he had tried, tending to confirm the conclusion that the irritation of the skin produced by contact with the bulb-scales of Hyacinths is due immediately to puncture by the numerous raphides. On behalf of Dr. H. B. Hewetson, of Leeds, Mr. Harting exhibited photographs of a specimen of Macqueen's Bustard (Otis Macqueeni) which had been shot at Easington, in Holderness, on October 17 last, and gave a brief account of the species, which had now been met with in England for the third time; the first instance of its occurrence having been noticed in Lincolnshire in October, 1847, and the second in Yorkshire in October, 1892. Mr. Hugh Warrand exhibited a remarkable bird, which was believed at first to be a hybrid between the red grouse and ptarmigan, but which in the opinion of Mr. Ogilvie Grant, Mr. Millais, and Mr. Harting, could only be regarded as an abnormally pale-coloured grouse. Only one possible instance had been recorded of such a hybrid as was suggested, viz., in the case of a bird which was exhibited some years ago by Professor Newton to the Zoological Society (*P. Z. S.*, 1878, p. 793), and had since been figured by Mr. Millais in his work on game birds. A specimen of the cream-coloured courser (Cursorius isabellinus), an extremely rare visitor to this country from North Africa (probably *viâ* Spain), which had been shot on Salisbury Plain, at Earlstoke, on October 10 last, was exhibited by Mr. Harting, who gave particulars of the occurrence, and stated that another example of this bird had since been obtained in Bouley Bay, Jersey. A paper by Mr. A. W. Waters, F.L.S., on Mediterranean Bryozoa was then read. Dr. S. Schönland communicated a paper on some new species of Crassula from South Africa, which he had obtained from localities which had been very rarely visited by botanical collectors, and which were believed to be undescribed. Mr. J. G. Baker, who criticised the paper, spoke in favourable terms of the care which had been taken by the author in its preparation, and thought there was sufficient justification for describing the species mentioned as n ew. A revisionary Monograph of the New Zealand Holothurians, by Prof. A. Dendy, D.Sc, F.L.S., of Christchurch, N.Z., was read. The Rev. J. Whitmee made some remarks on the Trepang fishery in Samoa, where several edible species of Holothurians are gathered and prepared for the market; and called attention to the well-known fact that a small fish of the genus Fierasfer used the body of the Holothurian as a habitation.

—— The next meeting of the Society will be held on Thursday, November 19, at 8 p.m. precisely, when the following papers will be read: I. Mr. W. G.

RIDEWOOD, B.Sc., F.Z.S., "On the Structure and Development of the Hyobranchial Skeleton and Larynx in Xenopus and Pipa, with Remarks on the Affinities of the Aglossa; II. Rev. T. R. STEBBING, M.A., F.R.S., F.L.S., "On Amphipoda from the Copenhagen Museum."

ROYAL HORTICULTURAL SOCIETY.—The next meeting of the Fruit and Floral Committees of the Royal Horticultural Society will be held on Tuesday, November 24, in the Drill Hall, James Street, Victoria Street, S.W., from 1 to 4 P.M. At 3 o'clock a floral demonstration will be given by the Rev. Professor GEO. HENSLOW, M.A.

DRAWINGS OF CERTIFICATED ORCHIDS.—At the meeting of the Orchid Committee, on the 27th ult., it was decided to memorialise the Council on the subject of obtaining for reference coloured drawings of the Certificated Orchids shown before the Committee. To this memorial the following answer has been received: "To the Chairman of the Orchid Committee.—The resolutions you forwarded to me were duly consided by the Council on Tuesday, and the following resolution was agreed upon, and a copy of it ordered to be forwarded to you: 'The Council views with favour the principle of the resolution of the Orchid Committee under date of Oct. 28. The Council would now be glad if the Committee will clothe their proposals in such definite form as to details and probable cost, as will supply a basis for discussing them with the Council, or some members of it.' I am, &c., W. WILKS, Secretary." It is hoped that there will be a full attendance of the members of the Committee on Tuesday next to further consider the matter.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—The Committee of this Institution at their meeting held on the 13th inst., decided to place twenty candidates from the list of applicants on the funds at the next election, which will take place on January 14, 1897. Of these candidates ten will be recommended for election without votes, they having complied with the terms of Rule III. s. 5, and other rules in connection therewith. The remaining ten will be elected by the votes of subscribers in the usual way. In thus increasing their liabilities by adding to the pension list the largest number of candidates ever admitted at any one election in the history of the Institution, the Committee had in mind the fact that next year will witness the celebration of the sixtieth year of the Queen's reign, and as Her Majesty has been for forty-five years the gracious patroness of the charity, they intend to appeal to all gardeners, and other friends of the institution, to assist them in making some special effort on its behalf during the coming year in commemoration of an event which is unparalleled in the annals of this country.

THE GARDENERS' ORPHAN FUND.—At the last meeting of the committee, the following special subscriptions were announced by the Secretary:—Ealing District Gardeners' Mutual Improvement Society, £15; Canterbury Hospital and Charity Fête, £10; Sandringham Horticultural Society, £5 5*s.*; Mr. J. Selway, Bettenhanger, Dover, £3 10*s.*; Forest Hill and Catford Horticultural Society, sale of Flowers, £2 2*s.*; small sums, per the Editor of the *Gardeners' Chronicle*, £1 17*s.* 6*d.*; Mr. John Rochford, £1 5*s.* 6*d.*; Mr. J. Miles, Southampton, £1 8*s.*; Mr. W. Stevens, Walton, Stone, box, £1; and small sums, £1 9*s.* The Secretary announced that Caradian Stock, value £500, had been purchased, thus bringing up the Reserve-fund to nearly £900. A letter was read from Mr. John Fraser, resigning the post of auditor he has held since the establishment of the Fund, assigning as a reason the claims of business. The committee learned the fact of Mr. Fraser's resignation with great regret, as he had proved a most painstaking auditor.

NATIONAL HORTICULTURAL SOCIETY OF FRANCE.—M. VIGER, the Minister for Agriculture, has been elected President of the Society by an almost unanimous vote. The number of voters was 324, so that 163 votes would have constituted an absolute majority. M. VIGER obtained 303 votes.

HORTICULTURAL CLUB.—The monthly dinner and conversazione took place on Tuesday, the 10th inst. Owing to the number of Chrysanthemum shows going on, in which so many of the members were interested, the meeting was comparatively a small one, which was the more to be regretted because a very interesting paper was read by Mr. CHARLES E. PEARSON of Chilwell, Nottingham, on "New Varieties of the Chrysanthemum." A discussion took place afterwards, in which most of the members joined; and a vote of thanks was unanimously accorded to Mr. PEARSON for his excellent paper—which we hope to give in a future issue.

EDINBURGH CHRYSANTHEMUM SHOW.—As this sheet is passing through the press, we learn that at the great Chrysanthemum show in the Waverley Market there are over 900 entries, and nearly 200 competitors. The show will be continued for three days.

NATIONAL CHRYSANTHEMUM SOCIETY.—A meeting of the Floral Committee took place on November 18, and some interesting novelties were staged. One important point came up for discussion—as to the position of some of the newer incurved types. At the last meeting of the committee, it was decided that incurved Duchess of Fife is an incurved Japanese, and yet on the occasion of the Jubilee Show this variety was included in the stands of incurved, and passed by the judges. It was eventually decided that the Floral Committee recommend the General Committee to take some action in reference to the incurved varieties, with a view to a fresh classification, if necessary. First-class Certificates of Merit were awarded to Japanese, Simplicity, a white reflexed variety in the way of Madame Carnot, pure colour, fine petal; and Sunstone, soft yellow, deeper in the centre, full and pleasing. These are varieties raised by Messrs. NATHEN SMITH & SON, Adrian, Michigan, and were exhibited by Mr. NORMAN DAVIS, Framfield, Sussex. The same award was made to Japanese, Joseph Brooks, yellow and deep apricot on the surface, deeper on some of the older flowers, a fine full variety of much novelty of character, from Mr. W. SEWARD, Hanwell; also to Mrs. Marling Grant, a seedling from Gloire du Rocher, colour, apricot, deeper on the basal petals, full and very attractive, from Mr. W. JINKS, The Gardens, The Beeches, Walton-on-Thames; a Certificate of Merit was also awarded to Mr. A. G. HUBBUCK, orange crimson with a straw-coloured reverse, a bright tinted, large, and full flower of considerable merit. It was exhibited by Mr. W. H. LEES, The Gardens, Trent Park, Barnet, and Mr. H. J. JONES, Lewisham, but in accordance with the rules of the Society, the Certificate went to the former as having the best blooms.

CAMOENSIA.—A few particulars gleaned at Kew may be added concerning this remarkable plant (figured in our last issue, pp. 597 and 601). The roots are apparently destitute of the nodules which characterise so many of the Leguminosæ, a fact which points to a different life-history. The young shoots, like the stipules and young leaves, are densely covered with coarse brown one-celled ribbon-like hairs. The lanceolate stipules are much in advance of the leaves in development, and act the part of bud scales by protecting the young leaves on the fast-growing shoots. Judging from the native country of the plant, this coating must be needed to prevent excessive evaporation rather than as a protection from cold. The leaflets are conduplicate, the terminal one being the first to develop, so that the development of the leaf-blade, as a whole, is from the tip downwards in a centrifugal manner. The development of the petiole on the other hand is just the reverse, from below upwards or basifugal. At the base of two lateral leaflets are two small stipellæ, which are probably rudimentary leaflets. The stalks of the leaflets are much thickened, especially on the under surface, so that, in all probability, the leaflets are endowed with extensive powers of movement according to the exigencies of the plant, and the nature of the surrounding conditions, such as light. The woody tissue of the petiole forms nearly, if not quite, a circle. The stomata, which are oval, are extremely numerous on the under surface of the leaf. The pollen was figured by Mr. W. G. SMITH in the illustration at p. 601.

BOTANICAL MAGAZINE.—The plants figured in the November number are the following:—

Cycnoches Haagii, Rodrigues.—A species from the delta of the Amazon, with flowers of moderate size, and lurid green colour. Kew; t. 7502.

Rhododendron serpyllifolium, Miquel. - A dwarf species like R. (Azalea) amœna (see *Gardeners' Chronicle*, 1882, vol. i., 429); t. 7503.

Pentstemon azureus, Bentham. — A Californian species, varying greatly in stature and habit. The lower leaves are linear-lanceolate, tapering to the base; the flowers in terminal racemes, purple, streaked with rose; t. 7504.

Haworthia xiphiophylla, Baker.—A new species, with tufted, linear-lanceolate leaves, beset with translucent prickles, and central racemes of small cream-coloured flowers. Native of Cape Colony; t. 7505.

Acantholimon venustum, Boissier. — A hardy Statice-like plant, with tufts of linear leaves, and spikes of pink flowers. Native of Asia Minor; t. 7506.

LIBRARY OF THE LATE WILLIAM MORRIS.—The *Times*, in its issue of Nov. 7, in the course of an article on Mr. MORRIS's library, has the following:—"Of herbals, of which Mr. MORRIS was a great lover, he possessed a copy of the earliest of all—that printed at Spira [?] by JOHN and CONRAD HIST [?], about the year 1480; he also possessed a copy of the finest of all—that of Fuschius, printed at Basle in 1542, and this copy is in its original stamped binding. The earliest productions of the presses at Augsburg and Ulm, the collection is singularly rich." The *Herbal* of JOHN and CONRAD HIST is not mentioned in PRITZELS *Thesaurus*. Can any reader give us further particulars about it?

A PREVENTIVE OF CANKER IN THE APPLE.—Every gardener will be glad to know of the following remedy for that troublesome malady—the canker affecting the stem and branches of the Apple. Superphosphate of lime, 12 lb.; nitrate of potash, 10 lb.; Sulphate of lime, 8 lb.; common salt, 4 lb.; sulphate of iron, 1 lb. Mix these different substances intimately, and apply at the rate of 4 oz. to 1 square yard of land. We are indebted to Mr. T. F. RIVERS of Sawbridgeworth for the formula.

THE SURVEYORS' INSTITUTION.—The next Ordinary General Meeting will be held on Monday November 23, when a paper will be read by Mr. WALTER C. RYDE (Associate), on "The Agricultura-Rates Act, 1896." The chair will be taken at 8 o'clock. Those proposing to enter their names for the Students' Preliminary Examination, to be held on January 20 and 21 next, must intimate their intention to the secretary before the last day of November. It is proposed to examine candidates from the counties of Lancashire, Cheshire, Yorkshire, Durham, Cumberland, Westmoreland, and Northumberland, at Manchester. Candidates from other counties in England and Wales will be examined in London. Irish candidates will be examined in Dublin. The Students' Proficiency Examination will commence on March 22 next. Examinations qualifying for the Classes of Professional Associates and Fellows will also commence on March 22 next. All particulars as to the days, subjects, and course of examination will be forwarded on application to the secretary. Candidates for the professional examinations will be examined in London only.

—— Notice is also given that the next Special-Certificate Examinations in Forestry, Sanitary Science, and Land Surveying and Levelling, are proposed to be held on Tuesday, Wednesday, and Thursday, June 15, 16, and 17. Particulars of these examinations can be obtained from the secretary.

Maxillaria striata, Rolfe.—This is one of the prettiest of the Maxillarias in the group made familiar to us in gardens by M. grandiflora and M. venusta, both of which have white flowers. It was first made known by plants imported from Peru by Messrs. Linden, of Brussels, from whose first specimen Mr. Rolfe named and described it. Later it was exhibited at the Royal Horticultural Society by Mr. Moore, from the Royal Botanic Gardens, Glasnevin, Dublin, when it was awarded a Botanical Certificate; and still more recently by Messrs. F. Sander & Co., of St. Albans, who secured for it an Award of Merit, their plant supplying the subject from which our illustration (fig. 110) was taken. The sepals and petals are yellow, striped with red-brown, and the lip white with purple veining. Like the others of its class, it is an easy plant to grow, if placed in a cool intermediate-house.



Fig. 110.—Maxillaria striata.

National Amateur Gardeners' Association.—The annual November exhibition of autumnal flowers and fruit, under the auspices of the National Amateur Gardeners' Association, was held on Tuesday night, 10th inst., in the Memorial Hall, Farringdon Street. Arranged upon the benches was a very fine display of Chrysanthemums, all grown by members of the association, and the Ryecroft championship prize for twelve cut blooms of Japanese Chrysanthemums was awarded by the judges to Mr. H. A. Needs, of Woking. The Cheal trophy for fruit was won by Mr. F. M. Vokes, of Southampton. During the evening a meeting of the members was held, a paper on "Cool Orchids" being read by Mr. W. Baxter, of Woking.

Market Gardeners and the Income Tax.—At p. 531 of our number for October 31, under the heading of "Farmers and the Income Tax," attention was drawn to the issue by the Board of Agriculture of a leaflet designed to advise farmers on matters relating to the Income Tax as payable by them. The paragraph in question closed with the words: "It is to be presumed that market gardeners have the same statutory rights as farmers or persons occupying land for the purpose of husbandry only." The presumption seemed a very natural one, but as the ways of taxmakers are not always as those of other men, it was determined to sound the Commissioners of Inland Revenue on this point. The surmise was not ill-grounded, as the following extract from the reply, dated November 12, testifies:—"The leaflet to which you refer does not apply to nurseries and market gardens. Ever since the imposition of the Income Tax in 1842, the assessments made under Schedule B in respect of the profits arising from the occupation of nurseries, or gardens for the sale of produce, have been based not on the annual value of the lands, but on the actual profits estimated according to the rules of Schedule D of the Income Tax Acts." Payment of taxes on profits realised—that is, after marketing the harvest—would save a great deal of trouble, and would certainly be most just to the gardener or nurseryman; what the objections to this may be might interest not a few of us to learn; we commend the subject to the chairman of the Board of Agriculture and to the Chancellor of the Exchequer.

Harrison's Yellow Rose.—Messrs. Paul & Son, of the Old Nursery, Cheshunt, send us flowering specimens of the double yellow Austrian Briar, a variety of Rosa lutea. It is singular that we should have received this from two sources this autumn. We do not remember ever before to have seen it flowering a second time in one season.

M. Bergman.—We understand that M. Ferdinand Bergman is about to leave Ferrières, and that his son, M. Ernest Bergman, will leave at the same time. A successor is already appointed. Ferdinand Bergman was born near Melun in 1826, and in 1837 entered the gardens of Baron James de Rothschild as an apprentice. In 1843 he visited England, working at Chatsworth under Paxton, who subsequently laid out the park at Ferrières. From Chatsworth Bergman went first to Messrs. Lee of Hammersmith, then to Rollisson's at Tooting, afterwards to Dalkeith, and ultimately to Baron Hügel at Vienna. In 1846 Baron Rothschild appointed him to take charge of the park and gardens at Ferrières, where for the most part he has remained. During the Franco-Prussian war, Bergman remained at his post, and owing to his zeal and tact, comparatively little injury was done by the invading troops. In 1887 the fiftieth anniversary of his horticultural career was celebrated, the opportunity being taken by his friends and associates to present him with an appropriate mark of their esteem.

The Root Tubercles of Leguminosæ.—In the last number of the *Comptes Rendus*, M. Naudin expresses some doubts as to the alleged power of microbes to effect the fixation of nitrogen. M. Naudin calls attention to the fact that Robinias, Cercis, Gymnocladus, and many other genera are cultivated successfully in the absence, as it would seem, of any bacterium special to them. Seeds were sown in soil which had been submitted to prolonged boiling, in order to kill the microbes. The result was that plants grown in soil thus sterilised germinated more rapidly, and the seedlings were more vigorous, than those grown in ordinary soil.

Fibres.—A Travers Lecture on "Recent Researches in Commercial Fibres," will be delivered at the London Institution, on Monday afternoon, November 30, at 5 p.m., by Dr. Morris, C.M.G., Assistant Director of the Royal Gardens, Kew. In view of the considerable interest taken at the present time in China-grass and Ramie, these fibres will be particularly dealt with. The lecture will be illustrated with lantern slides and specimens.

Chrysanthemum Madame Carnot.—We hear from Mr. Wells of the Earlswood Nurseries that this exceedingly popular, large-flowered, white Japanese variety, has given a canary-yellow sport. Flowers will be exhibited at the meeting on Tuesday next of the Royal Horticultural Society.

Chrysanthemum Awards.—In addition to the Awards of Merit given in our report of the last meeting of the Royal Horticultural Society, an additional one was unanimously recommended to Japanese Madame Paul Lacroix. Three excellent blooms were shown by Mr. P. O. Knowles, gr. to F. C. Crisp, Esq., Henley-on-Thames. As shown, the blooms were very deep, having florets of moderate width, but of considerable length. The colour was bright but rather pale yellow, passing to very pale lilac in the oldest floret. The variety has been in commerce for two years or more.

Swansea and District United Gardeners' Association.—We learn from Mr. Milner, gardener at Penrice Castle, that the gardeners of the district around Swansea are to be congratulated on the success they have so far attained in establishing an association for the encouragement of horticulture in this prosperous district. The committee is very grateful to Sir John T. D. Llewelyn, Bart., M.P., for the great interest he is taking in the matter, and also for kindly undertaking the office of President for the ensuing year. The Committee have arranged for a series of papers to be read during the winter months on different subjects relating to gardening, and they are looking forward hopefully to being enabled to have a summer show in Swansea, the suggested site being the new Market Hall, which is near completion, and which will undoubtedly be one of the finest sites in the kingdom. The hon. secretaries are Messrs. A. K. Drummond and W. Davies. It is intended that the following papers shall be read during the winter season, 1896-97, in the lecture-room of the Public Library: 1896—November 19, by Mr. W. W. Pettigrew, Superintendent of the parks and open spaces, Cardiff; subject, "The Process of Fertilisation." December 17, by Mr. W. S. Gilbert, The Gardens, Baglan Hall; subject, "Chrysanthemums and their Culture." 1897—January 21, by Mr. R. Milner, The Gardens, Penrice Castle; subject, "Apples and their Culture." February 18, by Mr. C. H. Evans, Swansea; subject, "Parks and Open Spaces" (illustrated with lantern-

slides). March 18, by Mr. FOOTE, The Gardens, Clyne Castle; subject, "The Peach: Its History and Culture." Meetings to commence at 8 P.M.

LARGE POTATO.—Mr. MILLER, of Fairlie, N.B., is getting to be well known in the north as a grower of Potatos. He has produced a lot, nine of which weighed a stone of 14 lb.; the largest of these turned the scale at 2 lb. 3 oz.! Truly, a gigantic specimen.

CROSSES BETWEEN THE MARGARET AND TREE OR PERPETUAL-FLOWERING CARNATIONS.—We remark in the report of the meeting of the Prussian Horticultural Society on October 29 last, that Mr. BEHRENS exhibited some very pretty crosses between Margaret and Tree Carnations, some cut flowers of which had been already shown from the same plants in August, and at the end of October the plants were still beautifully in bloom. The characteristics of the crosses are, the non-liability of the calyx to split, perfect hardiness, coming true to colour from seed, long duration of flowering, and of the blooms when removed from the plants.

GERMAN CYCLAMENS.—The following is a brief description taken from the *Gartenflora* of the treatment pursued by H. TUBBENTHAL, of Charlottenburg, with Cyclamens. It may be noted that it was this cultivator's plants which the Prussian Horticultural Society selected for comparison with plants raised from English seed. The compost which he uses consists of peat, four parts; hot-bed soil, two parts; leaf-soil, one part; and half-a-part, sand. The seed was sown in October; the seedlings pricked out at the end of December, shifted into pots at the beginning of March, and put into their flowering-pots at the beginning of August. At the end of that month they were removed from the frames in which they had been growing, to a house, the plants doing better in the latter.

HOME CORRESPONDENCE.

A HORTICULTURAL INSTITUTE.—No one is more anxious than myself that a suitable building be provided in London where horticultural societies can hold their meetings for business purposes; but the provision of a hall suitable for large exhibitions is a matter of considerably wider range. My experience of London exhibitions, which may be said to have begun with the first National Rose Show in St. James' Hall in 1858, leads me to the conclusion that a building suitable to hold an exhibition on anything like an extensive scale must not only be very large, but also contain the needful offices, adding considerably to its area and cost. There is no building in London other than the Aquarium, the Agricultural Hall, or Olympia, that can accommodate the ordinary exhibitions of the National Chrysanthemum Society, and leave the necessary spaces for locomotion. I do not forget the Crystal Palace, but it is a serious railway journey from London to reach it, and this makes its use for large exhibitions one of expense and labour. Probably St. Stephens' Hall at the Royal Aquarium is one of the largest in London; it is 136 feet in length by 80 ft. in breadth, and yet, though almost completely filled on the occasion of the recent Jubilee Show, it only accommodated about one-fourth of the exhibits. Some idea of the extent of tabling required to stage a large exhibition of cut flowers and other things requiring tables may be gleaned when I state that there was provided at the Jubilee Show about 7600 superficial feet of tabling; of this amount nearly 3000 feet was on the ground-floor, 2450 in St. Stephen's Hall, 1420 in the north gallery, and 740 in the south gallery, and this in addition to the floor space occupied by groups. These statistics show that a hall capable of containing a representative exhibition must not only be very large, but have galleries as well, in addition to the necessary offices and places for stowing away such stores as tabling, &c. Such a building could be erected and properly fitted up only at an enormous cost. Then there would be rates to pay, and a large sum annually for keeping the building in repair, insurance premiums, &c. If only the Crystal Palace, the Agricultural Hall, or Olympia were nearer the centre! Olympia has the nearest approach to a horticultural hall, only that the light is defective; but it needs to be nearer to Charing-Cross to be readily accessible. In this respect, the Royal Aquarium has an immense advantage over every other public building of its size; but no one can possibly regard it as an ideal place for such exhibitions. It also possesses ample side-buildings, for the storage of tables and other accessories. A horticultural hall suitable for business meetings and small gatherings like the bi-monthly ones of the Royal Horticultural Society, the Carnation and Auricula Shows, and the meetings of the Floral Committee of the National Chrysanthemum Society, Committees, &c., is possible; but a big hall, capable of containing the exhibitions of the National Rose and the National Dahlia Societies, to say nothing of larger requirements, is, I fear, likely to remain an unrealised longing, despite many ardent desires that such a place should be provided. *R. Dean.*

HORTICULTURAL HALL.—Residing, as I do, a long distance from London, my visits are somewhat infrequent; nevertheless, I have just as much sympathy with horticultural progress as to cordially re-echo your own remarks pp. 564 and 568, as also Mr. Wood's, p. 568, as to the desirability of a horticultural hall being built or begun in London next year. I am assuming that horticulturists, as a body, will be desirous that something should be done to mark the sixtieth year of the Queen's reign. To my mind the originators of such a scheme will necessarily be residents in or within a reasonable distance of London. What more likely body to do this than the Council of the Royal Horticultural Society? Of course, it would not be wise to confine the use of the building to the purposes of that body alone. But as the natural leaders of progressive horticulture, they should take the lead in such a matter. Representatives of other horticultural societies could join them. Perhaps some Government influence could be "got at" by getting the authorities of Kew Gardens to join as well. In these days of rapid communication, much of which, as a natural course, gravitates to the metropolis, doubtless there are hundreds of persons who are able, and willing, to subscribe to such a fund, if it was only properly put on foot. It may be said there is time enough yet; but in view of the many other objects that doubtless will be brought forward, I for one do not think there is much time to lose in making a start. Seeing that, so far as charitable institutions are concerned, horticulture is well equipped already, there is no need to fear division of opinions on this important part of horticultural duty. One more matter I venture to suggest in conclusion, viz., that all subscriptions to such a fund as is herein suggested should have attached to them some advantages in the shape of life or annual membership, in accordance with the amount subscribed. *Yorkshire Gardener.*

CHRYSANTHEMUM BEAUTY OF TEIGNMOUTH.—After reading Mr. Godfrey's note in *Gardeners' Chronicle* of the 7th inst., and seeing a small flower of James Lynch in his exhibit at the National Chrysanthemum Society's show at the Aquarium, which was said to be the true, and as, I think, worthless Pride of Madford, I would like to give your readers another history of the Pride of Madford and James Lynch. These two varieties were sent to Mr. Salter, gardener at Woodhatch Lodge, Reigate, in 1893, both named Pride of Madford, but were found to be dead on arrival. I believe both Mr. Owen and Mr. Cannell imported these two varieties for the following season, and one or both of them were to be found in their catalogues. Messrs. Hannaford & Sons must have got the names mixed or lost in transit, when they received them in 1894, at which time the varieties had already been named and distributed in Australia, and exported to England. Beauty of Teignmouth is no other than Pride of Madford; and I know its history. I introduced it, and was awarded the F.C.C. at the National Chrysanthemum Society, on October 21, for Pride of Madford, syn. Beauty of Teignmouth. It is an Australian variety, and was named by Messrs. Hannaford, and to them be the credit for such a grand variety. We have also to thank them for other good varieties, viz., Oceana, Australie, and C. B. Haywood, the last-named one of the grandest flowers, and easiest grown of any Chrysanthemum that we have. Those who were so fortunate as to see eight or ten plants at Woodhatch Lodge, each carrying three grand flowers, will not easily forget the sight, for the bloom on it is equal in size to that of Australie, but the shape and make are those of the old Maiden's Blush. This variety was distributed very late in last spring, so that no other grower besides Mr. Salter (who had the stock) had a chance of growing it as he was enabled to do. Those growers who like "woppers," must not omit to get it. A flower of Pride of Madford when badly grown from the first crown-bud, and that of a good broad-petalled Duke of York, well grown, so nearly resemble each other, that I do not wonder that even Mr. Molyneux was struck with their similarity; but when Pride of Madford is at its best, this similarity does not exist. The first crown-bud is certainly the proper bud to take, although it comes a bit too soon for November shows; but the flowers from the second crown-buds show an eye, and the florets are reflexed, making the flower appear quite different, but the colour is splendid. *W. Wells, Earlswood.*

WHAT CONSTITUTES A "CRISPUM?"—At the Royal Horticultural Society on the 10th, while discussing Mr. Thompson's so-called "Od. crispum Golden Queen," this question was put to me by one of the little knot of "discussants" (to coin a new word, as we were not disputing, as that practice would ill-beseem the Royal Horticultural Society). I wonder how many of us really know what our reply would be were we asked by one who said he did not know, and believing us to be better informed, awaited the hoped-for information, which I think, in many cases, would render the ignoramus "still wiser." If all the plants that have been certified by the Royal Horticultural Society and other societies the world over could by any improbability be got together in bloom for the ignoramus, and "That is Od. crispum," be told him as the world's reply, he would probably say "Oh," for I feel certain he would never recover the shock to get more breath. He might think to himself "Well! it is pretty variable, at any rate." From the outset, in the days of Bateman, Od. crispum was mistaken by him when he saw it, and re-named Lindley's species after H.R.H. the Princess of Wales. What would he say now were the thousands of much-mixed forms to be presented to him? Perhaps if all who have a theory were to have a meeting and settle the points that determine a "crispum," we should be able to lay down somewhat of a law whereby plants in future could be correctly named, and hybrids be relegated to their nearest named distinct forms, that can be always known when seen. To facilitate an argument that I hope will lead to this desirable end, I will air my theory with the hope that others will add their voices to the solo, and by making it a chorus we shall get an *ensemble* that will be of lasting use to us all. To get a clear idea, I commence with three bases (N.B., I was in Ireland once!). There are three so-called species which grow together, Odontoglossum crispum, gloriosum, and luteo-purpureum, (odoratum as understood by some, comes from a different place), and as a rule they are supposed all to grow at Pacho (Sambo would say, "Mighty big Patch O" too). Look over 1,000 in bloom at once out of one importation, and you will see a large majority of white or rose-tinted forms, these I believe to be crispum; you will also find a small percentage of gloriosum, and possibly a still smaller one of luteo-purpureum. You will find a small proportion of hybrids called O. Andersonianum (crispum × gloriosum), and also possibly a still smaller number of hybrids called Wilckeanum. These three species and their resulting primary hybrids are the first links in a terribly long and confusing chain. Luteo-purpureum and gloriosum are easily known; therefore, why not crispum? The true crispum, I believe, is the spotless form that has a yellow disc to the lip, two yellow teeth at the base, and the two plates at the sides of its channel under the column, only sufficiently raised from the surface so as to expose the ends of the nerves like tiny points. As soon as the yellow usurps more than the disc of the lip, and as soon as spots and marks appear, then I consider that there is an evidence of hybridity. No one can tell the myriads of cross fertilisations that have taken place. This has been proceeding till one can only fancy there is not a true crispum left. I have no doubt I shall be confronted with all sorts of crushing arguments. I hope to be able to reply, and if I am beaten, there are many who can take up the cudgels. Between us we may elicit some useful information. *dc B. Crawshay.* [What were the characteristics of the plant first introduced?—ED.]

NOTES ON GRAPES.—Considering the present "express" mode of cultivating the Grape-vine, it is rather surprising that we have not seen and heard more of the new varieties, Lady Hutt and Appley Towers, than we have done. When introduced they were brought prominently before the public by tempting descriptions from competent authorities, which induced me, and doubtless many more, to give them a trial, but since their distribution compara-

tively little has been heard of them, either for or against, and this must be my apology for troubling you with my experience with these varieties. The most convenient way in which I could test them was by inarching them upon some three years' planted Vines, Lady Hutt on Foster's Seedling, and Appley Towers on Madresfield Court, growing in a house otherwise devoted to Black Hamburghs, which are ripe in August. They are both robust growers, and show fruit and set freely. Lady Hutt, in particular, has very large foliage, which obliges me to have the spurs unusually wide apart, and the laterals severely stopped, in order to let the sun in amongst the shoots to mature them and colour the fruit. The bunches of this variety are fairly large; our best weighed 4lb.; the bunches taper regularly down from rather large shoulders. The berries are the size of those of an ordinary Black Hamburgh; thin-skinned, globular, and in flavour sweet and crisp, improving by the fruit being kept some weeks after it is ripe. It is, to my taste, much better than either Foster's Seedling, Buckland Sweetwater, or Mrs. Pearson. There is something about it that reminds me of the Royal Muscadine when well ripened outdoors—which may not appear a high attribute; but tastes differ, and I may mention that I knew an invalid lady who preferred Muscadines of this description to the best Muscat of Alexandria or Mrs. Pince. One fault it has, namely, its colour, a greenish-white, which may account, to some extent, for its lack of popularity. I cannot speak from experience of its keeping properties further than say it is in this respect considerably better than the Black Hamburgh, for owing to cultivating it in a vinery which is cleared of its crop in the month of November, no attempt could be made to keep the fruit to a later date. Although it is said that Appley Towers Grape was raised from a seed taken from the same berry as that which gave us Lady Hutt, there is not much in common in these varieties. In foliage, flavour, colour, and shape of berry, they are quite distinct. Appley Towers has characteristics which much more closely resemble Black Alicante. Particularly is this noticeable in the foliage, and the shape, size, and colour of the fruit. In some other respects, however, when compared with that useful variety, it is, as most will allow, its superior. In flavour it is more piquant, the pulp is firmer, and as far as my observation goes, it will compare favourably with Black Alicante as a good keeping Grape. It does not equal Alicante in size of bunch, my largest having scarcely reached three pounds weight. The bunch is tapering, with prominent shoulders. My remarks apply to the variety worked upon a Madresfield Court stock, and inarched upon an Alnwick Seedling Vine in another house, where its bunches and berries are smaller, although there is no difference in flavour. I have not previously had Gros Maroc so well flavoured as this year, which fact may be attributed to the unusual amount of sunshine afforded in this year, and there can be no question that the lack of flavour in Gros Maroc, and that of some others, Alicante in particular, sometimes apparently arises from the Vines being grown too cool. There is no comparison between the flavour of Gros Maroc and Gros Colman as grown here, the first-named being much the better, yet not so good as that of Alnwick Seedling. Gros Colman always had (I do not now grow it) an insipid and earthy flavour, for which our heavy soil may in a measure be responsible. I could not, however, obtain so good a degree of colour in the fruit as some gardeners do. When cultivated as were the bunches exhibited recently at Hereford by Mr. Grindrod, it is a magnificent-looking Grape, and causes one to cease to wonder why good flavoured varieties are sometimes sacrificed for appearance sake. *Thos. Coomber.*

PERENNIAL ASTERS AS POT-PLANTS.—In reference to a note about these on p. 600, I may say that during a recent visit to Aix-les-Bains, I was much struck in Miss Willmott's beautiful garden at Tresserne by an arrangement of pot-plants on a stage opposite the drawing-room windows. The most conspicuous flowers were some pots of Leonotus leonurus, which I have never seen out-of-doors in England; next to these in merit were many pots of Aster Novæ Angliæ in various shades. These were flowering profusely all through October, the plants being not more than a foot high. As 5 feet is the lowest height at which I have ever persuaded this Aster to flower in my garden, I was curious as to their treatment. They were grown by M. Tissot, who has a nursery-garden belonging to a large orphanage at Chambery. He informed me that these plants were grown from young shoots taken off in February. They are potted at once, and stopped three times during their growth, the last shortening being at the end of June; they are grown out-of-doors the whole time. I am afraid that the ordinary English summer is hardly hot enough to admit of this plan being exactly followed; but the idea of autumn decoration with potted Michaelmas Daisies deserves more attention than it has yet received in England. *C. Wolley Dod, Edge Hall, Malpas.*

SOCIETIES.

ROYAL HORTICULTURAL.

Scientific Committee.

November 10.—*Present:* R. McLachlan, Esq., F.R.S. (in the Chair); Dr. Bonavia, Dr. Russell, A. D. Michael, Rev. W. Wilks, J. Weathers.

Carnation Disease.—In reference to the diseased Carnations exhibited on October 27, Mr. Douglas wrote, saying the disease was caused by Bacterium Dianthi, Arthur, and that the disease was known in the United States as Bacteriosis. Mr. Massee of Kew says, "Plants if strong and healthy may be kept free from the disease by keeping the foliage dry, and preventing the presence of aphides. Overhead spraying should be done only occasionally on bright days, the water containing only a small amount of ammoniacal copper-carbonate."

Abnormal Cattleya.—Mr. E. St. John Tucker, Sydenham, sent a pseudo-bulb of Cattleya labiata autumnalis which, instead of developing a flower, produced six sheaths one within the other from the apex of the pseudo bulb. Mr. Tucker thought a maggot might have been the cause of the freak, but beyond a small hole in the outer sheath there were no signs of insect attack.

Fertilising Bee of Catasetum tridentatum, Hook.—Specimens of this bee which had been sent to Kew by Mr. Hart of the Botanic Gardens, Trinidad, were exhibited. They were of a metallic shining emerald-green colour, and somewhat larger and rounder than an ordinary house-fly. The name of the bee is Chrysantheda nitida. It is a native of S. America.

Mustard Beetle.—A box of living beetles known as Phædon cochleariæ was exhibited. These beetles devour crops of Mustard in the eastern counties, and are very destructive.

Swede Turnip with "Fingers and Toes".—Mr Jas. Long of Wisbech sent a specimen of Swede affected with this myxomycetous disease, Plasmodiophora Brassicæ. It was stated that there would be a group of fifty or sixty plants affected with the disease in a crop of several acres, and no particular notice was taken. In fact, the diseased plants were allowed to produce seeds, which afterwards developed healthy plants.

Colour Experiments.—It was decided that Dr. Russell, Mr. Wilks, and Professor Henslow should use some of Judson's dyes with a view to their absorption by the roots of Hyacinths under experiment.

NATIONAL CHRYSANTHEMUM.

Conference (*November 5*).

(*Concluded from p. 603*).

The points of quality or properties of the various types as Exhibition Flowers, and the values to be apportioned to each.

Mr. Norman Davis, Chrysanthemum Nurseries, Camberwell, said: At the present time there was a great diversity of opinion as to the estimate to be placed on the various points which go to make up what was understood as quality, much of which appealed to the taste and fancy of the individual rather than to the practical side of the question—even experienced judges differing over quite minor points. It was no wonder, then, that exhibitors so often complained that they did not understand the principles which underlie competent judging, and had nothing to guide them. He could not, of course, agree to any rules tending to require judges to expand their decisions at the beck and call of exhibitors; still, it was not only desirable that judging should be more uniform in character, but a defined system, free from complications, would tend to give judges more confidence in their decisions, if for no other reason than that the public understood them. The greatest difference of opinion which existed among experts lay in the value to be attached to different qualities as were found in the various types of blooms. Now, there were something like seven cardinal points in a flower, each of which had to be studied and appraised in order to find the total value of each bloom. Some experts considered depth of flower a supreme point; others valued most width of floret; while some again regarded form, solidity, or length of floret as cardinal virtues; but he did not suppose that any practical man would desire to convey the idea that if a floret was broad it would be accorded high points, however defective it might be in other qualities, or that a deep and solid bloom should be similarly regarded if it was narrow and wanting in a due proportion of other points of merit. These qualities were essential where they were characteristics of a type; but taken by themselves they should not be allowed to override other considerations, and should always be estimated in conjunction with other well recognised qualities. In the great Japanese class were found flowers of totally different characteristics; as for instance, the "Phœbus" type, with its great depth of bloom, though of moderate width; "Mutual Friend," a shallow flower, but with immense long florets; and "Edwin Molyneux," in which width of floret was grandly characteristic. So he thought it would strike most of them that to take any particular characteristic and attach a cardinal value to it could only lead to the greatest confusion in judging. Separate features did not make up the perfect flower; perfection lay rather in the well-balanced proportions of all essential qualities in the same flower. The perfect flower, and whatever type it might be, should always be in their mind's eye; then as size was the desideratum they all aimed at, other points being equal, size should count as everything. Hard-and-fast rules should not be framed which would compel judges to unduly appraise any one essential characteristic—for if that were done judging would not only involve vastly more labour, but good judging would be rendered impossible. The characteristics of each class had to be defined and a maximum value fixed to the cardinal points; but what should be considered cardinal points had to be determined according to the particular section under review. To judge a flower for its size, and then to consider its separate qualities, was to judge it twice over. What had to be guarded against was the overpowering importance attached to size; some judges could not get away from size, even when the bloom might be faulty, and he admitted that it required courage to bring a large coarse bloom down to its proper level. Colour and freshness were essentially cardinal points in all flowers, and if these were always accorded their full value, large, coarse, and ungainly blooms would disappear, and without regret, from the show-boards. They might have flowers as large as soup kettles if they could be made so by skilful culture; but they should insist that they should be uniformly good on all points, and as beautiful and perfect as the smallest variety. In defining what should be the essential points of merit, he said the customary maximum number of points given to perfect flowers was six, but these points were calculated by quarters, which gave in reality twenty-four points—thus, if the said one point was to be given to colour it would only obtain the whole of that value when in perfection—it could have a quarter, half, three-quarters, or two whole points as required—maximum points for judging Chrysanthemums. For Japanese, whatever type when mixed: Size, including form, 4 points, colour and freshness, 1 each. For the sections of incurved and reflexed, also Japanese incurved and Japanese reflexed, when these are judged separately: Size 2 points, form and finish 2 points, colour and freshness 1 each. All the Anemone classes: Size 1 point, cushion 2 points, ray florets 1 point, colour and freshness 1 each. (Note.—In Pompon Anemones there should be a maximum size.) Hirsute or Hairy Chrysanthemums: Size 2 points, characteristics 2 points, colour and freshness 1 each. Pompons: Size with maximum limit, 2 points, form 2 points, colour and freshness 1 each. Single varieties: Size 2 points, with maximum for small varieties, form 2 points, colour and freshness 1 each.

Setting-up Blooms for Exhibition, and the Principles upon which an Effective Arrangement of a Stand is Based.

Mr. Chas. E. Shea (The Elms, Foots Cray, Kent), read a paper on this subject. He said those who were habitual attendants at our leading Chrysanthemum shows could not fail to be impressed with the fact that there are yet many exhibitors—clever cultivators it might be—who materially injured their prospects of success by faulty setting-up and inharmonious arrangement of their blooms. They might have devoted unremitting attention to the culture of these plants, and with signal success. The blooms were there, and yet at the last moment they deliberately threw away points by defective staging—and points could not be thrown away with impunity in these days of neck-and-neck competition. It was, of course, in the amateur section that lack of experience was displayed; but a visit to even that exhibition showed the neglect of the most obvious rules of the staging exhibition flowers. Flatness of staging and absolute ignoring of the primary laws of contrast and harmony of colour were conspicuously displayed even in some of the largest classes. He could not but believe that the hurry and excitement, which were inseparable from competitive exhibitions, tended to relegate to the back ground a matter of the utmost importance. Of the practical importance of good staging there could be no doubt. It was sometimes said that cultivation being the essense of the competition, it was the duty of the judge to base his award solely upon the consideration of the relative excellence of the individual blooms from the cultural standpoint, and that only in the event of an absolute equality of points, ought and could the question of staging come in. Possibly, from a theoretical point of view, that might be so; but instances were not wanting in which such an absolute equality had occurred. But surely this view did not embrace every practical aspect of the matter. In the first place, a flat and badly-staged bloom might not present to the eye of the Judge the bloom in the aspect best calculated to permit of a full appreciation of its true perfection. Again, by inharmonious arrangement of colour, a bloom might seem to have less of brightness of colour that a more suitable contrast and arrangement of adjacent blooms would show it to possess. In short, bad staging was just neither to the exhibitor nor to the judge, for it might tend directly to mislead; and even beyond this who could deny that a grandly-staged stand had on the mind an influence which created a general bias in favour of that stand. He was convinced that it required a

constant watchfulness on the part of the judge to prevent himself from being swayed by this insidious influence. Before staging it should be made perfectly sure that the plants had been thoroughly examined, and that absolutely every one of the blooms from which the final selection was to be made, had been scrutinised. It should not be discovered after the stand had been completed that some other bloom would have been better, as that might result in a re-arrangement of the whole stand. Then the preliminary staging should be done in a place lighted in the same manner, as to top-light, as the place of intended exhibition. The blooms should be firmly fixed in the tubes, which should permit of sufficient elevation, and if possible, just a little forward tilt. The giants should be put in the back row and at the ends. In very large classes there might necessarily be some failure of identity of size and weight. In such cases he would advise the strengthening of the back row with the best blooms, which should also be placed at the two ends, and for a row or so in the centre. In the smaller classes no such precaution was necessary, for the superabundance of first-class varieties now furnished the exhibitor with a choice so wide that selection from this point of view was needless. If the number of blooms available permitted, all coarse varieties should be excluded. Refinement should be the key-note. In the Japanese classes, the blooms at the end of the stand which were exposed to view, should be of a pendulous and drooping character, such as Madame Carnot or Mutual Friend. For the same reason, varieties of this character should preponderate in the front row. Of two blooms of the same size —a light and a dark one—the former would look the larger. Therefore, at the important points—the ends—light varieties should prevail. Of course, these considerations must be subject, within reason, to the general rules of contrast and harmony of colour. The height of the blooms should be regulated from the front row, taking care that a general level of the blooms be preserved. As to colour and effective arrangement, that exhibition furnished him with many object-lessons of how not to display the blooms to the best advantage, and nothing could be more uninteresting and mawkish than much that he had seen. One aim should be brilliancy of effect by the broad contrast of adjacent blooms. The dark varieties should be dotted here and there with fair regularity throughout the stand. The more brilliant yellows must sparkle here and there, and should not all be crowded into one section. It was well in a large stand, in the first place, to roughly, and subject to alterations, to place these leading bright and striking contrast blooms in positions over the whole board, and then proceed to the filling in of interspaces with varieties of less obtrusive and more delicate and tender shades. A great deal of experimental changing would be found necessary, but in practice it would be found a useful start. Whites and yellows would be found very accommodating in their readiness to harmonise with most other colours. Having mentioned a great number of varieties which would make harmonious settings, he said it was, of course, next to impossible to lay down rules which would enable a person who had practically no instinctive sense of harmony to deal effectually with the mingling of myriads of subtle shades. To such he would say, cultivate such latent talent as might be in them by studying grand examples of good staging, which never failed to grace our leading shows. There was no difficulty that would not give way before persistent effort. There would be no ultimate failure where the intention to succeed existed.

In the discussion which followed on the two last papers—

The CHAIRMAN said the subject of Mr. Shea's paper had already been treated by the Royal Horticultural Society, which had drawn up a code of rules. He thought it might be undesirable to disturb that code, except for very good cause; otherwise, the floral world would have two codes to go by.

Mr. DAVIES thought that if they could agree with the Royal Horticultural Society, their own Society might select portions of the Royal Horticultural Society's code which most suited them.

Mr. W. H. FOWLER understood thatthe Royal Horticultural Society had already started a code.

The CHAIRMAN said that was so, and the Chrysanthemum was included.

Mr. FOWLER considered that it would be a pity in that case to have two codes which might clash. That difficulty would not be felt so much in London, where there were so many judges; but it would be felt in many parts of England, where there were so many shows and so few judges. As to Mr. Davis's paper, he considered that that gentleman did not, in apportioning points, attach sufficient importance to colour and freshness. He thought judges ought to go for colour and freshness more than for size.

Mr. DAVIS said he had not seen the Royal Horticultural Society's code, but he had heard that the points laid down as far as Chrysanthemums were concerned were impracticable. There were too many cardinal points. They wanted a workable yet simple code.

Mr. GORDON said the Royal Horticultural Society formed a committee which deputed a number of gentlemen to take charge of particular classes of flowers. He was invited to take charge of the Chrysanthemum section, and was instructed to obtain the assistance of gentlemen of authority upon the subject. They had Mr. Jones and Mr. Dean, and four or five others, who were members of the National Chrysanthemum Society, and they endeavoured to prepare a code that should be thoroughly workable, and at the same time simple. They might not have succeeded as they could have wished, but he believed Mr. Davis would find it not quite so elaborate as he had been given to understand. With regard to judging by codes, he might say that he did not consider it would be possible for a judge to carry that code with him on the day of the exhibition, and work from it; but he did regard a code, by whatever Society it was formed, to be of very considerable value if the cultivators would, in the first instance, make themselves familiar with it so as to know what points to aim at. It was a strange thing that a Chrysanthemum expert did not begin to recognise the value of a code until he had had some eight or ten years' experience of judging. As to judging, he considered that size was of no value whatever unless it was accompanied by other good points, because a flower unless it was fresh and beautiful was, to his mind, obnoxious. As to the staging, they had a great deal to learn, and he should be surprised if that exhibition had not given them many an object lesson.

Mr. W. H. LEES said they should go for the beautiful in a flower. After that was obtained, size went to the credit of the cultivator.

Mr. BEVAN urged them not to get into opposition with the Royal Horticultural Society.

The CHAIRMAN assured him there was no thought of any such thing.

Mr. DEAN in proposing a vote of thanks to the readers of the papers and the chairman, said the conference had been most instructive and interesting. As to the Royal Horticultural Society, there was a feeling that that society knew more about Orchids than about Chrysanthemums. They must not forget after all that the National Chrysanthemum Society was a national society, and, as such, should have a code of its own. He was quite certain such a code would be warmly welcomed throughout the country.

Mr. WITTY seconded the motion, which was carried.

Mr. GORDON in reply, said there should be no difficulty in preparing a code of their own. They might do the same as the National Rose Society did.

The Chairman also replied. He said something had been mentioned about differences with other societies. He thought it just as well for them to have a little difference sometimes, as without it they would lose their individuality as a Chrysanthemum society.

The proceedings then terminated.

ULSTER CHRYSANTHEMUM.

NOVEMBER 10.—The eighth annual show of the above Society was held in the St. George's Market, Belfast, on this date. The plants were arranged on the floor, and small exhibits on tables, thus giving every facility for inspection. I should like to see many more large shows have the exhibits arranged in this manner, the plants being more readily scanned, and the effect is better. It is but eight years since this Society held its first show, and year by year the exhibits have increased, and the show of this year may be looked upon as one of the more important held in the country. The show was opened punctually at 1 P.M. by Lady DUFFERIN, the members of the Society and the general public being present in large numbers.

Cut blooms formed a large section, and the Japanese varieties were shown in fine form, for in Ireland, as elsewhere, it has not been a favourable season for the full development of the flower. Incurved were not quite so good as the Japanese being lacking in size, although of good form. The competition is restricted at present to Ireland, but it is, we believe, the intention of the committee to make the competition open.

Mr H J. JONES, Ryecroft Nursery, Lewisham, S E, had a choice and varied display of Chrysanthemums, for which he was awarded 1st prize, and a very highly commended certificate. Groups of plants, and plants generally, being numerously shown, the competition was keen.

The Veitch Memorial Medal, and prize of £5, were awarded Mr. J. Blakiston-Houston, D.L., Orangefield (gr., Mr. T. GRAY), for the best group of stove and greenhouse plants arranged for effect. The Marchioness of Dufferin, the Countess of Annesley, Mrs. Dunbar-Buller, and the Lady Mayoress adjudicated upon the respective merits of the dinner-table decorations. The 1st prize was awarded to Messrs. THOMPSON & SON, Donegall Place, Belfast.

Mr. WM. ROBERTSON, J.P., Netherleigh, won 1st prize for a group of thirty pots of Chrysanthemums; and for a group of twenty pots, 1st honours went to Mr. ROBERT TENNENT, J.P., Rushpark Both gentlemen were most successful in a number of the other classes for Chrysanthemums in pots. Mr. R. TENNENT, J.P., was 2nd for a group of stove and greenhouse plants, which made a most excellent display.

Mr. J. D. BARBOUR, D.L., was awarded premier honours for six Cinerarias; and the Marquis of DOWNSHIRE carried off the 2nd prize.

In Ferns, Mr. R. TENNENT, J.P., Mr. W. MCCAUSLAND, Lord O'NEILL, Mr. J. LEPPER, and Major SHARMAN-CRAWFORD, D.L., were the leading winners. Mr. ROBERTSON was a highly successful competitor in the other classes of plants displayed in this section.

Mr. THOMAS ADAMS carried off all the leading honours in the classes for amateurs who do not keep a gardener.

Fruit.—Very fine displays of Grapes were those made by the Marquis of DOWNSHIRE, Lord O'NEILL, Lady HOWARD BURY, Major SHARMAN-CRAWFORD, and Mr. WM. ROBERTON, J.P.

The exhibition of Apples was a highly successful feature of the show, and in the amateur classes a great advance was noticeable upon previous exhibitions. The 1st prize, with which was accompanied the society's Challenge Cup, value ten guineas, with £4 added, for twenty-four dishes of Apples, distinct varieties, was won by Lieutenant-General PAKENHAM, whose display in this, and in other classes, was characterised by a high standard of excellence.

There was a good show of Pears, for which the leading prizes went to Lord DERAMORE, and Major SHARMAN-CRAWFORD.

Vegetables.—The display of vegetables was above the average in quality, and highly creditable to our northern exhibitors. The entries were very large, and most of our leading growers were represented. In connection with experiments carried out under the auspices of the Chemico-Agricultural Society of Ulster, there were interesting exhibitions of Potatos by Mr. W. W. DAVIDSON of Brookfield Agricultural School, Moira; and by Mr. W. E. BEST, The Cairn, Aghalee. Mr. DAVID ALLEN, Clonoriol, Strandtown, had an exhibit of twenty-four dishes of Potatos, which included Ochel Gem Seedling, the new seedling Caxton, Satisfaction, Windsor Castle, and other good varieties. Mr. SAMUEL MCCAUSLAND exhibited some dishes of the new seedling Potato Lord Dufferin, which will, it is said, produce 20 tons per statute acre.

The Countess of PEMBROKE succeeded in gaining the three special prizes for incurved, Japanese, and yellow blooms. The arrangements in connection with the show were in every particular of an admirable character, and reflected the utmost credit upon the executive.

The Society entertained the judges and friends, to the number of sixty, at dinner at the Imperial Hotel. The chair was occupied by R. J. HILTON, Esq., J.P., supported by Mr. DICKSON of the well-known Rose Nurseries, Belmont.

FOLKESTONE AND DISTRICT CHRYSANTHEMUM.

NOVEMBER 10. For a new society Folkestone did remarkably well for this its first venture, getting together a nice show on the above date. The foyer of the theatre in the pleasure-garden, with a large room at the side, were utilised for the purpose, the groups and plants in pots being in the former, and the cut blooms in the latter. The keenness of competition in some of the leading classes surprised the promoters, and excellent blooms were staged. Altogether, the attempt to add to the winter attractions of this rising watering-place resulted in a complete success, greatly assisted by an afternoon concert given in the theatre on the afternoon of the first day by the Countess of Radnor and her daughter, Lady Skelsmerdale.

The Bronze Jubilee Medal of the National Chrysanthemum Society was awarded to Mrs. R. C. Kingston, a fine incurved variety shown in its best character by Mr. J. BUSS, Smeeth Nurseries, Kent, a grower who was very successful, as he took the 1st prize for twenty-four blooms, twelve Japanese, and twelve incurved.

Mr. PAYNE, The Gardens, Elmhirst, Buckley Park, was 1st with twelve Japanese; and Mr. C. J. BUSS 1st with twelve incurved.

Mr. GEO. MOUNT, nurseryman, Folkestone, had the best group arranged for effect, lightly and gracefully set up; Messrs. G. & A. CLARK, florists, Dover, were 2nd.

Plants of Chrysanthemums shown in eighteens, twelves, and sixes admit of improvement, which will no doubt follow.

Messrs. GEO. BUNYARD & Co., Maidstone, contributed a collection of 160 dishes of Apples and Pears. Mr. GEORGE MOUNT also had piles of COX'S Orange Pippin and other leading Apples, alternated with plants; and Mr. JOS. WILSON, Sandgate Road, Folkestone, a table of floral decorations.

IPSWICH.

NOVEMBER 10, 11. A good show was held in the Public Hall, Ipswich, although in some few classes a falling off was noticeable in the number of the exhibits owing to the date clashing with that of other societies' shows.

The group class brought no fewer than six exhibits, and as all of them showed well, the display made was an exceedingly fine one. Mr. W. Adams, gr. to W. J. CATCHPOLE, Esq., Russell House, Ipswich, was 1st with well-developed blooms; and Mr. H. J. Southgate, gr. to C. WHITFIELD KING, Esq., Morpeth House, Ipswich, came in a good 2nd.

There were but two competitors for a group of Chrysanthemums and foliage plants, viz., Mr. P. C. NOTCUTT, Broughton Road Nurseries, Ipswich, who was an easy 1st; and Mr. A. Chenery, gr. to W. ADAMS, Esq., Chestnut House, Ispwich, who was 2nd.

Mr. GILBERT, Floral Nurseries, Ipswich, won the 1st prize for a group of miscellaneous plants arranged as for effect. Mr. NOTCUTT occupying the 2nd place. Both showing very creditably.

Cut blooms are much encouraged, the prizes being numerous and enticing. For thirty-six Japanese, distinct, there was but one entry, that of Mr. W. Messenger, gr. to C. H. BERNERS, Esq., Woolverstone Park, who showed well-coloured examples of some of the leading varieties, especially noteworthy being Miss Maggie Blenkiron, Mrs. C. H. Payne, Elmir de Smith, Edith Tabor, Lord Brooke, Modestum, and Triomphe de St. Laurient.

The competition in the class for twenty-four Japanese was keener, and here Mr. NOTCUTT secured the leading place with heavy blooms of high quality, his best being Mrs. C. Blick, Madame Carnot, Niveum and Dorothy Seward.

For twelve Japanese, Mr. W. ADAMS won easily with fine blooms of Madame Carnot, Edith Tabor, International, M. Pankoucke, &c.

Mr. C. Light, gr. to the Rev. A. Cecil Johnson, Capel Street, was 1st for Anemone blooms. Mr. Notcutt had the best single-flowered varieties.

Cut flowers, arranged with any kind of foliage, in a space 5 feet by 3 feet, made a great display.

The now usual competition with Chrysanthemum blossoms, cut with long stems, and inserted in vases, formed part of the display.

NORTHAMPTON.

November 10, 11.—This Society held its twenty-fifth annual show on Wednesday and Thursday, and although previous exhibitions have been good, this year's eclipsed all previous attempts, both in number of entries and quality of the exhibits. The exhibition reflected much credit upon the Hon. Sec. (Mr. W. Draper), who discharged his duties in a very satisfactory manner.

The following are the chief prize-winners. For the group of Chrysanthemums there were two entries, Mr. Soden 1st, and Mr. Bateman 2nd.

Six Japanese, distinct, not dwarf trained, Mr. Gwillam 1st, followed closely by Mr. Manning. Four Japanese, distinct, Mr. Gwillam was again placed 1st, Mr. Reeve being 2nd. Incurved, distinct, dwarf trained, Mr. Manning and Mr. Gwillam were 1st and 2nd respectively.

Cut Blooms. — Eighteen incurved, distinct, Mr. Copson, gr. to Mrs. Phipps, Collingtree Grange, was 1st; followed by Mr. W. Pearce, gr. to Mr. G. Loder, Flore House, Weedon.

Twelve incurved, distinct, Mr. Copson was again 1st; and Mr Cole 2nd.

Six incurved, one variety, Mr. Pearce showed some grand blooms of Charles Curtis, which elicited a great deal of admiration. Mr. Copson was 2nd, with same variety.

Eighteen Japanese, distinct, Mr. Pearce was 1st, with a good collection of fine, even-sized blooms; Mr. Woods being 2nd.

Twelve Japanese, introduced since 1892, Mr. Pearce was again 1st, followed by Mr. Cole.

Six Japanese, distinct, introduced in the spring of 1895 and 1896, Mr. Cole was 1st, followed by Mr. W. Pearce.

Six Japanese, one variety, Mr. Woods, Delapre Abbey, Northampton, was 1st, with good blooms of Etoile de Lyon; and Mr. Copson 2nd.

Three Anemone and three reflexed, Mr. Lipler, Mr. Copson, and Mr. Hayes were 1st, 2nd, and 3rd respectively

Table of Chrysanthemum blooms with Ferns and foliage plants, Mr. Woods was 1st with a groundwork of Crotons, Ferns, Grevilleas, and Moss, with a few large blooms arranged above the plants; very pretty, but a trifle heavy. Mr. Reeve was 2nd with a table rather weak in blooms, but strong in plants, a nice Cocos Weddelliana in the centre, and small Crotons, Ferns, Palms, Acalypha tricolor; altogether it was a very pretty exhibit. Mr. Kempshall, gr. to Sir. Chas. E. Isham was 3rd. His exhibit was very weak in the centre, and also not enough groundwork.

Primulas were very good For twelve whites grown from seed, supplied by Messrs. Thos. Perkins & Sons, Northampton, Mr. Holland was 1st, and followed by Mr. Reeve and Mr. Smith. For twelve single coloured Primulas, Mr. Bateman, gr. to R. L. Bevan, Esq., Brixworth Hall, was 1st with some well grown specimens of "Sutton's Rosy Queen." This is a good variety, and well shown and grown by Mr. Bateman; Mr. Reeve being 2nd.

Fruit.—Fruit was shown abundantly in all classes, and competition was keen. Black Grapes, two bunches, Mr. Alexandra was 1st with some well-finished bunches of Black Alicante; Mr. Hayes being 2nd with same variety. White Grapes were exhibited by Mr. Hayes, and Mr. Alexandra.

H. K.

BRIGHTON AND SUSSEX.

November 10, 11.—Throughout this show the competition was numerous and keen. Indeed, spacious as the accommodation is, there was scarcely passage-room for the visitors, especially between the tables and groups. Groups are always good here, and the competitors threaten to become more numerous than the available space is sufficient for.

Groups: For a circular group of Chrysanthemums, aided by other plants, Mr. G. Miles, Dyke Road Nursery, Brighton, won with a remarkably good arrangement of Palms, Crotons, Ferns, &c. The feature here was some good plants arranged at intervals near the outer circle, and built up to with Asparagus, &c. Mr. Simms, gr. to C. J. Inwood, Esq., The Retreat, Dyke Road, was a good 2nd. For a smaller group, Mr. J. Turner, gr. to Sir G. Smythe, Bart., Wick Hall, Hove, won with an equally good arrangement; Mr. F. Rapley, gr. to Miss Visick, Withdeane, following. The 1st prize in both of these classes includes a silver-gilt medal presented by Mr. Jones, Ryecroft Nursery, Lewisham. A grand circular group of Chrysanthemums came from Mr. T. Fairs, gr. to R. Clowes, Esq., Hassocks, who easily excelled Mr. G. Miles in this case.

Plants were fairly numerous and good, Mr. J. Hill, gr. to Marriage Wallis, Esq., Withdeane, had the best four pyramids (good), four standards, four dwarfs, and four Pompons, by no means a poor competition. The best standards came from Mr. E. Meachen, gr. to Mrs. Armstrong, Withdeane; Mr. Hill following. The Silver Medal of the society was awarded to Mr. Hill.

Flowering plants were good. Mr. M. Tourle, gr. to F. Barchard, Esq., Horsted Place, won for six well-berried Solanums; Messrs. W. Miles & Co., Hove, for twelve Cyclamen; Mr. J. Bunney, Hassocks, was ahead in a strong class of twelve Primulas.

Cut Flowers: Ten competed in a class for thirty-six Japanese varieties for which the President's Silver Challenge Bowl, the National Chrysanthemum Society's Bronze Jubilee Medal and £5 were offered. This was a very keenly contested class; eventually Mr. T. Dancy, gr. to E. J. Pope, Esq., St. Leonard's Forest, Horsham, was placed 1st. This stand contained grand examples of Charles Davis, Madame Carnot, Miss D. Shea, Cecil Wray, W. H. Lees, Lily Love, and Edwin Molyneux. Mr. W. Wallis, gr. to Mrs. Mews, Hartfield, was a capital 2nd, and had good flowers of Viviand Morel, Kentish Yellow, Madame Carnot, and Mons. Pankoucke.

Seven competed with twenty-four Japanese blooms, and again gave the judges considerable trouble. The 1st prize, and an additional Silver Medal by Mr. H. J. Jones of Lewisham, was secured by Mr. J. Stredwick, Silver Hill, St. Leonards-on-Sea. Mr. M. Tourle, gr. to F. Barchard, Esq., Horsted Place, being a close 2nd.

Mr. J. R. Heasman, gr. to Mrs. Oxley, Fen Place, Turner's Hill, put up a grand box of twelve incurved blooms, the best of which were Lord Alcester, John Lambert, and Miss M. A. Haggas.

Six collections of twelve Japanese blooms were staged; Mr. P. J. Palmer, gr. to C. E. Legge, Esq., Chichester, winning with good flowers of Good Gracious, Mdlle. M. Hoste, and Mrs. R. J. Hamill among others; Mr. G. Dancy, gr. to C. C. Nochols, Esq., Crawley, might well have been placed equal with Mr. Sayers, gr. to the Misses Cook, Nutley, who was placed in front of Mr. S. Baker, gr. to F. H Bakendale, Esq., Framfield. These four stands were remarkably close. The best bloom of Hairy Wonder in the show was in Mr. S. Baker's box. Mr. Palmer was also 1st for six incurved varieties; his C. H. Curtis and Lucy Kendall being particularly well finished. Mr. S. Baker, gr. to F. H. Bakendale, Esq., won for six Japanese, and had an extra good flower of Mons. Pankoucke.

Mr. H. Harris, gr. to Mrs. Eversfield, Denne Park, Horsham, was well ahead for six Anemone-flowered, and also for twelve trusses of single varieties.

For six Japanese blooms of any one variety, Mr. T. Dancy won with Viviand Morel; Mr. A. F. Grace, Steyning, for six yellows, with Golden Wedding; Mr. R Bolting, Henfield, with some grand Madame Carnot for six of any white; and Mr. C. Sayers, Nutley, for six incurved with Lord Alcester There were from six to ten competitors in each of the above classes

The best basket of Chrysanthemums came from Mr. Douglas Erlam, Portland Lodge, Worthing; and the best dinner-table arrangement from Mr. S. Johnson, Sedenville, Worthing.

Tables of cut Chrysanthemums arranged with small Ferns and other plants, brought out nine lots, the piece of plate going to Mr. M. Standing, gr to Mrs Joad, Patching, Worthing, for a splendid table, though very little in front of Mr. H. Head, The Drive Nursery, Hove.

Four competed for the Brighton Amateur Challenge Trophy and Silver Medal, in addition to money prize. The 1st was awarded to Mr J. Lilley, 32, Cuthbert Road, Brighton, after a very close competition all round; this class is limited to growers within a 3 mile radius of the Pavilion. Mr. Tilly was also 1st for six Japanese and for six incurved varieties. Mr. Harris, Horsham, was 1st for twelve Japanese in the amateur's division.

Fruit: Apples and Grapes were the chief fruits. For three bunches of any white variety, Mr. J. Muddell, gr. to Mrs. Henderson, Sedgwick Park, Horsham, won with fine examples of Muscat of Alexandria. For three bunches of black Grapes, Black Alicante won for Mr. R. Heasman, gr. to Mrs. Oxley, Turner's Hill.

Mr. G. Goldsmith, Horsham, was 1st for dishes of dessert Apples, and for four dishes of culinary varieties. The best dessert Apples were Cox's Orange Pippin from Mr. J. Sands, Haywards Heath.

The non-competitive exhibits were numerous. Messrs. Laing & Son, Forest Hill; Messrs. Cheal & Son, Crawley; and Messrs. Balchin & Sons, Brighton, having fruit. Messrs. Wells & Co., Earlswood, and Messrs. Cannell & Sons, Swanley, showed specimen blooms and new Chrysanthemums; while Mr. J. Bailey, East Street, Brighton, had a very pretty group of Orchids and table plants.

BOROUGH OF HANLEY.

November 11, 12.—The fourteenth annual exhibition promoted by this Society was held in the Victoria Hall, Hanley, on the above dates. In the unavoidable absence of the Duchess of Sutherland, the show was opened by the Mayor of Hanley, M. Tunnicliffe, Esq. Compared with former years, this year's show will rank as one of the best yet held by the Society, and is another proof of the present-day popularity of the Chrysanthemum.

Amongst the non-competitive exhibits was a fine collection of Palms, Ferns, Chrysanthemums, and other plants, exhibited by Mr. J. Kent, Superintendent of Hanley Park.

Messrs. Clibran & Son, Altrincham, sent single-flowered Chrysanthemums arranged in bunches, which is a good mode of showing these flowers when removed from the plants; and on the same stand were three dozen specimen blooms of Japanese varieties.

Another attractive feature was a collection of sixty dishes of Apples and Pears, shown by Mr. C. Roberts, gr. to C. H. Wright, Esq., Halston Hall, Oswestry.

The competitive groups and cut blooms were good throughout, and the competition in the various classes was keen.

For group of Chrysanthemums, J. Maddock, Esq., Alsager, was 1st; and B. B. Nixon, Esq., Leek, 2nd.

For group of plants, arranged for effect, C. S. Jones, Esq., Stoke Villas (gr., Mr. Gibbs), was 1st, whose group contained Dracæna Sanderiana, Odontoglossums, Oncidiums, some well-coloured Crotons, and a Cattleya labiata; Dendrobiums, Cocos Wedelliana, Anthurium Andreanum, and exotic Ferns in variety. 2nd, J. Maddock, Esq., with a group containing well-coloured Croton Victoria, C. majesticus, C. Mortii, Dracænas, various Eulalias, &c.

Miss Whitley was 1st for six plants of Japanese varieties of Chrysanthemums.

Foliage plants or Ferns (six) were well shown by T. W. Harrison, Esq. (gr., Mr. Goodhill), Northwood, Stoke, who was 1st. There were included a fine specimen of Phlebodium aureum, Adiantum trapeziforme, Pandanus Veitchi, Phœnix reclinata, and Cocos Wedelliana; C. S. Jones, Esq., was 2nd.

The 1st prize for twelve table plants was taken by M. Hall, Esq., Prestbury.

Cut Flowers.—Mr. Roberts, gr., Halston Hall, Oswestry, was 1st for twenty-four incurved varieties, staging fine blooms; and Mr. Brenmell, gr. to H. H. Fause Hayhurst, Esq., was 2nd.

Mr. Roberts was likewise 1st for twenty-four Japanese; Mr. J. McPhail, Queen's Park, Longton, was 2nd, many modern varieties being shown by each.

Mr. H. H. F. Hayhurst was 1st for twelve incurved; and Mr. C. S. Roberts for twelve Japanese.

The best box of cut flowers in variety came from Messrs. Jenkinson & Son, Newcastle-under-Lyne.

YARMOUTH.

November 11.—This society held it eighth annual exhibition in the Town Hall on Wednesday, November 11. In the quality and number of the exhibits, the show was thought to be superior to any that have preceded it. The specimen plants in pots were perhaps a trifle weak, but the cut blooms shown were of excellent character. Interest principally centred around the exhibits of cut flowers from Japanese varieties. Seven competitors entered the class for thirty-six blooms of distinct varieties, and, eventually, Sir Savile Crossley was awarded 1st prize.

TUNBRIDGE WELLS.

November 11, 12.—This was one of the most successful shows held by this society. Fruit and vegetables were extra good and numerous; while the cut-blooms of Chrysanthemums were excellent.

The best group of Chrysanthemums came from Mr. J. Smooker, gr. to Mrs. Hall, Broadwater Down; a miscellaneous group winning in another class for Mr. J. Howes, gr to W. Cobb, Esq., Broadwater Down.

For twenty-four cut flowers, incurved, Mr. J. Howes led with a superb lot of blooms; also for twelve and for six incurved blooms. Mr. J. Snow, The Gardens, Wadhurst Park, won for twenty-four Japanese and for twelve blooms, followed by Mr. Howes. Mr. J. Moss, Matfield, led for six Japanese blooms (distinct) and for six blooms of any one variety, followed by Mr. J. Snow in each case.

Primulas, table-plants, and Solanums, were good. Special mention must be made of some Poinsettias from Mr. Austin, gr. to F. Webb, Esq., Broadwater Down, whose six plants in 6-inch pots carried no fewer than twenty-eight bracts, the majority of which were 15 inches in diameter. One plant, carrying half-a-dozen bracts, was nine years old, and did not stand more than 3 feet high.

Fruit was very good. The best black Grapes were three bunches of black Alicante (8 lb.) from Mr. J. Palmer, gr. to H. J. Metcalf, Esq., Southborough — these were exceptionally well finished.

Mr. F. Bridger, The Gardens, Penshurst, had the best dessert Pears, and culinary and dessert Apples.

Vegetables were exceptionally fine. A collection of twelve kinds gave much trouble to the judges, but eventually Mr. J W. Moss, Matfield, was awarded the premier prize; and Mr. J. Snow 1st for nine kinds in a special class offered by Mr. J. Charlton, nurseryman, Tunbridge Wells, who had by far the best trade exhibit in some grand vegetables and farm produce.

LEWES.

November 11, 12.—A very creditable exhibition was held here. The blooms and plants were good, but not so numerous as usual. Vegetables were capital.

For the best group of Chrysanthemum plants, Mr. C. Funnell, gr. to Mrs. Thorne, Louthover Grange, Lewes, was 1st, and took the Bronze Jubilee Medal of the National Chrysanthemum Society. The best group of stove and greenhouse plants was a pretty arrangement from Mr. J. Adams, gr. to the Rev. Sir G. Shiffner, Bart., Coombe Place, Lewes. Mr. E. Stidworthy, gr. to J. Adames, Esq., Lewes, had a fine lot of untrained plants, winning in a class for twelve, and receiving the National Chrysanthemum Society's Certificate

Primulas were good and numerous. For six singles, Mr. J. Harwood, gr. to A. J. JACK, Esq., Seaford, was most successful. Mr. S. Smith, gr. to C. R. KEMP, Esq., Bedford Lodge, Lewes, won in a special class for six singles, and also for six double varieties. Mr. J. Adams, gr. to Rev. Sir G. SHIFFNER, Bart., had the best six table plants; and Mr. C. Watkins, gr. to W. L. Christie, Esq., Glyndebourne, the best six Cyclamens.

Cut Flowers.—There was strong competition in the class for twenty-four Japanese, Mr. J. Harwood, gr. to A. J. JACK, Esq., The Crouch, Seaford, won from Mr. A. SLAUGHTER, Steyning. There were some magnificent flowers in these stands. Mr. C. Sayers, gr. to the Misses COOK, Nutley, was ahead for twenty-four incurved blooms, showing in grand form; Mr. J. HOPKINS, High Cross, Framfield, 2nd. Mr. C. SAYERS also won for twelve incurved, for six incurved, and for six incurved of one variety. Mr. J. Coles, gr. to H. F. WALKER, Esq., Balcombe, won for twelve Japanese blooms, for six blooms, and for six blooms of any one variety. From six to ten competitors staged in each of these classes.

Fruit and Vegetables.—The best three bunches of Grapes came from Mr. E. Stidworthy, gr. to J. ADAMES, Esq., Lewes, Black Alicante being the variety. Mr. F. W. THOMAS, Wannock Gardens, Polegate, won for three dishes of dessert Apples, and also for three dishes of culinary varieties. Apples were numerous and good. Mr. J. HOPKINS, Framfield, won for three dishes of dessert Pears.

Out of nine trays of vegetables, Mr. R. WHEATLY, East Gate Street, was 1st. Mr. M. Tourle, gr. to F. BARCHARD, Esq., Little Horsted, winning in a very close competition for Messrs. SUTTON & SONS' Special Prize.

HULL AND EAST RIDING.

NOVEMBER 11, 12.—As on former occasions, this exhibition was held in the capacious Artillery Barracks. Unlike many other societies, the executive of this show rely chiefly upon the Chrysanthemum to make the display, and no fruit or vegetables are encouraged. This is wise, for there is now a comfortable promenade, and the opportunities are good for inspecting the exhibits. Messrs. EDWARD HARLAND and JAMES DIXON are the Hon. Secretaries, and every assistance is given by them to exhibitors.

Groups.—For several years past this show has been famous for the excellence of the groups arranged for effect. In order to put all exhibitors in the group classes upon an equality, the plan of the groups is drawn to scale, and issued with the schedule, a novel and capital idea. The space allowed in the large class for Chrysanthemums is 8 feet by 14 feet, the front part being two semi-circles. The competition in this class is always keen between three or four well-known exhibitors.

On the present occasion the 1st prize, a Silver Challenge Vase of the value of 20 guineas, and a cash prize, was won by Mr. G. Jarvis, gr. to Mrs. WHITAKER, Cliffe House, Hessle. The chief points of this group were effective arrangement, combined with well-cultivated plants; Mr. G. COTTAM, Alma Gardens, Cottingham, was a close 2nd, with an imposing display, the finish in the front being very free and effective, but the back not so good towards the centre, where a good Palm would have been an advantage; otherwise it showed good culture and effect.

In comparison with other exhibits in this class, the group staged by the Corporation of Hull through its gardener was best in point of collective merit, but no prize could be awarded to it. The flowers were of excellent quality and the arrangement good.

For a group of miscellaneous plants arranged for effect in a space of 100 square feet in the form of a square, with the sides somewhat recessed, the plants to face all ways, the 1st prize was won somewhat easily by Mr. Moody, gr. to F. F. BLADON, Esq., Sutton-on-Hull. The chief dot plants were tall ones of narrow-leaved Crotons, well clothed with foliage to the pots, and upon single stems, the colouring being good; foliage Begonias told well in the ground-work, and so did Phrynium variegatum; around the centre Croton some plants of Cattleya labiata. The 2nd prize in this class was awarded to Mr. G. JARVIS, his arrangement being heavier, but effected with good material, comprising two well-flowered plants of Eucharis grandiflora, which did not balance well with those of Cyanophyllum magnificum; some Cattleyas and Oncidiums were used effectively around the centre.

In another class, and a very instructive one at this season when indoor decorations are frequently required—viz., a drawing-room mirror or panel group of Chrysanthemums, interspersed with foliage plants in a space of 9 square feet, a mirror 3 feet by 6 feet being provided, the 1st prize was awarded to Mr. G. C. Coates, gr. to W. WHEATLEY, Esq., Anlaby Road, whose arrangement was light, cheerful, and effective, the mirror not being hidden, the grouping being kept low. Mr. G. COTTAM followed very closely, he depending upon large blooms of Japanese chiefly, with very suitable foliage, including Cissus discolor, for entwining around the margin of the mirror.

Specimen Plants.—The competition in these classes, of which there were twelve, was spirited. For three trained specimens (standards excluded) Mr. C. J. RINGROSE, The Grange, Cottingham, was placed 1st, his plants being of excellent quality, of medium size, and fresh. Colonel A. K. DIBB, Kirk Ella, was a good 2nd.

For three trained standards, Colonel A. K. DIBB easily won with well-flowered plants of the Rundle family, bearing large blooms; Mr. RINGROSE was in this case a rather poor 2nd.

In the next class, that for six plants bush grown but not formally trained, Mr. FRED. PAPE, Butcher Row, Beverley, was the winner of the 1st prize, showing large, well-flowered plants, chiefly of Japanese varieties, which were bearing remarkably good blooms.

The next, and an excellent class, was that for six plants, "cut backs," good cultivation to be the leading feature. Mr. E. WEST, The Nurseries, Cottingham, was 1st, a close competition, his finest plants being Viviand Morel and Florence Davis, both of which bore very finely-developed flowers.

In the classes confined strictly to amateurs, the most successful exhibitors were Mr. W. HIGGINS, Queen's Road, Hull; and Mr. F. PAPE.

Cut Flowers.—In the class for twenty-four blooms, incurved, in not fewer than eighteen varieties, and not more than two of one variety, the Silver Cup and prize of £10 was awarded to Mr. W. Mease, gr. to A. TATE, Esq., Downside, Leatherhead, whose stand contained a remarkably even lot of blooms, bright in colour, of full size, and of perfect form, the finest being Golden Empress, R. Cannell, Lord Alcester, C. H. Curtis, Empress of India, W. Tunnington, and C. B. Whitnall; of these, Lord Alcester was selected as the champion incurved bloom of the show. This collection was thought by the judges to be the best twenty-four incurved blooms yet staged this year. The 2nd prize was worthily taken by Mr. J. P. Leadbetter, gr. to A. WILSON, Esq., Tranby Croft, Hull.

In the corresponding class for twenty-four Japanese distinct, a Silver Cup and £10 was again awarded to Mr. MEASE, who won somewhat easily, the blooms being altogether brighter and fresher; the following were all grand blooms, John Seward, Golden Gate, Oceana, Mutual Friend, Modestum, Hairy Wonder, and Western King. The 2nd prize was awarded to Messrs. J. R. PEARSON & SONS, the best here were Edith Tabor, Miss M. Blenkiron, Pride of Madford, Oceana, and M. Demay Taillandier.

For two baskets or vases of cut Chrysanthemums, each containing twelve blooms distinct, one basket of Japanese, and the other of incurved blooms, arranged for effect, with any kind of cut foliage, quality, too, being a leading feature, Mr. G. Wilson, gr. to Sir JAMES RECKETT, Bart., Swanland Manor, Brough, was worthily awarded the 1st prize, the arrangement being most excellent, the blending of suitable foliage being quite in accord with the superb exhibition quality of the blooms; bronzes, yellows, and whites, prevailed in the best kinds, the foliage of the Mahonia aquifolia and Asparagus plumosus and A. tenuissimus were in excellent taste. Mr. G. Jarvis, gr. to Mrs. WHITAKER, Cliff House, Hessle, was a good 2nd, with a somewhat similar but less imposing exhibit.

The best six blooms of any one variety of Japanese were those of Viviand Morel, shown by Mr. G. Picker, gr. to F. R. PEASE, Esq., Hesslewood, Hull, these being of deep colour and perfect finish.

The best twelve large-flowered Anemones in not fewer than six varieties, were those shown by Mr. G. Burrows, gr. to Miss BENNETT, Westlands, Grimsby, who had very fine and well-developed flowers of Miss Annie Lowe, John Bunyan, Queen Elizabeth, Descartes, and Delaware. Mr. Mason, gr. to A. SMITH, Esq., Woodleigh, Hessle, came a close 2nd.

For twelve blooms of reflexed, not fewer than six varieties, Mr. MEASE won again with fine blooms, of which Cloth of Gold, Cullingfordi, Christine, and Mrs. Forsyth were best; the 2nd prize going to Mr. Walker, gr. to Colonel CLITHEROE, Hotham Hall, Brough.

In the class for twelve bunches, Pompons, Mr. W. Sinclair, gr. to B. MACKRELL, Esq., Thwaite, Cottingham, whose exhibit was set up in an informal manner, with good length of stem, the best kinds being White Mdlle. Marthe and Mrs. Bateman; Mr. R. WALKER was 2nd again in this class, his flowers being too much packed together.

For twelve singles in not fewer than six varieties, Mr. SINCLAIR was 1st once more, with a beautiful stand, set up in similar style, the best were Miss Cannell, Miss Sarah, Mary Anderson, and Souvenir de Londres. Mr. WALKER was 2nd, but again too much packed (a very strong class).

The best hand-bouquet in the open class was shown by Mr. H. H. TAYLER, Newland, a combination of yellow and bronze; the next being shown by Miss TAYLOR, in which yellow predominated; and the best epergne for the dinner-table came from Mr. G. Wilson, gr. to Sir JAMES RECKETT, Swanland Manor. This was not strictly an epergne as per schedule, due regard to which is absolutely necessary.

A very fine class, as a rule, is that for a table of Chrysanthemums, exhibition cut-blooms, any types, to be shown in any way the exhibitor thinks best, appropriate foliage being allowed, the table space 12 feet by 4 feet. Mr. MASON was on this occasion awarded the 2nd prize, some weakness being apparent in the quality of the blooms, the arrangement on the other hand was commendable; the champion Japanese bloom was how ever found here in Madame Carnot.

In the classes open to the East Riding of Yorkshire, and that part of Lincolnshire within 20 miles of Hull, the competition was very close, and the classes well supported.

For twelve incurved in this section, Mr. R. WALKER showed strongly, and obtained 1st prize, which also carried with it the National Chrysanthemum Society's Silver-gilt Medal.

For twelve Japanese, Mr. J. W. BACKHOUSE, Beverley, was easily 1st, having grand flowers of Duke of York, Thos. Wilkins, Madame Carnot, and G. C. Schwabe, amongst others.

Decorative Classes (open to Ladies only) are a perpetual source of attraction at Hull, these being all exhibited in artificial light. In the first and most important of these classes, viz., that for a dessert table 8 feet by 4 feet, decorated with Chrysanthemums only, fruit however being allowed, Mrs. H. L. LEONARD, Preston, Hull, was awarded the 1st prize consisting of a piece of Challenge Plate, and a cash prize of £4 4s.; this table was chiefly composed of Source d'Or, Chrysanthemum and suitable foliage, the centre stand being a most tasteful exhibit. This table was an appropriate one for the season of the year, the colours warm, but not at all overdone. The 2nd prize was awarded to Mrs. F. TOPHAM, Hotham Hall, Brough, whose table was composed of entirely white Chrysanthemums and light green foliage.

The best bouquet was shown by Mrs. MACKRILL, and the best sprays by Mrs. F. W. JAMESON, Runswick House, whose designs were quite informal, and most tasteful. Mrs. H. L. LEONARD had by far the best epergne.

In a class for the best tasteful arrangemement of cut Chrysanthemums or other flowers, Miss LYNETTE HARLAND, Wolfreton Lodge, Kirk Ella, was 1st, her arrangement being bold and original—the latter always a good point when effect is not sacrificed.

CARDIFF.

NOVEMBER 11, 12.—The Cardiff Society's show for the advancement of the cultivation of the Chrysanthemum, held in the Park Hall, was in every respect a successful one, the exhibits effectively arranged, and generally of high class.

Cut blooms were never better shown, and the trained plants and groups were remarkable for effectiveness, and the good quality that characterised them. The competition in these classes was severe, and the chief awards were about equally divided between Messrs. W. TRESEDER, A. E. PRICE, and CASE BROTHERS, all of Cardiff. The latter had a large screen of virgin-cork in front of the orchestra, decorated with bouquets, wreaths, &c., which were apparently much admired by the ladies.

Groups of miscellaneous plants, table decorative plants, and Ferns were attractive features. Good collections of Apples came from Messrs. WATKINS, Pomona Farm, Hereford; J. BASHAM, Bassaleg, Newport; CLIBRAN & SONS, Altrincham; and PITT, Abergavenny.

The classes for collections of fruit and Grapes were not numerous. Mr. Grindrod, gr. to P. T. PHILLIPS, Esq., Whitfield, Hereford, was 1st, with a good collection, as he was likewise for Black Grapes, with splendid Gros Colman. Mr. W. S. WILLIAMS, Glyn Neath, was 1st for Muscat of Alexandria, with well coloured medium-sized bunches.

Cut blooms.—The 1st prize for twenty-four Japanese Chrysanthemums, distinct, was taken by Mr. J. Howe, gr. to T. J. MASTERS, Esq., Lanslay, Llantrisant, with a beautiful lot, many novelties of the year being amongst them.

The variety Oceana in this stand won the National Chrysanthemum Society's Certificate as being the best bloom in the show; Mr. Robinson, gr. to R. W. D. HARLEY, Esq., Brampton Brian, was a close 2nd with fine blooms, although there were six entries in this class, and all good.

Twenty four incurved, distinct: 1st, Mr. Dumble, gr. to Sir C. PHILLIPS, Picton Castle, Haverfordwest, was the winner in this class with splendidly finished blooms. There were five exhibitors in this class.

Twelve Japanese: 1st, Mrs. LLEWELLYN, Raglan Hall, Briton Ferry (gr., Mr. Gilbert), having good blooms of leading varieties, and some novelties; 2nd, Mr. HOWE. There were nine entered.

For twelve incurved, Mr. ROBINSON was 1st; and Mr. HOWE 2nd.

Six Japanese, sent out during 1895 and 1896.—1st, Mr. G. W. DRAKE, nurseryman, Cardiff, with Mrs. Hume Long, Edith Tabor, Vicar of Exmouth, Pride of Exmouth, Arona, and Mrs. Peter Servator.

A Challenge Cup was offered for twelve Japanese and twelve incurved blooms, distinct, the conditions being that one exhibitor must win it twice before it becomes his property. Last year it was won by Mr. Robinson, gr. to R. W. D. Harley, Esq. There were six exhibitors, but the contest really lay between Mr. DUNBLE and Mr. ROBINSON, the former having the best incurveds, although his Japanese were not equal to those of his rival. The splendid lot of incurveds, however, secured for Mr. DUNBLE the coveted prize for this year. His best blooms were Chas. Curtis, Prince Alfred, Mrs. Heal, Brookleigh Gem, Miss Haggas, Golden Empress, and Mr. J. Kearn.

WESTON-SUPER-MARE.

NOVEMBER 12.—This show was held on Thursday, at the Victoria Hall, and was a great success. There were nearly forty classes, and although some were not so well filled as formerly, others made up for the deficiency; as regards quality all the classes showed a marked improvement. The features of the show were the Chrysanthemum banks, the trained plants, and the collections of flowering and foliage plants.

For four Chrysanthemums, large-flowered incurved, distinct varieties (Japanese excluded), some grand plants were shown, the 1st honours being obtained by Mr. W. BROOKS, of the White-Cross Nurseries, Weston-super-Mare; the plants grown by him were of the usual varieties, one, Baron Hirsch, gaining the certificate "Best incurved plant in the show." These plants were all about 6 feet through, and were just right for exhibition. The 2nd prize was awarded to Mr. Ash, gr. to Mr. HOLLAND, with four plants considerably smaller, but carefully trained, and neat in appearance.

Four ditto, untrained plants. This class was well filled, Mr. C. PETHICK (gr., Mr. Summerhayes) obtaining premier honours.

The prize-winners in the class for four Japanese, distinct, one stem, trained, were a magnificent lot. The varieties were W. Tricker, Volunteer, Col. W. B. Smith, and Beauty of Exmouth. Col. W. B. Smith was awarded the Certificate as the best Japanese plant in the show. In the untrained class, Mr. PETHICK was again successful.

The Trophy, a silver-plated candelbrum, value 28 guineas, has to be won twice in succession, or three times in all, and this year Mr. BROOKS won it for the second time in succession, thus securing it outright. The standards shown were of exceptionally good quality, and close competition resulted in Mr. W. BROOKS securing 1st, and Mrs. CAMPBELL 2nd prize.

For the largest and best-grown Chrysanthemum, a "Geo. Glenny," shown by Mr. W. BROOKS, was successful. In the class for the best group of Chrysanthemums, the keenest competition was shown, no fewer than eight banks being staged. Here Mr. PETHICK was 1st, and Mr. W. BROOKS 2nd. The effect of the banks was charming, and some fine blooms were noticeable on the plants.

In the six stove and hot-house plants class (Ferns admissible), a creditable display was made. The 1st prize went to Mr. W. BROOKS, who showed several fine Tree-Ferns. The remaining class for plants—a collection arranged on stage aroused great interest, and some beautiful plants were shown. The bank winning the 1st prize, shown by Mr. W. BROOKS, consisted of Dendrobium Phalænopsis Schroderianum, Oncidium varicosum Rogersii, Odontoglossum crispum, Cattleya labiata, C. Mendeli, C. Bowringiana, Cypripedium Spicerianum, C. insigne, O. Pescatorei, Lycaste Skinneri, Lælia Perrini, Calanthe Veitchii, &c. Besides these, Caladiums Gabrielle, Ville de Hamburgh, Madame Milgani, candida, Luddemanni, &c., were shown, and Camellias, Roman Hyacinths, Carnations (Miss Joliffe, Winter Cheer, Alice Hayes), Cocos Weddelliana, Kentia Fosteriana, &c.; Crotons, Ferns and many others. The 2nd prize went to Mr. H. PETHICK.

The zonal Pelargoniums staged were very good, and included several new varieties. The cut blooms was not up to the standard of last year, but still they were good. The Japanese Chrysanthemums were better than the incurved. In the class for twenty-four incurved blooms in not fewer than eighteen varieties, Mr. J. BISHOP, Taunton, was awarded 1st prize. A fine bloom of Empress of India secured the Certificate for the "best incurved bloom in the show."

In the twelve (distinct varieties) incurved class, Mr. J. BRAIN, Stoke Bishop, was successful. Some fine flowers were in the six incurved class, and the competition was very keen. Mr J. BAYLISS, of Winterbourne, took 1st honours. Mrs. BEDDOES (Easton in Gordano) was the winner of the 1st prize in the Japanese class for twenty-four blooms, and the Certificate for the best bloom was awarded her for a fine specimen of Robt. Owen. Mr. TODD was the winner in the twelve blooms class; and for six blooms, Mr. J. DOLE, Bristol, secured premier honours. As usual, in the latter class there were a large number of entrants.

A variety of subjects were shown beyond those mentioned in our report, including some very good examples of the bouquetist's art, hothouse and hardy fruit—these last in small amount, and, taken as a whole, the show was one very creditable to the amateurs and gardeners of the locality.

PUTNEY, WANDSWORTH, AND DISTRICT.

NOVEMBER 12, 13.—The nineteenth annual exhibition of the above Society was held in the Cromwell Hall, Putney, and was in every respect a success. The number of entries was in excess of last year, and keen competition was everywhere evident. Several fresh classes being this year added for the first time, attracted the attention of a great many competitors. Japanese blooms were, as usual, this season seen in good form; Mr. James Ross, gr. to J. W. CHARRINGTON, Esq., Gifford House, secured the 1st prize in the class for twenty-four; while Mr. J. Wright, gr. to H. A. TAFNELL, Esq., The Grove, was 1st in the class for twelve. And Mr. J. Dark, gr. to J. HOOKER, Esq., was a capital 1st in the class for twelve cut blooms allotted to single-handed gardeners.

The incurved section here as in common with other shows was not up to the usual standard. JAMES ROSS was again 1st in the premier class, while Mr. PORTHURY was a very close 2nd. The former exhibitor was also deservedly placed 1st for six table plants. The Silver Cup, the coveted prize of the show, was won by Mr. S. Mynett, gr. to S. CARLISLE, Esq. Ashburton House, who staged in his usual style; while the prize for the best eighteen Chrysanthemums (open to amateurs) was awarded to A. LASS, Esq. Mr. Chas. Bentley, gr. to Major BOSWORTH, Cedar Court, took the chief honours in trained specimens.

GLASGOW AND WEST OF SCOTLAND HORTICULTURAL.

NOVEMBER 12, 13.—The show held on the above dates was not so strong in some things, still, on the whole, it was an improvement on some former years.

At the entrance to the hall stood a pyramid about 18 feet high, of fine specimens of Palms and other foliage plants, standing on a basis garnished with Celery, large Onions, Tomatos, &c., the exhibit of the COLCHESTER GUANO CO. Inside the hall, all around the sides, were well ornamented with nurserymens' exhibits. Messrs. SMITH & SIMONS exhibited a grand collection of Potatos, Snowdrop, Scottish Triumph, Satisfaction, Duke of York, and H. M. Stanley, were conspicuous varieties. These were backed with Ericas, Lily of the Valley, Cyclamens, Roman Hyacinths, and other flowering plants. AUSTIN & MCASLAN had a capital table of Chrysanthemum blooms, with an adjunct from Mr. JONES, Lewisham, in which were many of that celebrated growers choicest flowers.

Messrs. BROWN & SONS, Glasgow, were strong in Grapes, Apples, and Tomatos. Mr. KIPPEN'S display was much admired. Tomatos and Gros Colman Grapes were also fairly represented by Messrs. BUCHANAN, CUNNINGHAM & WYLLIE, Glasgow, exhibiting their choice flowering and foliage plants, also a collection of Potatos. Tables of plants for competition took up large space, and were finer than usual. Chrysanthemums interspersed with fine-foliaged plants is the arrangement specified.

The 1st prize out of five exhibits went to Mr. DALE, gr., Aitkenhead; Mr. ARCHIBALD, gr., Bothwell Castle, was a capital 2nd; Mr. TAYLOR, gr., Blackdale, 3rd.

A small table of Orchids were shown, and a 1st prize for Cattleya labiata was awarded to Mr. MITCHELL, Bartaskin.

Chrysanthemums.—The 1st prize for thirty-six blooms of Japanese Chrysanthemums, was won by Mr. LUNT, gr., Keir, with one of the first exhibits ever seen in the North. Thirty-six varieties had to be tabled, and these were in every instance fresh, handsome, and very fully developed. Mr. W. H. Lees was an extra fine bloom, and was awarded 1st prize as being the finest in the show: Louise, W. Tricker, Sunflower, Princess May, Lilian B. Bird, Duke of York, Mutual Friend, Rose Wynne, Viviand Morel, and M. Hoste were extra fine blooms. Mr. DAY, Galloway House made a good 2nd.

Mr. LUNT took the lead also with twenty-four Japanese, in eighteen varieties, with an exhibit as fine in quality as his larger one. Mr. ADDISON, gr., Blackhouse, Skelmorlie, was 2nd.

For twelve blooms Japanese, and twelve of incurveds, Mr. DAY took 1st prize, with a fine exhibit; Mr. DALE, gr., Aitkenhead, was 2nd. For twelve Japanese blooms distinct, Mr. LUNT was again 1st.

The smaller classes were well represented. The bunches of single-flowered Chrysanthemums, three of each, exhibited in glasses, filled a goodly space, forming a nice show, that met with much admiration.

Fruit.—Grapes of fine quality came from Mr. LESLIE, Pitcullen, Perth, and were much above the average in quality. His four bunches of Muscats and Gros Colman were large in bunch and berry; Black Alicante were equally good; and Mr. CAMERON, gr., Auchterarder House, was 2nd.

Mr. LESLIE was 1st for two bunches of Alicante, excellent in every respect. Mr ORMISTON, gr., Milken House, was 1st for good Lady Downes. Other exhibit of this excellent variety were likewise very good.

For two bunches of Gros Colman, Mr. LESLIE was 1st with two grand bunches; and Mr. MILLS, Wishaw, was 2nd.

Muscat of Alexandria is seldom seen in finer condition at any show than the pair of bunches with which Mr. LESLIE took the 1st prize in that class. Mr. AUSTEN had a well preserved Duke of Buccleuch.

Apples and Pears were shown by Mr. DAY and Mr. CAMERON.

Vegetables.—In the vegetable classes there were some extraordinary Leeks. Celery was not equal to some seasons produce. Tomatos were numerous, but past their best. The collection of twelve dishes of vegetables from Mr. BROWN, gr., Houston, was as near perfection, for general excellence, as we are likely to see—Leek The Lyon; Celery Major Clarke, Carnot Veitch's Extra; Onion Cranston's; Brussels Sprouts, French Beans, and Potatos, were all excellent.

SHEFFIELD.

NOVEMBER 13, 14.—This excellent exhibition was held in the Corn Exchange on the above dates, and so much above the average were the exhibits generally, that comparison with the Aquarium Show of the National Chrysanthemum Society were not unheard from very competent judges.

Comparing the quality of the exhibits with previous years—and that is the only standard justifiable—the blooms on exhibition were, many of them, superior to last year.

The groups, not shown solidly, but with a pleasing admixture of green, were very excellent. Mr. H. M. WILLFORD of Walkley, had a fine group in the district class, for which he was awarded 1st prize, and, in addition, secured a special Medal, presented by Mr. H. J. JONES of Ryecroft Nurseries, Lewisham.

In the amateurs' and cottagers', Mr. B. GLOSSOP secured the prize and Medal for the group.

Open Classes.—Chrysanthemums: Cut flowers, twenty-four incurved blooms, not less than eighteen varieties; 1st, J. H. GOODACRE, Elvaston Castle, Derby, some of the finer blooms being Madame Carnot, Phœbus, Duke of York, Niveum, Etoile de Lyon, Miss Elsie Teichmann, Madame Rozain, Mutual Friend, Mrs. H. Payne, Thos. Wilkins, Primrose League, Miss Rita Schroeter, Mrs. W. H. Lees (splendid), and Chas. Davis. Twenty-four Japanese blooms, not fewer than eighteen varieties: 1st, C. CROOKS; 2nd, J. R. PEARSON & SONS. Twelve incurved blooms: 1st, C. CROOKS. Twelve Japanese blooms: 1st, C. CROOKS. Six incurved blooms: 1st, C. CROOKS. Six Japanese blooms: 1st, C. CROOKS. Six Anemone blooms: 1st, G. Stables, gr. to Mrs. WAKE, Osgathorpe House. Six reflexed blooms: 1st, C. SCOTT.

District Class.—Plants: Groups of Chrysanthemum, interspersed with foliage plants, arranged for effect: 1st prize, and Medal, M. H. WILLFORD; 2nd, T. Morton, gr. to Mr J. G. Lowood. Six Chrysanthemums, trained specimens, large flowering: 1st, C. Scott, gr. to Mr. J. COLLEY; 2nd, R. Agar, gr. to Mr. S. ROBERTS. Group of British Ferns, twenty-four varieties: 1st, J. EADON; 2nd, W. SMITH. Six exotic Ferns: 1st, R. Agar. Group of Primulas: 1st, C. SCOTT. Six plants for dinner-table decoration: 1st, T. MORTON.

NORTH OF SCOTLAND ROOT, FRUIT, AND VEGETABLE ASSOCIATION.

NOVEMBER 14.—The annual show of this association was held on Saturday, at Inverurie, N.B. The entries, which numbered 700, were in excess of those of last year, and there was admittedly a fine display of field and garden produce.

There was a fine display of Potatos, which was a feature in this section, and the excellence of the variety Grampian, was well shown. The Rosebery was also well shown, but the Champions, owing to the character of the season, were not quite so good as usual. Mr. PATERSON, Drumnahoy, won the Silver Cup for the best sample in the show with a dish of Snowdrops. In the section of garden Potatos, the Standard variety was the best among the round whites, but while almost perfect as a show Potato, its quality is not considered first-class. In the round coloured class, Rosebery took the premier place, the Grampian making a good 2nd. Perkins' Snowdrop carried everything before it in the long white section, Mr. GEORGE PATERSON, Torries, carrying off the plate with a remarkably fine sample of this variety. It comes early to maturity, and was seen to better advantage than some of the later sorts, which had suffered from disease. Prizetaker was a feature of the long coloured Potatos, this being a tuber with a good reputation as a cropper, as well as for the table and exhibition. The only variety that came near the Snowdrop was the Standard, but it was beaten on the score of quality. In the other variety class, the Up-to-date Potato, which has been brought into prominence lately by producing at Lord Rosebery's Scottish seat, Dalmeny, a crop of twenty-five tons per acre, was the most conspicuous dish. Other notable samples in the hall were Recorder and Sutton's Abundance.

Fruit was seen to great advantage, Apples being above the ordinary standard.

Vegetables were remarkably fine, Onions and Leeks being pronounced by the Judges to be the finest ever exhibited at Invoruric.

EVESHAM.

NOVEMBER 11.—The Evesham Chrysanthemum Society held its annual exhibition in the Town Hall on the above date. Groups of plants arranged for effect were well shown, while specimen plants as here catered for, are strongly shown, not in severely trained shapes, but as nice, naturally-grown plants, bearing from twelve to thirty or more good blooms. Cut blooms of Japanese varieties are also a strong feature, and on the present occasion the leading stands of flowers were equal in merit to those usually found in large and important exhibitions.

Groups and Plants.—For a group of Chrysanthemums to occupy a space of 40 square feet, Mr. Martin, gr. to Miss G. BURLINGHAM, Lansdowne House, Evesham, was 1st, with a very creditable collection of dwarf plants, bearing flowers of good quality, remarkably bright and fresh; 2nd, Mr. Clarke, gr. to J. H. LEIGH, Esq., Hill Crest, Evesham.

In class 2, comprising Chrysanthemums and foliage plants arranged for effect, Mr. Harrison, gr. to J. MORRIS, Esq., Evesham, was 1st; Mr. MARTIN, 2nd. Mr. HARRISON was also 1st for three specimen plants, with Marie Hoste, Florence Davis, and Mrs. Forsyth; 2nd, Mr. CLARKE. Classes for standard and pyramidal-grown plants brought good competition. Of the former, Mr. HARRISON, besides winning the 1st prize in its class, was awarded the National Chrysanthemum Society's Certificate for the best plant in the show, with a fine standard of Mdlle. Blanche Pigny.

Cut blooms were well shown. For eighteen Japanese, Mr. G. WITTS, Bengeworth, Evesham, secured the 1st award, with fine flowers, admirably set up and named, an object-lesson for some exhibitors in the same class. Among his best were Madame Carnot, Richard Dean, Thos. Wilkins, Rose Wynne, M. C. de Leché, and Ad. Girond.

With twelve Japanese, Mr. WITTS scored another easy victory, Phœbus, Australie, Madame Carnot, Mdlle. M. A. de Galbert and Chas. Davis, with others very fine. Some very good stands in six of one variety were staged. M. LUSTY being 1st with very good Robert Owen; 2nd, Mr. Crook, gr. to Lady HINDLIP, Droitwich, with Viviand Morel.

Incurved blooms were generally good, Mr. HILLIER winning for twelve distinct in a strong competition, C. H. Curtis, Major Bonnaffon, J. Agate, and Queen of England being most noticeable. 2nd, Mr. CROOK.

In the six incurved of one variety, some remarkably fine blooms of Charles H. Curtis were staged.

AMARANTHUS CAUDATUS. — I saw this plant grown in one of the London Parks during the past season, being used as dot-plants in large beds of white Pelargoniums. The plants had clean stems of about 2 feet, with nice round beads, well furnished with their pendulous crimson inflorescence, and the effect was both novel and pleasing. *W. H Aggett, Bermondsey, S.E*

Obituary.

ALEXANDER MARTIN BYRES.—Much regret is felt in horticultural circles in the North-east of Scotland at the painful and sudden demise of Mr. A. M. Byres, C.A., the genial and courteous Secretary of the Royal Horticultural Society of Aberdeen, who died suddenly on Thursday, at the age of thirty-nine years. Mr. Byres had been Secretary of the Royal Horticultural Society of Aberdeen for several years, during which time he did yeoman service for its interests. Quiet and unassuming, Mr. Byres had many friends. His funeral, which was attended by a large concourse of mourners, took place on Monday, the 16th inst.



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (−) the Mean for the week ending November 14.	Temperature. Accumulated. Above 42° for the Week.	Below 42° for the Week.	Above 42°, difference from Mean since December 29, 1895.	Below 42°, difference from Mean since December 29, 1895.	Rainfall. More (+) or less (−) than Mean for the Week.	No. of Rainy Days since Dec. 29, 1895.	Total Fall since Jan. 1, 1896.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Dec. 29, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths		Ins.		
0	2 +	23	7	+ 155	− 260	1 +	217	49·3	1	23
1	2 +	22	8	+ 96	− 177	4 −	181	24·7	7	29
2	1 −	19	11	+ 163	− 166	3 −	166	21·0	15	29
3	3 −	15	30	+ 119	− 152	2 −	161	21·9	22	35
4	2 −	12	30	+ 106	− 162	2 −	155	21·0	19	32
5	3 −	27	18	+ 219	− 195	2 −	146	21·8	23	37
6	1 +	24	6	+ 181	− 158	2 −	187	38·8	16	32
7	2 −	22	12	+ 248	− 191	5 −	171	30·3	19	32
8	3 −	27	16	+ 281	− 121	5 −	152	26·2	31	41
9	0 aver	25	10	+ 177	− 164	4 −	197	34·5	25	28
10	2 −	28	10	+ 249	− 124	3 −	169	30·3	34	33
*	3 −	34	0	+ 389	− 110	3 −	171	24·7	29	45

The districts indicated by number in the first column are the following:—

0, Scotland N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending November 14, is furnished from the Meteorological Office:—

"The *weather* during this period was changeable. Rain fell frequently in the north and north-west; in the more southern and south-western districts the conditions were generally fair and dry until nearly the end of the week, when rain again extended to all parts of the country.

"The *temperature* was a little above the mean in Scotland, and just equal to it in the north of Ireland, but over England and in 'Ireland, S.,' it was again below the normal, the deficit ranging from 1° to 3°. The highest of the maxima, which was registered on the 11th or 12th, ranged from 56° in 'Scotland, E.' and 'England, N.W.,' to 51° in 'England, E.' The lowest of the minima were recorded during the earlier days of the week, and ranged from 21° in 'Scotland, W.,' 23° in 'Ireland, N.,' and 24° in 'England, S.W.,' and 'Ireland, S.,' to 29° in 'England, N.E.,' and to 35° in the 'Channel Islands.'

"The *rainfall* somewhat exceeded the mean in 'Scotland, N.,' but was less than the normal in all other parts of the Kingdom.

"The *bright sunshine* was deficient over the greater part of the Kingdom, but exceeded the mean value in 'England, S.W. and N.W.,' and 'Ireland, S.,' and the 'Channel Islands.' The percentage of the possible amount of duration ranged from 34 in 'Ireland, S.,' and 31 in 'England, S W.,' to 15 in 'England, N.E.,' 7 in 'Scotland, E.,' and only 1 in 'Scotland, N.'"

MARKETS.

COVENT GARDEN, NOVEMBER 19.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Adiantum, per doz.	4 0	12 0	Ericas, hyemalis, per doz.	12 0	15 0
Aspidistras, per doz.	12 0	30 0	Ferns, small, doz.	1 0	2 0
— specimen, each	5 0	15 0	— various, doz.	5 0	12 0
Chrysanthemums, per doz.	6 0	12 0	Ficus elastica, each	1 0	7 6
— specimen plants, each	1 6	2 6	Foliage plants, per doz.	12 0	36 0
Coleus, per doz.	2 0	4 0	Marguerites, p. doz.	6 0	10 0
Dracænas, each	1 0	7 6	Palms, various, ea.	2 0	10 0
— various, p. doz.	12 0	24 0	— specimens, ea.	10 6	84 0
Evergreen Shrubs, in variety, doz.	6 0	0 24	Pelargoniums, Scarlets, p. doz.	6 0	8 0
Ericas, p. doz.	10 0	12 0	Solanums, p. doz.	12 0	15 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Anemone, doz. bun.	1 6	2 6	Orchids:—		
Arums, p. 12 blooms	4 0	6 0	Cattleya, 12 blms.	6 0	12 0
Bouvardias, per bn.	0 6	0 9	Odontoglossum crispum, 12 bm.	2 0	6 0
Carnations, 12 blms.	1 0	2 6	Pelargoniums, scarlet, per 12 bun.	3 0	6 0
Chrysanthemums, doz. bun.	3 0	6 0	— per 12 sprays	0 4	0 6
— doz. blooms	1 0	4 0	Pyrethrums, 12 bn.	2 0	4 0
Eucharis, per dozen	2 6	4 0	Roses (French), per doz. blooms	1 0	2 0
Gardenias, per doz.	1 0	3 0	— Tea, per doz.	0 9	1 6
Gladiolus, coloured, per doz. sprays	1 0	2 0	— yellow (Maréchal), per doz.	6 0	9 0
Lilac, wh. (French), per bunch	3 6	5 0	— red, per dozen	1 0	2 0
Lilium Harrisi, per doz. blooms	4 0	6 0	— pink, per doz.	3 0	4 0
— lancifolium, doz. blooms	2 0	3 0	— Safrano, p. doz.	1 0	2 0
Lily of the Valley, dozen sprays	9	2 0	Stephanotis, per 12 sprays	4 0	6 0
Maidenhair Fern, per 12 bunches	4 0	8 0	Tuberoses, 12 blms.	0 3	0 6
Marguerites, per 12 bunches	2 0	4 0	Violets (Fr.) Parme, per bunch	2 6	4 0
Mignonette, per doz. bunches	2 0	4 0	— — Czar, per bunch	2 0	3 0
Mimosa (French), per bunch	1 0	1 6	— — doz. bun.	1 6	2 0
			— (Eng.), per doz. bun.	1 6	2 6

ORCHID-BLOOM in variety.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples, Blenheims, per ½-sieve	2 0	2 6	Grapes, Muscat, 2nd qual., p. lb.	2 0	2 6
— Cox's Orange, per ½-sieve	5 0	6 0	— Gros Colmar, 2nd qual., per lb.	1 0	—
— Wellingtons, per sieve	5 0	—	— Muscats, English, 1st quality per lb.	3 0	3 6
— Ordinary samples, per sieve	2 0	3 0	— Gros Maroc, per lb.	1 0	1 3
Grapes, Alicante, 1st quality, per lb.	1 0	1 3	Medlars, per ½-sieve	2 6	3 0
— Alicante, 2nd quality, per lb.	0 6	0 8	Nuts, Cob, per 100 lb.	25 0	27 6
— Gros Colmar, per lb.	1 3	1 6	Pine-apples, St. Michael, each	3 0	4 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d	s. d.
Beans, French, Channel Is., per lb.	1 3	1 6	Tomatos, home-grown, smooth, per doz. lb.	3 6	—
Cauliflowers, p. tally of 5 doz.	5 0	7 6	selected	4 0	4 6
Cucumbers, home-grown, per dz.	2 0	3 0	— ordinary kinds, do.	1 0	2 0
Mushrooms, (Indoor) per lb.	10	1 0	— Canary Islands, per case, about 12 lb.	3 6	4 0
— (French), p. lb.	6	—			

POTATOS.

Stocks have greatly increased since last report, and prices easier. Dunbars, 90*s.* to 100*s.*; Lincoln Main Crop, 80*s.* to 85*s.*; Blacklands, 40*s.* to 45*s.* per ton. *J. B. Thomas.*

FRUIT AND VEGETABLES.

GLASGOW: *November* 18.—The following are the averages of the prices current at market here during the past week:—Pears, 6*d* per pound; Apples, 1*s.* to 2*s.* 6*d.* per stone; Tomatos, Guernsey, 5*d.* per lb.; do., Scotch, 6½*d.* do.; Grapes, home, 1*s.* to 2*s.* do.; Turnips, white, 2*s.* to 2*s.* 6*d.* per dozen bunches; Savoys, 1*s.* to 1*s.* 3*d.* per dozen; Cabbages, 8*d.* to 9*d.* do.; do, late, 1*s.* to 1*s.* 6*d.* do.; do., Red, 2*s.* 6*d.* to 3*s.* do.; Cauliflowers, Dublin, 2*s.* to 2*s.* 6*d.* do.; Parsnips, 4*s.* 6*d.* per cwt.; Herbs, assorted, 1*d.* to 2*d.* per bunch; Leeks, 1*s.* to 2*s.* 6*d.* per dozen bunches; Mint, green, 6*d.* per bunch; Onions, Dutch, 3*s.* per bag; do., Portugal, 1*s.* per stone; do., Globe, 3*s.* to 3*s.* 6*d.* per cwt.; Parsley, 5*s.* to 6*s.* do.; Greens, 4*d.* per bunch; Celery, table, 2*s.* roll; do., common, 9*d.* to 1*s.* do.; Potatos, best, 8*d.* per stone; Carrots, 2*s.* 6*d.* to 3*s.* per cwt.; Artichokes, 10*s.* to 14*s.* do.; Cucumbers, 4*s.* to 4*s.* 6*d.* per dozen; Lettuces, round, 6*d.* to 9*d.* per doz.; do., French, 1*s.* do.; do., Cos, 9*d.* do. Radishes, 9*d.* to 1*s.* doz. bunches; Horseradish, 2*s.* to 3*s.* per bunch; Mushrooms, 1*s.* to 1*s.* 3*d.* per lb.; Beetroot, 6*d.* per dozen; Cress, 3*d.* per basket; Brussels Sprouts, 1*s.* 6*d.* to 1*s.* 9*d.* per stone.

LIVERPOOL: *November* 18.—Averages of the prices current at the various markets:—St. John's: Potatos, 8*d.* to 10*d.* per peck; Grapes, English, 1*s.* 6*d.* to 2*s.* 6*d.* per pound; do., foreign, 6*d.* to 8*d.* do.; Pines, English, 4*s.* to 8*s.* each; Mushrooms, 1*s.* per pound. Birkenhead:—Potatos, 6*d.* to 8*d.* per peck; Grapes, English, 2*s.* to 3*s.* 6*d.* per pound; do., foreign, 4*d.* to 6*d.* do.; Pines, English, 4*s.* to 8*s.* each. North Hay: Turnips, 19*s.* per ton; Potatos, Imperators, 1*s.* 9*d.* to 2*s.* per cwt.; Giants, 1*s.* 9*d.* to 2*s.* do.; Main Crop, 2*s.* 6*d.* to 3*s.* 6*d.* do.; Sutton's Abundance, 1*s.* 9*d.* to 2*s.* do.; Bruces, 2*s.* to 2*s.* 6*d.* do.; Turnips, 6*d.* to 9*d.* per dozen bunches; Carrots, 6*d.* to 8*d.* per dozen bunches; and 2*s.* 9*d.* to 3*s.* per cwt.; Onions, English, 5*s.* to 5*s.* 6*d.* per cwt.; do., foreign, 2*s.* 9*d.* to 3*s.* do.; Parsley, 4*d.* to 6*d.* per dozen bunches; Cauliflowers, 1*s.* 6*d.* to 3*s.* per dozen; Cabbages, 8*d.* to 1*s.* 2*d.* do.; Celery, 8*d.* to 1*s.* 6*d.* per dozen.

ENQUIRY.

"He that questioneth much shall learn much."—BACON.

SOIL FOR POTTING BULBS.—Mr. H. J. Elwes of Colesborne will be greatly obliged if some of our readers residing in the neighbourhood of Mitcham would tell him where he can get a truck-load of good top-spit loam, suitable for potting stove and greenhouse bulbs which do not like lime in the soil? He asks for Mitcham soil, because that very able gardener and botanist, Dean Herbert, remarked that, when he lived there, he could grow many species of bulbs well, especially Cape or Indian kinds which would not thrive in the soil of his Yorkshire garden. He remarks that many Lilies and Orchids refuse to grow satisfactorily in any compost of which the local soil forms part, and finds it impossible to get a really lasting potting-soil in the neighbourhood of Andoversford.

"FLORA OF THE BLACK HILLS OF SOUTH DAKOTA."—The United States Department of Agriculture in the Division of Botany has contributed from the National Herbarium a report entitled *Flora of the Black Hills of South Dakota*, by Mr. P. A. RYDBERG. The account is based upon a botanical exploration made in the region by the author in 1892. The Black Hills are stated to be on the boundary line between South Dakota and Wyoming, the larger part lying within the former State. They constitute an isolated range about 120 miles long, and 40 to 50 miles wide. It was found that the hills had a very varied flora, showing plants from the east, from the Saskatchewan region, from the prairies, and tablelands west of the Missouri River, from the Rocky Mountains, and even from the region west thereof. In the foot-hills, and the lower parts of the hills proper, the flora is essentially the same as that of the surrounding plains, with an addition of eastern plants which have ascended the streams. In the higher parts the flora is more of a northern origin. Most of the plants composing it are of a more or less transcontinental distribution, but often characteristic of a higher latitude. The only trees of western origin are Pinus ponderosa scopulorum, and Betula occidentalis; the others are eastern or trans-continental. The flora resembles, therefore, more that of the region around the Great Lakes than that of the Rockies. The collection contains a little over 700 Phænogams and Fernworts. This is certainly, according to the author, far from all that grows in the region. A further report has been made of the Flora of south-western Kansas of plants collected by C. H. THOMPSON in 1893. Also an account of Crepis occidentalis and its allies, and of plants from the Big Horn Mountains of Wyoming, together with Leibergia, a new genus of Umbelliferæ from the Columbia River region; and of Roseanthus, a genus of Cucurbitaceæ from Acapulco, Mexico. This issue completes volume iii. of the series, and forms an invaluable reference work of plants in little known districts of America.

Answers to Correspondents

*** *We have received numerous reports of Chrysanthemum shows, which we are quite unable to notice in the present issue, through insufficiency of space.*

Beeches : *Mrs. B.* The cottony substance on your trees is the work of a scale insect or coccus, which is very destructive. We fear that nothing can be done now. Spraying with petroleum emulsion might be serviceable in the case of isolated young trees. As you rightly say, to collect the dead leaves and bury them anywhere near the trees would be the worst possible practice under the circumstances. They should be burnt on the rubbish-heap. The trees will most probably die gradually but surely.

Chrysanthemum Sport : *R. O. C.* The chief quality of Gloire du Rocher is its superb colour when in best condition. The blooms are not extra large, and it is not very frequently exhibited in first-class collections of cut-blooms on this account. The yellow sport you send should be grown on next season under the best culture possible, and it will then be easy to determine its value. At present it is small and unreliable. The general appearance, however, is pretty. We should hardly have thought it to be a sport from Gloire du Rocher. What bud was "taken ?"

Clematis vitalba as Stock for Grafting other Varieties upon : *Vitalba.* The stocks will serve the purpose, grafting them with one-year or two-year-old wood, potting the union below the soil, and keeping them in a warmth of 55°, and moderately close. To make doubly sure, the graft may be clayed or coated at the point of union with grafting-wax. The best time is at the end of winter. The precise part of the stock to operate upon is just at the ground-level, or immediately below it. The method—tongue, cleft, or whip-grafting.

Electric Light and Cucumber Culture : *C. A. C.* The matter is still in its infancy ; and the best methods of using electricity in affording light in forcing-houses are yet to be discovered. You might try some experiments this winter and publish the results. It would not be wise to increase the night temperature.

Fir Trees in Woods : *A. B.* Try Quassia water or Bitter Aloes as a dressing. Rabbits do not usually gnaw Fir trees, unless the weather is very severe. If you wish to make the trees quite safe, use rabbit-proof wire, 4 feet high, and sunk in the soil 6 inches.

Gardeners' Mutual Improvement Society : *T. G.* If it is understood that an exhibit is not honorary, but competitive, points should be given and allowed. No copy of bye-laws has reached us, although a schedule has done so.

Ivy against Buildings : *Subscriber.* Providing the Ivy shoots are not allowed to penetrate between the crevices of masonry or brickwork, or get into the roof and raise the tiles, &c., they tend to protect a wall against damp. They should, however, have one close clipping when it has covered the wall in early spring, the effect of which is to keep a close leafy surface.

Lily Bulb Disease : *G. M. & others.* Recently we have received from two or three correspondents, including Mr. G. Martin, bulbs of Lilium Harrisi suffering from a disease of which we have had no previous experience. This is the only species of Lily which has given evidence of the disease, and in this case it seems to be widespread and fatal. The bulbs exhibit brown spots, which soften, and become rotten ; the subsequent appearance of a common mould on the spots only complicates matters, and renders investigation difficult, since this mould is only a saprophyte, and has nothing to do with the disease. In the last reference we are informed that 600 bulbs out of 2000 are diseased, which makes it a very serious matter. The bulbs do not start into growth in a proper manner, and when they grow the shoots are stunted and sickly. We have examined the diseased spots with the microscope, and can detect no mycelium, or any disquieting feature, except the presence of a few comparatively minute bodies of a Bacterium type ; but it must always prove a work of great difficulty, requiring patience and perseverance, to determine Bacteriosis under such circumstances with anything like certainty. In the present case ("G. M.") we gravely suspect it, but we cannot go beyond suspicion. In face of such an unknown foe, we are comparatively helpless, and it is too late to suggest dipping the bulbs into a solution before planting. *M. C. C.*

Market Varieties of Fruit : *J. M.* Dessert Apples, six to sell direct from the trees, Summer Golden Pippin, Devonshire Quarrenden, Worcester Pearmain, Colonel Vaughan, Sugar-loaf Pippin, Kerry Pippin, or Lady Sudeley. Culinary, six to sell direct from the trees, Keswick Codlin, Pott's Seedling, Lord Suffield, or where that sort fails, Lord Grosvenor ; New Hawthornden, Stirling Castle, Cox's Pomona, or Golden Spire. Dessert varieties, six to store, King of Pippins, Cox's Orange ditto, Gascoyne's Scarlet Seedling, Wyken Pippen, Baumann's Reinette, and Court Pendu Plat. Culinary Apples for storing, Small's Admirable, Peasgood's Nonsuch, Queen Caroline, Wellington, Prinz Bismarck, Lane's Prince Albert, and Lord Derby. We will give you a list of Pears and Strawberries next week.

Names of Fruits : *J. R.*, or some similar initials. Your Pear is Baronne de Mello.—*J. S.* 1, White Doyenné ; 2, Small's Duchesse d'Angoulême ; 3, Soldat Laboureur ; Apple, Court of Wick. *E. S.* 1, Beurré Rance ? ; 2, Easter Beurré ; 1, Brabant Bellefleur ; 2, Smart's Prince Arthur ; 3, Small's Admirable.—*A. W. H.* 1, Waltham Abbey Seedling ; 2, Grange's Pearmain ; 3, Beauty of Kent ; 4, Golden Noble ; Pear, Beurré Bachelier. —*Lucilia.* Apple Gravenstein.—*X. Y. Z.* Apple Hollandbury ; Pear Beurré Clairgeau.—*A. L. S.* 15, Emperor Alexander ; 25, Hoary Morning ; 51, Gravenstein ; 53, Old Nonpareil ; 54, Syke House Russet ; 55, Golden Reinette.

Names of Plants : *Correspondents not answered in this issue are requested to be so good as to consult the following number.—E. J. J.* Staphylea pinnata, probably, but the leaves had all fallen.—*Constant Reader.* Phytolacca decandra.—*J. M. B.* Oncidium varicosum.—*E. H. O.* We guess that the detached leaves may be those of Vaccinium myrtillus, but we have not much confidence in the correctness of our guess.

Orchid Diseased : *A. L. A.* The conditions of culture seem to favour the growth of a species of fungus on the Orchids. It may be combated by the use of the Bordeaux Mixture on the plants, say once in three weeks, dipping them in it—not syringing them. If the house could be emptied of all of the plants, and receive a thorough cleansing, using sulphur in the lime-wash with which the brick-work is coated, and the hot-water pipes are painted, these would be means to the same end.

Planting under the Shade of Beech Trees : *A. B.* Butcher's Broom, Box, St. John's Wort, Ivy, Periwinkle, and Scolopendrium, if not too dry.

Vanda Amesiana : *Correspondent.* We do not understand what you mean by "crack or break off." Please inform us which part of the plant is alluded to.

Communications Received.—Miss McRonald.—A. Pearce.—F. M.—R. D.—J. Donnell Smith, Baltimore.—J. C., Blewbury.—Professor Farmer.—E. J. -E. H. C.—E. M.—A. W. —W. H. S.—New York Agricultural Station —J. Cobham, Junr.—E. Conner.—S. F. R.—R. D.—T. L.—Winchester.—F. B.—V. V.—T. E. T.—C. B. W. & Co.—X. Y. Z.—Sir C. S. —J. G.—E. H. C.—J. C.—E. M.—W. H. S.—S. F. R.—E. C. —T. T.—A. K.—W. B. H.—H. M.—M. B. G.—P. F. Le S.—R. P.—H. Weir.—J.—Hans B.—A. C. C.—Riviera.—A. P. —J. O'B.—D. T. F.—J. D. R.—J. McI.—F. B.—M. P.

Photographs, Specimens, &c., Received with Thanks.—J. J.

DIED.—On the 16th inst at Horsell, Surrey, Anthony Waterer, of Knap Hill Nursery, aged 74.

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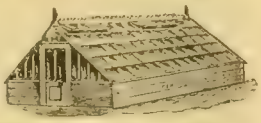
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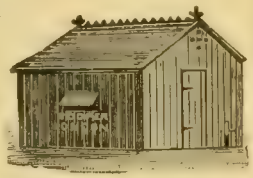
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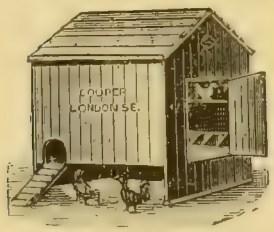
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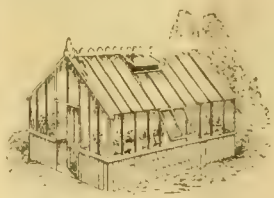


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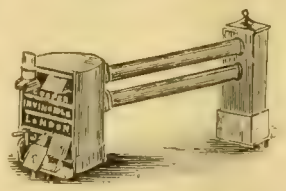
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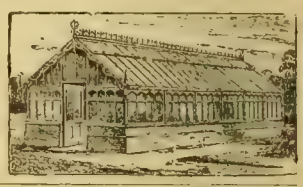
9 by 7	10 by 8	12 by 9	12 by 10	12 by 14
12 by 12	13 by 9	13 by 10	13 by 11	14 by 9
14 by 10	14 by 11	16 by 14	18 by 14	20 by 14
24 by 14	18 by 16	20 by 16	24 by 16	20 by 18
		24 by 18		

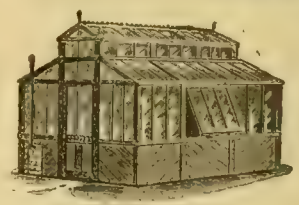
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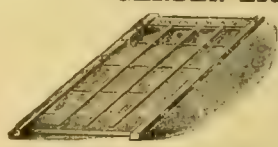
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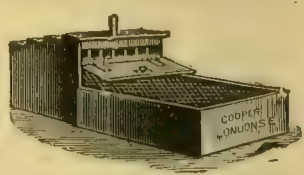
GARDEN LIGHTS.

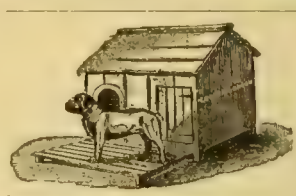


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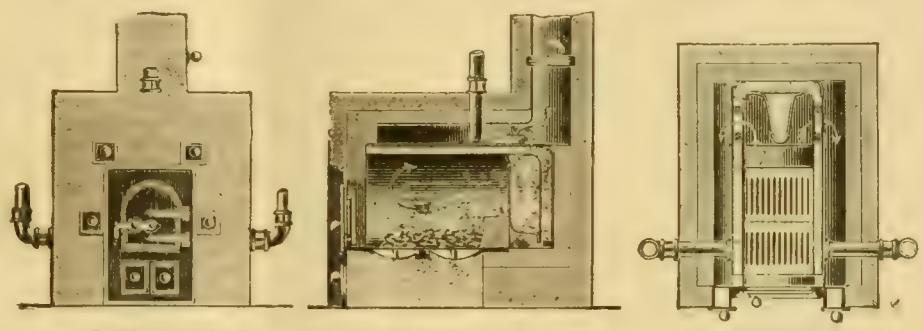
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CATALOGUES RECEIVED.

HAAGE & SCHMIDT, Erfurt—Novelties in Annuals for 1897.

LITTLE & BALLANTYNE, Carlisle—Trees and Shrubs, Planters' Guide.

HOGG & WOOD, Coldstream and Duns—Forest and Ornamental Trees, Clematis, Roses, Rhododendrons, &c.

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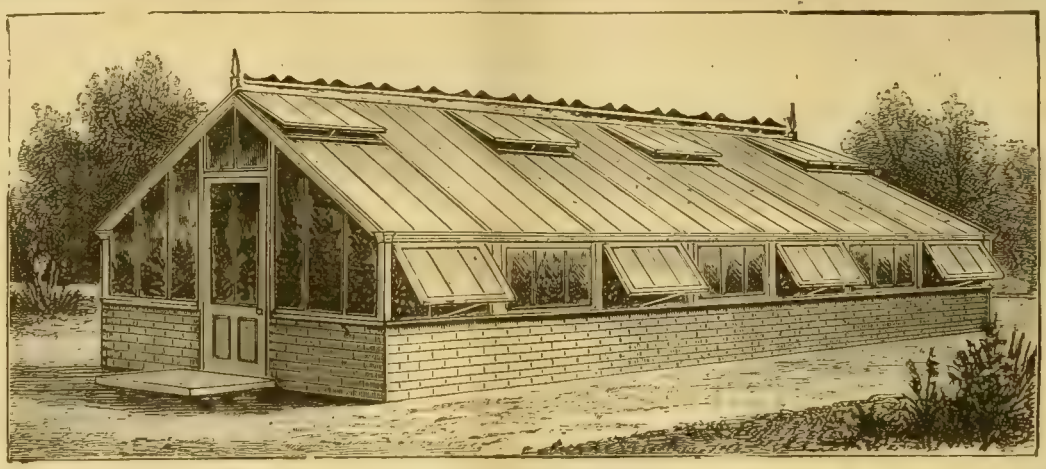
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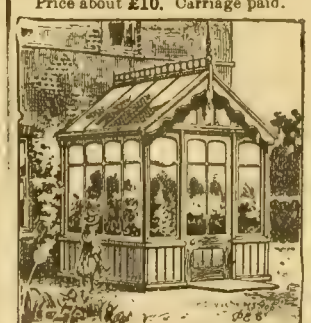
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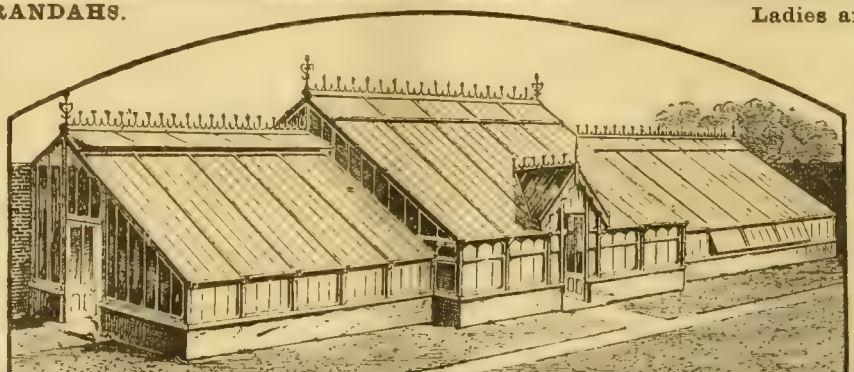
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The Gardeners' Chronicle

ESTABLISHED 1841. No. 2918.

No. 518.—Vol. XX. {Third Series.} SATURDAY, NOVEMBER 28, 1896. [Regt. as a Newspaper. {PRICE 3d. Post-free, 3½d.

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NOTICE TO ADVERTISERS.

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- C. Stonei, extra specimen
- 3 Cattleya Bowringiana, 30 to 40 bulbs
- 6 Lælia purpurata, specimens
- 1 Lælio-Cattleya Tresederiana, 3 spikes
- 2 L.-C. euterpe, 2 and 3 growths
- 24 Cattleya Trianæi, with sheaths
- 6 Cymbidium Lowianum, specimens, with spikes showing
- 1 Lælia anceps alba, large specimen-plant, with spikes
- A splendid plant of Brassavola Digbyana, Dendrobiums, Masdevallias, Odontoglossums of sorts, &c.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, December 4, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next December 4.

GREAT SALE of CATTLEYAS and LÆLIAS.

The finest of the Brazilian Orchidiæ; together with a New Orchid, a glorious Novelty,

EULOPHIELLA PETERSIANA,

Most extraordinary—a grand thing, like the late introduced Eulophiella Elisabethæ; the flowers are large, of a deep rose, produced on strong spikes, which are borne in great quantities from the axils of the lower leaves.

CATTLEYA AUREA CHRYSTOXA and GIGAS, mixed.—We guarantee these as the finest types of aurea and gigas. Collector says labellums are of wonderful substance and colour, and perfect in shape, and that finer forms are among these plants than any he has previously sent.

SNOW-WHITE LÆLIA.—Four plants only, brought home by our Collector, who will attend the Sale. Found with Lælia elegans, but snow-white.

Most remarkable type of LÆLIA ELEGANS, found with the Lælia purpurata, both from the same district as those offered by us on Nov. 6. Extraordinary varieties are among them, quite superior to any yet known.

LÆLIA PURPURATA.—A grand lot of plants from same district. Full advantage should be taken of this opportunity. Our collector is certain varieties are among these plants such as have never before been seen in Europe.

CATTLEYA MENDELI.—A very floriferous type of this grand and now scarce exhibition Cattleya, obtained from the remote interior. The difference in the plants points to the existence of many novelties, and their free-flowering qualities may be seen by the remains of the old spikes.

CATTLEYA SPECIES, offered as received. From the appearance of the plants and the great thick old flower-spikes thdy bear, it would seem they were either a quite new species, or a geographical form of Cattleya Sanderiana.

Also

CATTLEYA VELUTINA, CAMETHYSTINA, LÆLIA DORMANNIANA, LÆLIA PRÆSTANS (the very dark, rich-coloured type), ONCIDIUM MARSHALLIANUM, O. CURTUM, O. SARCODES, &c.

MESSRS. PROTHEROE AND MORRIS will sell the above by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., by order of Messrs. F. Sander & Co., St. Albads, on FRIDAY NEXT, December 4, at half-past 12 o'clock.

On view morning of Sale, and Catalogues had.

Monday, December 7.—Special Sale.

NEW and RARE PERENNIALS, many never previously offered. All extra strong plants. New Carnations, Violets, and many others. Thousands of older varieties, consisting of Phlox, Pyrethrums, Delphiniums, Hollyhocks, and Pinks. A splendid Collection of CARNATIONS and PICOTEES in the finest condition, LILIES, GLADIOLUS, MONTBRETIAS, CALOCHORTUS and other rare Californian Bulbs, AMARYLLIS, TULIPS, &c.; TRILLIUMS, from America; ANEMONES, from the Pyrenees; IRIS, in great variety, from all parts; and a great variety of Forcing and other Plants.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, E.C., on MONDAY, December 7, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

DUTCH BULBS.

MONDAY, TUESDAY, WEDNESDAY, THURSDAY, and FRIDAY NEXT.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., as above, at 12 o'Clock each day, large consignments of NAMED HYACINTHS, TULIPS, CROCUS, NARCISSUS, and other BULBS from Holland, received direct for Unreserved Sale. Lotted to suit the Trade and Private Buyers; together with white ROMAN HYACINTHS, paper-white NARCISSUS, SNOWDROPS, special TULIPS, &c.

N.B.—On TUESDAY and THURSDAY NEXT consignments of DWARF ROSES will also be Sold.

On view mornings of Sale, and Catalogues had.

MONDAY, WEDNESDAY, THURSDAY, AND SATURDAY NEXT.

DUTCH BULBS-DUTCH BULBS

MR. J. C. STEVENS will SELL by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., as above, at half-past 12 o'Clock precisely each day—

SPLENDID CONSIGNMENTS of HYACINTHS

TULIPS, CROCUS, NARCISSUS, &c.,

FROM LEADING GROWERS,

in the finest possible order, and lotted to suit all buyers.

On view mornings of Sale, and Catalogues had.

Wednesday Next.

GREAT ROSE SALE.

A Splendid assortment of beautifully-grown Small ORNAMENTAL SHRUBS, from English and Foreign Nurseries.

Choice named Pyramid, Dwarf, and Standard-trained APPLES, PEARS, PLUMS, PEACHES, NECTARINES, CHERRIES, &c.

50 lots of Specimen and Table Palms, Azalea indica.

250 Hybrid and Other Rhododendrons, &c.

A Large Collection of Carnations and other Border PLANTS.

Also Standard, Dwarf, Climbing, and Pot

ROSES,

FROM LEADING GROWERS.

Lilium Harrisi, L. auratum, L. Brownii (?), L. LONGIFLORUM, L. LANCIFOLIUM ALBUM and RUBRUM, &c.

A variety of Gladioli, Begonias, Pæonies Narcissus.

50,000 Best Berlin Lily of the Valley Crowns, 2500 SPIRÆA, and an enormous importation of DUTCH BULBS.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, December 2, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

Thursday Next.

TWENTY CASES of ARAUJARIA EXCELSA, as received direct, without Reserve; also, 75,000 Fresh SEEDS of KENTIA FOSTERIANA and BELMOREANA.

MR. J. C. STEVENS will include the above in his Great BULB and LILY SALE on THURSDAY NEXT, December 3.

On view morning of Sale, and Catalogues had

DUTCH BULBS-DUTCH BULBS

SALES NEARLY EVERY DAY TILL THE END OF DECEMBER.

MR. J. C. STEVENS begs to announce that he has arranged with several of the first Nurserymen in Holland to Continuously Supply his Sales, during the present season, with only really First-class Bulbs, of the best quality.

FOR DISPOSAL, SMALL NURSERY, FLORIST'S, and SEEDSMAN'S BUSINESS in the Midland Counties. Low Rent. Within 1 mile of Market in a thriving town. Satisfactory reason for disposing, and if necessary part of the purchase-money might remain.—Apply, P. S., 41, Wellington Street, Strand, W.C.

ABOUT 3 Acres BOTTOM-LAND, with Stream. Suitable for Florist. Two miles from Bournemouth, one from Station. Price almost nominal. Good opportunity for man with small capital.—CLUNES-BARE AND CO., Horticultural Auctioneers, Branksome, Bournemouth.

NURSERYMAN and FLORIST'S BUSINESS for SALE, by order of Executors. North London district. Established over 30 years.—Apply to HOWARD AND SHELTON, Tower Chambers, Moorgate, E.C.

Messrs. PROTHEROE & MORRIS,

HORTICULTURAL AUCTIONEERS,

67 and 68, CHEAPSIDE, E.C.,

Have the following, among other Nurseries, for immediate Disposal:—

SOUTH COAST.—FREEHOLD NURSERY. Excellent situation in thriving and important town. Two Acres (part Building Land), 10 Greenhouses, all heated. Capital shop. Extensive local trade. Illness cause of Disposal. Price £3350. Large part can remain. Folio 8912.

MIDDLESEX.—Absolute Sale, 10 miles from Covent Garden. A modern MARKET NURSERY of 4 Acres, with 6000 super feet of Glass, 100 feet run of Pits, all efficiently Heated. Useful Outbuildings. Long Lease. Rent £40. Price £300. Folio 8904.

SURREY.—Good business locality.—LEASEHOLD NURSERY of 4 acres, 5 Greenhouses, Conservatory, Pits and Outbuildings, Shop and Dwelling-House, had if required. Lucrative local trade done. Failing health reason for disposal. Rent £62. Long lease. Price about £750, or at a valuation. Folio 8924.

MIDLAND COUNTIES. — Exceptional opportunity. Important and valuable FLORIST and CUT FLOWER BUSINESS, in important Town. Compact Freehold Property. Several Greenhouses and Dwelling House. Cause of selling ill health. Every investigation allowed. Personally inspected and recommended. Price, Freehold, including Greenhouses (Stock, &c., about £3500. Large portion may remain. Folio 8918.

GLASS-HOUSES. — DWELLING-HOUSE, with 90 Poles of LAND for SALE. Situate at Seagrave, Beds, near Midland Station. Five Glass houses, 100 ft. by 13 ft., and Propagating-house, with extra powerful Boilers, Pipes, and every Appliance. Wants seeing. Write for particulars.

D. ALMOND, Cheapside, Luton, Beds.

FOR SALE.—The latest edition of NICHOLSON'S "DICTIONARY of GARDENING;" also, B. S. WILLIAMS' BOOK on Stove and Greenhouse Ornamental-leaved Plants, and Stove and Greenhouse Flowering-plants. Quite new and clean.—T. PERNELLS, The Gardens, Snardlow Hall, near Derby.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.C. Prompt cash.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free.

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KEYNES, WILLIAMS AND CO., Rose Growers, Salisbury.

POTATOS.—Myatt's Ashleaf, grown on high land, 65*s.* per ton.

G. F. YOUNG, Swineshead Abbey, near Boston.

30,000 CHRYSANTHEMUMS.

Calvat's Set and New Varieties of 1896, 1*s.* 3*d.* each. List free.

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Young Gooseberry Trees.

N. AND F. SALMON beg to offer strong 3-yr.-old trees of their renowned WHITE LION in quantities. Price on application.—N. AND F. SALMON, The Grange, Heston, Hounslow.

ALLINGTON PIPPIN.—The finest new Dessert sent out for thirty years.

Maidens, 5*s.*; 2-yr., 7*s.* 6*d.* each; larger to 21*s* each.

GEORGE BUNYARD AND CO., Maidstone.

Distributed in November.

PEACHES and NECTARINES. — Dwarf-trained young fruiting trees, which have kept up a continuous supply of fruit since middle of July to present date in cold orchard house. Names and price from—

FREDERICK PERKINS, Regent Street, Leamington Spa.

E. J. BATCHELOR has to offer the following PEACHES from a Peach-house 9 feet by 9 feet:—Barrington, Gros Mignonne, Royal George, Magdala, Prince of Wales, Goshawk, Bellegarde, and Red Magdalen. Also dwarf H. P. ROSES in the leading varieties, principally on Briar Cuttings, per 100 or 1000. Price and list on application to—

Harlow Heath Nurseries, Harrogate.

SHRUBS, &c.—Arbor-vitæ Amer., 3 to 4 ft., 20*s.* per 100. Azara microphylla, 2 to 2½ ft., 4*s.* per doz. Cotoneaster microphylla and C. Simonsii, 2 to 3 ft., 12*s.* per 100. Escallonia macrantha, pots, 2 to 2½ ft., 30*s.* per 100; E. White, 6*s.* per doz. Fuchsia Riccartonii, 20*s.* per 100. Black Amer. Spruce, 2½ ft., fine, 12*s.* per 100. Pampas Grass, extra, 8*s.* per doz. Honeysuckle, strong, 12*s.* per 100. Hypericum calycinum, 12*s.* per 100. Griselinia littoralis, bushy, 2 to 2½ ft., 8*s.* per doz. Hollies, varieties, 1½ to 2 ft., 6*s.* per doz. Jasmine, white and nudiflorum, 6*s.* per doz. Colchic Laurel, 1½ ft., 12*s.* per 100; do., 2 to 2½ feet, 14*s.* per 100. Rotundifolia, 1 foot, 8*s.* per 100. Lilac, white and purple, 2 ft., 4*s.* per doz. Olearia Haastii, 2 ft., bushy flower-buds, 6*s.* per doz. Prunus Pissardi, 4 ft., 6*s.* per doz. Acer Negundo, variegated, 3 ft., 6*s.* per doz. Yucca gloriosa and filamentosa, 6*s.* per doz.

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SUPERLATIVE RASPBERRY
(Bunyard's true stock).
The finest Raspberry ever sent out.
Per dozen, 3s., post-free, 3s. 9d., per 100, 18s; extra strong, 6s. per doz. Price per 1000 on application.
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Carter's Prolific, 3s. per 100; Semper Fidelis, 3s. per 100; Hornet, 3s. per 100. Special quotations for large quantities.
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BULBS of every description for Forcing and Planting.
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W. ICETON'S well-known GIANT BERLIN LILY OF THE VALLEY.—100 000 Planting Crowns at 12s. 6d. per 1,000, 1 and 2 years; also a few thousand retarded Crowns. Price on application to—
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GEO. FORBES, the largest CUT FLOWER SALESMAN in the North of England.
Best Market Prices returned for Consignments. Packing Boxes and Labels free. Cheques weekly.
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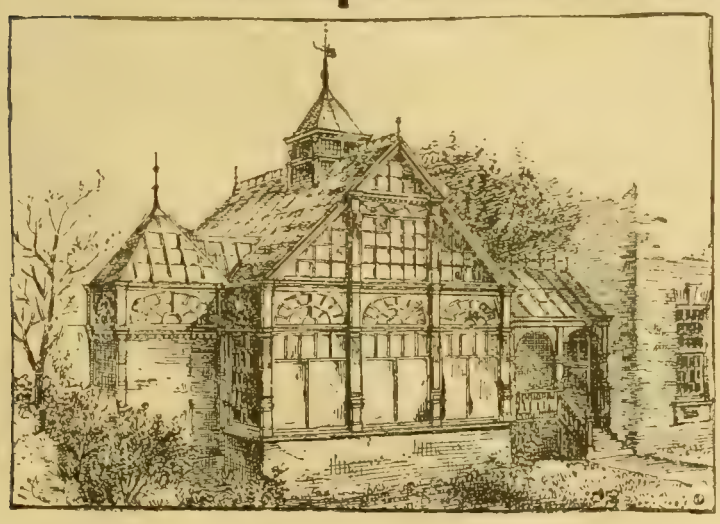
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MR. CHARLES BUTLER begs to tender his sincere Thanks to his numerous Patrons whom he has had the pleasure of supplying during the past 35 years, and respectfully informs them that he has this day DISPOSED OF HIS ENTIRE NURSERY STOCK and GOODWILL OF HIS BUSINESS to WM. PRITCHARD & SONS, NURSERYMEN, SHREWSBURY, and trusts that the same confidence and support that he has hitherto received will be extended to them in the future. (Signed) CHARLES BUTLER.
October 19, 1896.

In reference to above, PRITCHARD AND SONS respectfully SOLICIT A CONTINUANCE OF YOUR SUPPORT, and request that all orders and enquiries be addressed to—
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DOUGLAS SPRUCE
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50 best varieties, including 7 H.T.'s and 9 Teas, packing free, for 35s. Half Collection, 18s.
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Schedules of Prizes on application to—
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12 assorted Standard Apple, Cherry, Pear, and Plum, 15s.
12 assorted Pyramid Trees, Apple, Pear, and Plum, 20s.
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Apple, Cherry, Nectarine, Peach, Pear, and Plum, all best trees and good varieties, 40s. per dozen.
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Roses, best named Hybrid Perpetuals, our selection, 35s. per 100; 20s. per 50. 12 packed and paid per Parcel Post, for 7s. 6d.
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Tea Roses, in pots, including Maréchal Niel, Gloire de Dijon, Niphetos, and other varieties, 12s. and 24s. per dozen.
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CLIMBERS.
Ampelopsis Veitchi, the best for covering walls, requires no nailing, 1s. each.
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PALMS for Sale.—Six large very handsome Palms, all in good condition.—Apply to the GARDENER, North Breache Manor, Ewhurst, near Guildford.

SEAKALE. — SEAKALE. — Noted Fulham Seakale Crowns for sale. Extra large. 9*s.* per 100; or 75*s.* per 1000, for cash.—Apply to WM. BAGLEY, Milkshot Farm, Fulham. Established over 200 years.

RASPBERRY CANES. — Northumberland Fillbasket, Carter's Prolific, Norwich Wonder, Falstolf. Well-rooted planting canes. Price and sample on application. JAMES W. TODMAN, Platt, near Wrotham, Kent.

CHINESE ARTICHOKES (Stachys Tuberifera).—A few cwt. for disposal, 40*s.* per cwt., on rail; small quantities, 6*d.* per lb. Cash with order. Sample on application.—H. & A. PULLEN-BURRY, Sompting, Worthing.

COVERT, at per 1000; Broom, common, 2-yr. seedlings, 4*s.* 6*d.*; 1½ to 2 feet, 16*s.*; 2 to 3 feet, 20*s.* Gorse or Furze 2-yr. seedlings, 5*s.*, 45*s.* per 10,000; do., 1 to 1½ ft., 15*s.*—SAMUEL SMITH, Slaghills Nursery, nr. Matlock.

ORCHIDS in Bud, from 1*s.* 6*d.* each; or if Growing in West's Patent Orchid Baskets, from 2*s.* 3*d.* Carriage paid. Catalogue free.
The LEEDS ORCHID CO., Roundhay, Leeds.

STANDARD ROSES.—Splendid, straight, well-grown large heads, leading varieties. Catalogues on application.—FREDERICK PERKINS, Nurseryman, Regent Street, Leamington Spa.

50,000 EUONYMUS, Green and Golden, all splendid bushy plants.—GREEN: 12 in. to 15 in., at 30*s.* per 100; 15 in. to 18 in., at 40*s.* per 100; 18 in. to 21 in., at 55*s.* per 100; 21 in. to 24 in., at 75*s.* per 100; 25 in. to 40 in. at special prices.
GOLDEN: 5 in. to 12 in., at 3*s.* to 8*s.* per dozen. Cash with order. J. J. CLARK, Goldstone, Brighton.

SHRUBS and CONIFERÆ.—Picea nobilis, 4 to 5 inches, 6*s.* per 100; P. Nordmanniana, 2 yrs., 1 yr. transp., 7*s.* per 100. Escallonia macrantha, 10 to 12 in., 8*s.* per 100. Honeysuckle, strong, 6*s.* per 100. Laurestinus, 8 in., 8*s.* per 100. Thuia Lobbii, 15 in., 30*s.* per 1000; do, 2 ft., 60*s.* per 1000. Abies Douglasii, 2 yr., 9 to 10 inches, 35*s.* per 1000; do., 1½ to 2 ft., per 1000, £5; extra-fine, do., 2 to 2½ ft., £6; do., 3 to 3½ ft., 20*s.* per 100. Cedrus deodara, 2 to 2½ ft., 6*s.* per doz.; do., 12 to 15 in., 3*s.* per doz. Cup. macrocarpa, 2 to 3 ft., 6*s.* per doz. Picea nobilis, 2 ft., 8*s.* per doz. P. Nordmanniana, Pinus cembra, 1½ ft., 16*s.* per 100. Thuia Lobbii, 2 to 2½ ft., 10*s.* per 100. Thuiopsis dolobrata, 4 to 4½ ft., extra fine, 24*s.* per doz.
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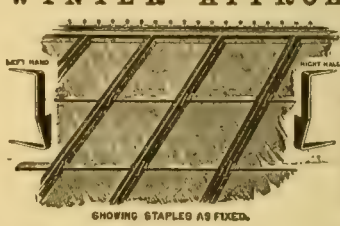
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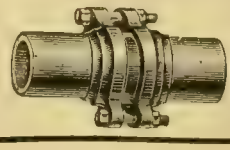
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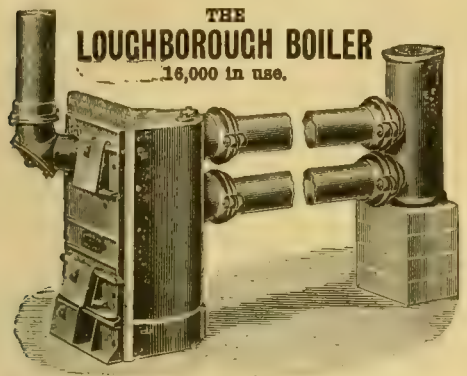
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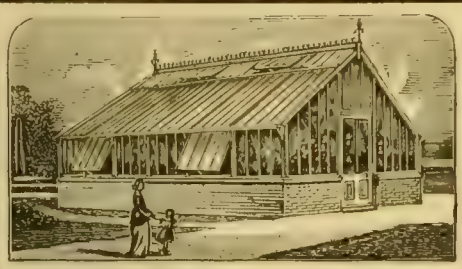
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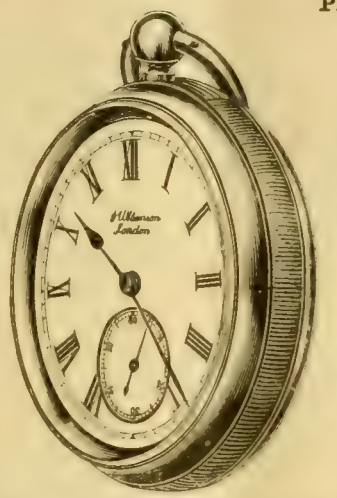
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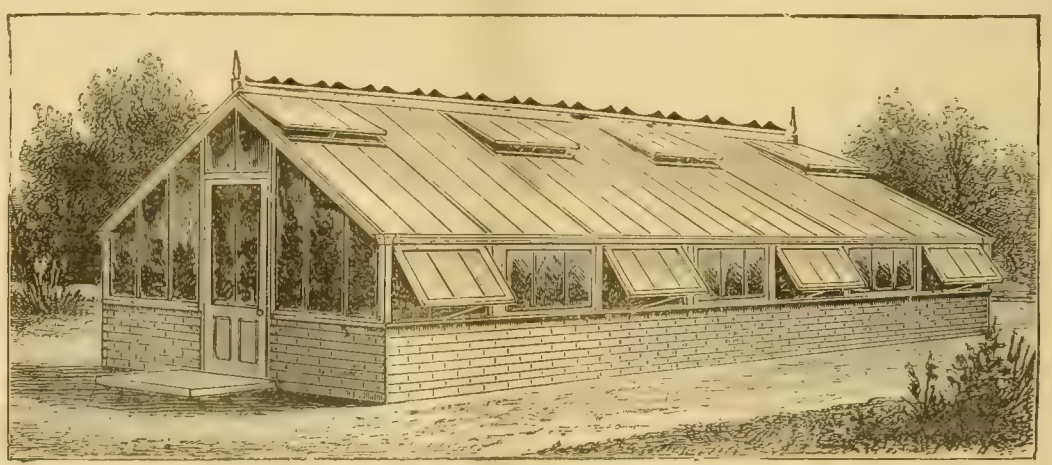
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SATURDAY, NOVEMBER 28, 1896.

SOME MORE "BOTANICAL MAGAZINE" WRAPPERS.

EARLY in the present year I gave some gleanings (*Gardeners' Chronicle*, March 28, p. 389), from announcements and advertisements on the paper wrappers of the monthly numbers of the *Botanical Magazine*, issued between 1809 and 1816. I have now the opportunity of supplementing those notes by a further selection from volumes which appeared between 1827 and 1855, the most brilliant and flourishing period of this now considerably more than centenarian publication. Sir William Hooker's editorship commenced in 1827, combining the duties of artist therewith. As I have more fully explained in my history of the *Botanical Magazine* in the *Gardeners' Chronicle* for 1887, Sir William Hooker initiated the custom of dedicating each volume to some eminent botanist or horticulturist; and the first one he dedicated to Robert Barclay, who had a fine garden at Bury Hill near Dorking. I mention this because it was not long after this event that his collections were dispersed. The more one looks into the horticultural literature of the present century, the more one becomes impressed with the desirability of a critical history of the gardening and gardeners of this period. But this, by the way. In August, 1831, the sale is announced of the unique botanical collection of the late Robert Barclay, Esq. The collection, I may add, consisted of living plants. In 1833, the advantages of advertising in the *Magazine* were set forth in the following terms: "The *Botanical Magazine*, which has been published without intermission on the first day of every month for the last forty-five years, and is circulated among the most respectable classes of society, from its established reputation, elegance, and scientific tendency, must be viewed with interest by all persons under whose observations it comes, and will be found a most desirable medium to advertisers."

At this date, Mr. Samuel Curtis, the proprietor, who had an extensive nursery at Glazenwood in Essex, was the chief advertiser in the trade. He appears to have had a very extensive collection of American plants, including many rare things. The genus Stuartia is specially mentioned. Of Roses, 600 named varieties are offered, so it must have been difficult to make a small selection. Kindred publications figure prominently in the advertisements, and some of them must have been in the nature of rivals. In May, 1833, the twenty-third number of the *Horticultural Register* was announced. This publication was commenced in 1831, under the joint-editorship of Joseph Paxton and Joseph Harrison, and its history and developments are interesting. Paxton, as

everybody knows, was gardener and forester to the Duke of Devonshire; and Harrison was gardener to Lord Wharncliffe. The *Horticultural Register* was a cheap rival of Loudon's *Gardeners' Magazine*, established in 1826, to which neither Paxton nor Harrison had been a contributor. But the *Register* had a chequered and short career, the cause of which I have not attempted to discover. Paxton's name appears alone as editor of volumes two and three. His name then disappeared, and in its place came James Main, A.L.S., in the fourth and fifth (and last), so far as I have ascertained. Main collected in China, on behalf of Gilbert Slater, Esq., concerning whom very little is known, but Main states that Slater was the actual introducer of Hydrangea hortensis, Eriobotrya japonica, Rosa semperflorens, and a number of others; further that he always divided whatever he had of value with Sir Joseph Banks for the Kew collection, as a safer means of preserving what might be received. This is interesting, because Banks is the accredited introducer of these plants in Aiton's *Hortus Kewensis*.

The secessions from the *Horticultural Register* seem to have been the outcome of some dissatisfaction, for in each case the seceder became the editor of a similar publication. Harrison started his well-known *Floricultural Cabinet* in 1833, and in the preface to the first volume, he boasts of having a circulation of nearly fifty thousand copies in nine months. This number probably referred to the monthly parts. In 1834 Paxton associated with Robert Marnock, founded the *Magazine of Botany and Register of Flowering Plants*, a more ambitious publication. Marnock and Paxton soon parted, and the former became editor of a new publication, entitled the *Floricultural Magazine and Miscellany of Gardening*, which was by no means so well illustrated as its rivals, and soon ceased to appear. But I have been led into a bibliographical digression, and must return to my advertisements. In August, 1833, the first volume of Don's "improved edition" of Miller's *Gardeners' Dictionary* was announced, price £3 12*s*. This ran to four volumes, but was never completed. In December of the same year the St. Germain de Martin Pear was advertised from Martin Hall, at a guinea; only eighty plants to be issued. Fuller's freezing machine and the Perryan pens were persistently recommended about this time; and a city tailor offered to provide so many suits of clothes a year at a given price, provided the old suits were returned! In 1835, Hooker's *Companion to the Botanical Magazine*, and Deakin and Marnock's *Florigraphia Britannica* were announced; and in 1836 *The Botanist*, conducted by B. Maund, F.L.S., assisted by the Rev. J. G. Henslow. The latter is a high-class illustrated work, which ran to only five volumes. Various artists contributed, among them two of Maund's daughters and Mrs. Withers. George Bentham was also a contributor. What part Marnock took in the *Florigraphia* is not explained, but his name appeared only on the first part, and not at all on the title-page of the complete volume. The next advertisement of special interest is the *Gardeners' Gazette*, the first number of which appeared January 7, 1837, price 5*d*. This is not in the Kew library, but my friend, Mr. Daydon Jackson, kindly looked it up for me at the British Museum. Its full title is *The Gardeners' Gazette: a Weekly Journal of Science, Literature, and General News*. It was issued in the same form as the present *Gardeners' Chronicle*, and was, in a sense, the forerunner of it, edited by George Glenny. Its independent career, however, was a short one, as it was amalgamated with the *United Gardener and Land Stewards Journal* in July, 1847, then in the third year of its existence, edited by R. Marnock, Curator of the Royal Botanic Society of London. This was continued under the modified title of *Gardeners' and Farmers' Journal* until 1851. At all events, we have nothing later than that at Kew. Up to within two years of its demise, it was run, according to the title-page, for the benefit of indigent gardeners and farm-bailiffs, and their widows and orphans. In the meantime, in 1841, the *Gardeners' Chronicle* was founded, with Dr. Lindley as editor of the horticultural part. A full-page advertisement of it appeared in the *Botanical Magazine* for April, 1841; and at that early date the proprietors were able to publish a long list of able writers and contributors, both in practical and theoretical matters. Looking down that list of between sixty and seventy names, mostly of men who were famous, or who became famous, I do not see one whose owner I know to be still surviving. But when we remember that the *Gardeners' Chronicle* is already near the end of the fifty-fifth year of its existence, we can hardly expect to find many of the original contributors. J. C. Loudon's numerous and laborious works were now copiously advertised in the *Magazine*, although he, brave sufferer, was near the end of his career—a career of almost unparalleled activity under the most adverse circumstances. Few who have used his wonderful compilations have any idea of the difficulties under which he worked, and the intense sufferings he must have undergone. Shortly after he came south, as a young man of twenty, he had an attack of inflammatory rheumatism which disabled him for two years, and left him with a stiff knee and a contracted left arm. Subsequently his right arm was broken, and then broken again, when amputation became necessary. At the same time he lost the use of the thumb and two of the fingers of his left hand. In addition to these infirmities he had slow disease of the lungs; yet, we are told, his energy and enthusiasm did not desert him even on his death-bed. Among many other things, we are specially indebted to him for the particulars he collected and recorded of notable trees of all kinds throughout the country. To give an instance of the comprehensiveness of his work, I may mention that his *Encyclopædia of Plants*, in which he was assisted by Lindley and James De Carle Sowerby, is illustrated by upwards of 20,000 wood-cut figures!

In February, 1838, we find an address to subscribers, in which it is stated that the only honourable competitor in the field was the *Botanical Register*, and considerable alterations had been made in the plan in order to make it more attractive, but that the *Botanical Magazine* would be continued in its old form, in spite of the fact that the proprietor was losing money by it.

In July, 1838, Mrs. Gore's *Rose Fanciers' Manual* was offered at 10*s*. 6*d*., with the avowed object of "rendering every amateur a Rose-grower." Whether Mrs. Gore was in the trade does not appear, but the work was adapted from the French, though it was intended to make our "gardens independent of borrowed attractions," whatever that might mean. Whether the amateurs really benefitted by it is doubtful, inasmuch as 2500 varieties were described, which would probably perplex rather than help him. An advertisement of September, 1838, puzzles me rather; but perhaps some reader of the *Gardeners' Chronicle* may be able to elucidate the matter. It is the advertisement of a *Practical Treatise on the Material used in the Construction of Hot-houses, Conservatories, &c.*, by J. Thomson, nurseryman and landscape gardener, Croydon, Surrey. He describes himself as the designer and inventor of the improved wrought-iron boiler for heating conservatories, &c., and alludes to his fifteen years' experience in Her Majesty's Royal Botanic Garden at Kew, and his subsequent position as head gardener to the Duke of Northumberland at Syon House. Although there are some discrepancies, I think this must have been the J. W. Thomson whose autobiography was published in the *Journal of the Kew Guild* in 1894, when he was ninety years of age. He mentions establishing the "Exotic Nursery" at Hammersmith in 1835, where he had about an acre of glass erections; but he says nothing of Croydon.

Harrison's *Floricultural Cabinet* is advertised in December, 1838, as an unequalled medium for advertising anything connected with gardening, having a circulation of nearly 10,000 copies monthly. Among books announced about this date were Miss Jackson's *Pictorial Flora*, or British Botany delineated in 1500 lithographic drawings; and the first edition of that handy little book, Lindley and Paxton's *Botanical Dictionary*. Miss Jackson's book is probably not very widely known, and it is of no great use, because the figures, though admirably drawn, are too small (twelve on an octavo page), especially of closely-allied species. In 1844, the first number of a new *Horticultural Magazine*, price 1*s*., was announced to be published by Houlston. I have not seen any part of this publication.

Coming down to 1851, we find that the dark blue wrapper has been replaced by a light green one, such as the *Magazine* still appears in, with a view of the Palm-house at Kew on the first page. But this change probably took in 1845 when Samuel Curtis's name disappeared from the title page, and Reeve became the proprietor and publisher. This year, 1851, is a memorable one for horticulturists in many ways, including Paxton's great achievement in Hyde Park. A view of the "Palace of Glass" was given on the May number of the *Magazine* as a heading to Rowland's advertisment of his "Kalydor," &c. Among the numerous illustrated books of that period I may mention the Victoria Regia and the Rhododendrons of Sikkim-Himalaya, and here I must stop. *W. Botting Hemsley.*

NEW OR NOTEWORTHY PLANTS.

LOWIA GRANDIFLORA.*

WE are indebted to Mr. Bull for the opportunity of figuring this singular Orchid-like plant from the Malay Peninsula. The plant is technically stemless, the flowers springing in a cluster from the base of the petiole. The leaf is broadly oblong, lanceolate acuminate, tapering at the base into a concave petiole. The flower-tube, as may be seen in the illustration (fig. 111, p. 653) is about 7 cent. long, cylindric, wrapped round at the base by a herbaceous bract. The three reflexed sepals are olive-coloured, as long or longer than the tube; upper petals short, purplish, linear lanceolate, tapering from the base, fimbriate at the tips; lower petal much larger, lip-like, spreading, with a broad purple concave stalk, expanding into a large oblong acuminate, pure white, rather thick limb, 6 to 7 cent. long, 25 mill. lat., covered with a viscid exudation; the margins of the lip are replicate, as shown in the section. Stamens five free, anthers linear; ovary glabrous. Style purple, dividing above into three purple, fringed stigmas.

On October 23, 1886, Mr. N. E. Brown described in these columns a very similar plant to that now described, but with smaller flowers. That plant he considered to form the type of a new genus of Scitamineæ, which he accordingly described as Orchidanthe borneensis. Father Scortechini, about the same time, described the genus on the plant which forms the subject of this note, his publication dating, as we suppose, from the beginning; that of Mr. Brown from nearly the end of the same month. Petersen places both Lowia and Orchidanthe at the end of the Musaceæ, but although the plants are, as he says, insufficiently known (*ungenügend bekannt*), yet, having seen both the species, we can have no doubt that they belong to one and the same genus. The present species is an ornamental and curious stove plant. *M. T. M.*

DIPLADENIA SANDERI, *Hems'., n. sp.*†

This species is intermediate in character between D. illustris var. glabra (*Botanical Magazine*, t. 7156), and D. eximia, described by me in the *Gardeners' Chronicle*, third series, xiv. (1893), p. 120, having flowers very similar to the former, and leaves

* *Lowia longiflora*, Scortechini, in *Nuov. Giorn. Ital.*, xviii., 308, t. 11; Baker, in Hooker's *Flora of British India*, vi. (1894), 264; Petersen, in Engler and Prantl. *Naturlichen Pflanzenfamilien* (Musaceæ), 1889, p. 10.

† *Dipladenia Sanderi*, Hemsl., n. sp.—D. undique glabra, ramulis floriferis gracillimis, folia distincte petiolata, subcoriacea, oblonga vel anguste obovato-oblonga, cum petiolo semipollicari 2—3 poll. longa, acute acuminata, basi rotundata, subtus pallidiora, costa supra leviter elevata subtus leviter impressa, venis immersis inconspicuis. Flores rosei, circiter 3 poll. longi et lati; calycis dentes lineari-lanceolati, acutissimi; corollæ tubus ad medium cylindratus deinde gradatim dilatatus, lobis rotundatis. *W. Botting Hemsley.*

more like the latter. Of D. eximia I have only seen the one small specimen I described, and it is possible that it attains larger dimensions than those given by me in the place cited. It is characterised by having nearly orbicular leaves, about 1½ inch in diameter, borne on stalks less than ¼ of an inch long, flowers about 2 inches in diameter, and the corolla tube scarcely exceeding 1 inch in length. D. illustris var. glabra has relatively large leaves, with numerous very prominent transverse veins, flowers 3 inches in diameter, and the corolla-tube is about 2 inches in length. D. Sanderi has rather thick oblong or narrowly obovate-oblong leaves, including the stalk, from 2 to 2½ inches long, acuminate at the apex, rounded at the base, pale underneath, and very obscure venation; petioles about half-an-inch long. The flowers of all three are very similar in general colour, but those of D. eximia are of a brighter, deeper, rose than the others. D. Sanderi wants the darker circle of colour at the mouth of the tube, characteristic of D. illustris var. glabra. In other respects, the flowers of these two are very much alike, except that the cylindrical portion of the tube of the corolla is proportionately longer in D. Sanderi. This ornamental addition to a favourite genus is a native of Brazil, whence it was imported by Messrs. F. Sander & Co., of St. Albans, whose name I have the pleasure of associating with it.



Fig. 111.—Lowia longiflora: stove plant.

Sepals olive, lip viscid, pure white, with recurved margins, and with a broad violet-coloured stalk; style and stigmas purple. (See p. 652.)

THE ASH OF ORCHIDS.

The following interesting correspondence between Dr. Kedzie of the Agricultural College, Mich., and a friend, arising out of the doctor's paper read before the Society of American Florists, at Cleveland, appears in the *Florists' Exchange*:—

"I have been interested in reading a reprint of your paper entitled *The Chemical Tripod in Floriculture*, in the *Florists' Exchange*. In it you make the statement that no plant can grow in the absence of potassium and phosphorus. Are you correct in this? If so, will you kindly let me know where epiphytal Orchids get these elements? I am working on the subject of nutrition for Orchids, and want to secure all the light available. Gray states that oxygen, hydrogen, nitrogen, and carbon are the only absolutely necessary elements needed by all plants. Of course, the terrestrial plants do not flourish without the mineral elements. Do you know whether Orchids analyze any mineral elements? Of course, there is dust in the atmosphere; but is hardly seems possible that any solution of it can reach many varieties of Orchids in their natural habitat. I should be under great obligation if you can give me any scientific information on this point."

To the above question, Dr. Kedzie replied as follows:

"Your esteemed favour is received, in which you call in question my statement that no plant can grow in the absence of potash and phosphorus, and ask how can epiphytal Orchids get potash and phosphorus?

"In this discussion it seems to me that the first question to be decided is whether such Orchids contain these ash elements? If epiphytal Orchids do not contain these ash elements it is useless to inquire where they can get them. I have therefore directed my attention to the question whether epiphytes contain potash and phosphorus. Unfortunately these plants are very precious in our greenhouses, and we do not "have Orchids to burn." I therefore first turned my attention to an epiphyte growing on forest trees in Florida, and known as "tree pine," the Tillandsia bulbosa. The roots of the plant had freely penetrated the bark of the tree, and the bark had to be cut away to get the separate plant. On burning this plant there remained 3 per cent. of ash, from which 25 milligrams of real potash (K_2O) and 18 miligrams of phosphoric acid were obtained.

"A quantity of Florida-moss, Tillandsia usneoides, was burned which gave 2·20 per cent. of ash. Analysis of this ash gave 3·50 per cent. of real potash, and 1·73 per cent. of phosphoric acid. This ash contained a large amount of salts of lime and magnesia, and nearly half their weight of salts of soda.

"Desiring to subject an epiphytal Orchid to the same process, I obtained from Mr. Gunson, the College florist, a fragment of Dendrobium nobile, which weighed 11·245 grams when dry, and left 335 grams of ash when burned, or 2·97 per cent. of ash. From this ash 28 milligrams of potash (K_2O), and 19 milligrams of phosphoric acid (P_2O_5) were obtained. The ash of all these epiphytes contained, in addition, lime, magnesia, soda, silica, and oxide of iron—the same elements that are found in plants growing in the soil.

"If an epiphyte shall be found that leaves no ash when burned, we may assume that ash materials are not necessary for such plant. The fact that the lowest forms of plant life, such as mould and yeast, contain potash and phosphorus in their ash, is significant. I have just gathered a fungus growing on the dead limb of a black Walnut tree, and find it contained 3·65 per cent. of ash, and yielded 38 milligrams of phosphoric acid. The presence of potash and phosphoric acid in all forms of plant-life is something more than an accident, and bears some important relation to nutrition.

"I now return to the question with which you started: Where do these plants get these vital minerals? Manifestly from some outside source, because plants do not form mineral matter. That epiphytes are on the alert for mineral matter is shown by their careful conservation of the ash elements they already hold. Note the thin and papery character of the cast-off leaves of Orchids, in comparison with the shed leaves of forest trees. The Orchids seem to search the pockets for the last penny before they throw aside their worn-out clothes.

"Plants that grow within the reach of the ocean spray carried far inland by the wind, such as the Florida-moss, may obtain ash elements from sea-salts lodged on them. The large amount of the soda-salts found in Florida-moss would strengthen this impression.

"Parasitic plants, like the Misleto, by means of their haustoria, penetrate the cambium of their host, and drink in with the sap both mineral matter and organic food. In like manner the arboreal epiphytes by their roots penetrate the bark of their host, and may derive mineral matter from this bark, which is seven times richer in ash elements than the wood. Many saprophytes derive their mineral as well as their organic food from decaying wood, and it is reasonable to suppose that arboreal epiphytes should derive their mineral food from bark.

"If the Orchid is attached to a brick or an earthen-pot, such materials are merely hardened soil, and from them the plants, by the acid juices of their roots, may extract mineral matter. Florists often place moss in in the frame that supports the Orchid to retain water, and the plant may derive a supply of ash. The firm attachment of the roots of Orchids to the wooden

frame that gives them support, suggests the possibility of the extraction of mineral matter from the wood. If the water given the Orchids contains mineral matter, this becomes an evident means of supplying ash food to the plant. By water culture I have raised stalks of Indian corn 3 feet high with no source of mineral food, except well-water frequently changed. It may be found that by watering Orchids at the proper time with a very dilute solution (one part in a thousand of water) of the phosphate of potash, the growth of the plant may be promoted.

"It is claimed by some that atmospheric dust is the source of ash elements to epiphytes, but this is doubtful unless the dust settles upon the bark or other support of the plant, and thus comes in contact with the roots of the Orchid. We have no evidence that the leaves of land-plants absorb mineral matter. The normal channel for mineral matter is through the roots of plants."

HOME-GROWN AND AMERICAN FRUIT.

THAT the crop of American Apples is this year both large and wonderfully good my readers may ascertain for themselves, apart from market reports, if they will but look in at the nearest fruiterer's or grocery stores, where, as everywhere now, American Apples are sold. In face of that fact, it is astounding to read in the *Westminster Gazette* an emanation from the London habitation of Lord Winchelsea's new home-produce venture—an inexact statement, that "there is no fruit so wholesome and luscious as the Kentish Apples and Pears, which are, alas, too often left on the trees to rot because the market is glutted with inferior foreign fruit."

It is an unfortunate fact that the foreign fruit, so far from being inferior, is often much superior in appearance and sample to our own. That every dispassionate person must admit, and in all cases where such fact is apparent, even in relation to other produce than fruit, it is so much better to say so, rather than to trade on falsehood. Did the Kentish Apples and Pears shown at the Crystal Palace or elsewhere from Maidstone represent the average sample of fruit produced in that or in any other fruit-growing county, then the Winchelsea House statement would be true. But, again, if it were in relation to the superiority of our market fruit, then it would still be false and misleading to state that such fruit was allowed to rot on the trees. No one yet ever found good fruit to be unmarketable, especially Apples. It is the rubbish which finds no sale, and would still be comparatively worthless were there no foreign fruit in the market. But America can, because of her climate, give a finish both in colour and in clearness of skin to her Apples, that ours generally fail to furnish. That must be always a point in favour of her fruit. It is but needful to examine the Gravensteins and Kings of Tompkins County, now seen in such abundance, to understand that fact, yet neither of these varieties can claim to be first-class by any means. Neither are to be compared to our best Bismarcks, or Cox's Orange Pippins, but how wonderfully superior are they to our average market samples. Then look at the grading. It is really wonderful, and shows what immense care is taken, not only in the handling of the fruit from gathering to packing, but also in the sizing. Positively from out of thousands of barrels of any one variety, it seems as if every fruit had been made in the same mould. When will our market-growers learn to take the same pains, and adopt the same methods? why still send to market in returnable wicker-baskets, the worst of all possible utensils to pack fruit in, when tubs or boxes would be so much better? and labelled conspicuously as home-grown fruit, if thought desirable, would no doubt find their way where home-grown fruit does not now, into the ubiquitous grocery store. There are foolish people who think the surest way to secure sale for home produce is to appeal through this system of labelling to people's patriotism; what a wretched delusion! Appeal to the sense of sight, and to the pockets, if possible, but in no other way can the purchasing-public be reached. Give the public the choice of medium and better—a few may prefer the better, if it really be so; but, in the majority of cases, the cheaper will be preferred. Thus, the Merchandise Marks Act, having branded various produce as of foreign origin, has but helped to advertise it as better than our own, because it often really is so, or because it is cheaper. Only the other day the Lincoln Board of Guardians had to give the preference to Danish butter, not because it was cheaper, but because, being better made, it would in bulk keep so much better. Yet these guardians were eminently patriotic. Very recently, in a fruiterer's-shop at Guildford, I enquired the price of some fine French Pears in a box. I remarked to the shopkeeper, "They are very fine!" And she replied, "Yes; and they pack them so beautifully." In a similar shop in my own town, I remarked on some home-grown Pears in an ordinary bushel basket—a poor sample—and the shopkeeper said, "If they were all alike it would not matter so much; but, at the bottom the fruits are inferior, and much mixed." When the home-grower does not hesitate in this way to cheat his own countrymen, why on earth should the shopkeeper or consumer have much concern for him? It is humiliating to us, as a productive nation, that there should be such lax methods in relation to our fruit. We cannot in all cases excel the foreigner in production, but we may always copy, and indeed, if possible, excel his methods. Our insularity and ignorant John Bullism have proved to be, in relation to fruit and other produce-training, grave stumbling-blocks. Far wiser is it to admit our failings, and earnestly seek to amend them. *A. D.*

MALAYAN ORCHIDS.

THE recently-published volume of the *Journal of the Linnean Society* includes a paper by Mr. Henry Ridley on the "Orchideæ and Apostasiaceæ of the Malay Peninsula. As regards habitats, the author says that:—"The greater part of the Malay Peninsula is covered with dense jungle, which extends to the tops of nearly all the hills, though the trees at about 4000 feet elevation are more stunted. In the low country forest epiphytic Orchids are comparatively rare, and when they occur are usually situated on the upper branches of the loftiest trees, so as to be nearly inaccessible. Terrestrial Orchids, chiefly Neottieæ, some of which are saprophytic, occur scattered all through the forests, usually sparingly, and owing to their dull or brown colouring, are often very inconspicuous. The Mangrove swamps and tidal river banks are often very rich in epiphytic species, which sometimes thickly cover the branches of the trees. In the drier and more sunny spots along the sea coast, and the more open rivers, species of Thrixspermum, Renanthera, and Aërides scramble over the rocks in thick masses. The open country, where the forests have disappeared, produces but few species; Spathoglottis plicata, Blume; Eulophia, Geodorum, Bromheadia palustris, Lindl.; Habenaria lacertifera, Benth., occur in dry, grassy spots. Liparis paradoxa, Rchb. f.; Thrixspermum lilacinum, Rchb. f.; and Vanda Hookeriana, Rchb. f., grow in the grassy swamps. A few common species are abundant in the orchards and gardens of the villages, such as Dendrobium crumenatum, Sw.; D. pumilum, Roxb.; D. leonis, Rchb. f.; D. micranthum, Lindl.; Cirrhopetalum vaginatum, Lindl.; Bulbophyllum clandestinum, Lindl.; Dendrocella trichoglottis, and D. filiformis, and Acriopsis javanica, Reinw.

"In many of the hill forests, Orchids become more more abundant as one ascends; the jungle becomes more open, and on the exposed rocky slopes, called Padang Batu (stone-fields) by the natives, a great variety can often be found. And in these places it is noticeable that species which in the low country are only to be found on the tops of the loftiest trees, are here to be seen growing on the ground, or quite low down on the stems and branches of the bushes and small trees. Thus, on Kedah Peak, at about 3000 feet elevation, the ground in some places is thickly carpeted with plants of Bulbophyllum, Cœlogyne, Dendrobium, Platyclinis, Eria, &c., in such a manner that one is up to one's waist in them.

"A very different Orchid flora is that of the limestone hills, which are scattered about all over the peninsula, but which chiefly run in a broken line north and south. These hills are usually mere isolated masses of crystalline limestone, of no great size or altitude, often many miles apart, but apparently forming lines parallel to the main chain of granite mountains which forms the backbone of the peninsula. Orchids are here very plentiful, growing both on the weathered pinnacles of rock, and on the small trees and shrubs growing in the crevices. The rocks of the Lankawi Islands, which have produced so many peculiar plants of all orders, are also of limestone.

"*Flowering of Orchids.*—The rainfall being very heavy, and spread over the whole year, there is no distinction of wet and dry seasons; this is probably the reason why there is no special flowering season for most orchids. The greater part of the species flower at longer or shorter intervals throughout the year, though perhaps more may be found in bloom in the first three months."

BELGIUM.

CHRYSANTHEMUMS AT GHENT.

THE 162nd exhibition of the Royal Agricultural and Botanical Society of Ghent was held on November 15, 16, and 17, and was devoted to Chrysanthemums, ornamental plants, and Orchids. Most of the exhibits in the Chrysanthemum classes were groups of well-flowered plants, cut blooms being somewhat few in number. The jury was composed of eighteen members, and divided into two sections. The first section was composed of Mr. C. Harman Payne, president; Mr. Dallé, of Paris, secretary; and Messrs. Bevan, H. J. Jones, Stepman, and Val Hal, members. The first section of the jury made the awards in the Chrysanthemum classes, and the second section was appointed to judge the ornamental plants, Orchids, &c.

The most important exhibits were in class 1, a grand sloping group of finely-flowered plants in pots, for which a special prize, a work of art, was offered. This was won by Mr. Ernest Fierens, the courteous and genial secretary of the society. There was a similar class and prize for the trade, and in this the winner was M. de Vriesere-Remens, who had a large group of very dwarf plants, rather smaller in size than those staged by Mr. Fierens. Other groups were staged in good form by Madame O. de Meulenaere-Fierens, De Saegher, and Van der Haeghen.

Cut flowers were staged by Messrs. Cannell & Sons, Mr. H. J. Jones, and the National Chrysanthemum Society, to each of whom was awarded a Silver-gilt medal. In the collection staged by the National Chrysanthemum Society was a very fine example of Madame Carnot (grown by Mr. Page, of Southgate), which was undoubtedly the premier bloom of the show, and of which the Jury made special mention. Other exhibitors of cut blooms were Mr. Fierens, Mr. de Vriesere-Remens, De Saegher, O. de Meulenaere, and Mr. Van der Haeghen. New seedlings were staged by M. Ernest Calvat, and M. de Reydelles. There were also classes for bouquets and vases of cut Chrysanthemums.

Most of the groups contained good standard varieties that are well known to English exhibitors, but there were some novelties very little known on our side of the Channel. The chief of these were:—

Captain L. Chauré, Japanese incurved, a large flower; colour, deep golden-yellow, shaded bronze.

Madame Eschenauer, Japanese incurved, very large, with deeply-grooved florets; colour, bright rosy pink.

Le Chartreux, Japanese, flat florets, rather long; colour, pure white, streaked and lined purple.

Dr. Duviard, Japanese incurved, florets of medium width; colour, deep amaranth.

President Nonin, Japanese, a very globular flower, with rather broad florets, deep and solid; colour, golden-buff.

Lawrence Zédé, Japanese incurved, very large, with florets deeply grooved and incurving; colour, bright rosy-pink.

Soleil d'Octobre, Japanese, flat florets, rather stiff and erect; colour, pale canary-yellow.

Congrès de Bourges, Japanese, tips of the florets slightly incurving; colour, deep rosy amaranth.

Madame Ed. Roger, Japanese incurved, a globular bloom, with incurving florets; colour, pale watery-green.

Madame Berger, Japanese, a very finely-built flower, similar in form to M. Chenon de Leché, of a peculiarly charming shade of pale rosy-mauve, the tips of the florets yellow; a large spreading flower.

Madame A. Brun, Japanese, another spreading flower, with flat drooping; colour, white, shaded and streaked with purple.

Madame Deis, Japanese, of medium size, flat florets, not too broad; colour, white, tinted in the centre.

All the above were staged by M. Ernest Calvat. The novelties staged by M. de Reydelles were all under a number, and although there were several promising novelties among them, any reference in the absence of names would be incomplete. In the various groups we noticed specially the following, not generally known in England:—

Souvenir de Cronstadt, Japanese incurved, very deeply-grooved florets, a close, compact flower; colour, golden ochre-yellow.

Vict. Vaissier, Japanese, very narrow intermingling florets, tips curly; colour, rich crimson terra-cotta, reverse golden tipped old gold.

Conté Luigi Sandini, Japanese, florets of medium width, rather stiff and twisted; colour, pure white.

Belle des Gordes, Japanese incurved, a hairy variety, with rather narrow-grooved florets; colour, a charming shade of shrimp-pink, tinted yellow; close and compact.

Madame H. de la Blanchetais, Japanese incurved. Several specimens of this were seen. It has grooved pointed florets, and is a dwarf free-flowering variety but as shown, rather hollow in the centre; colour pale yellow.

Madame J. Chauré, Japanese. A deep flower, florets narrow and sharply pointed, hairy at the tips; colour, reddish-carmine, golden reverse.

Leopold II., Japanese. A Belgian seedling with flat, intermingling florets; colour, pale salmon-blush.

Jean Liabaud, Japanese incurved. A big solid heavily built large flower, with very broad florets; colour, velvety-crimson inside; reverse, chestnut-bronze.

M. Delamotte, Japanese. Florets long and drooping, rather narrow and curly at the tips; colour, deep golden yellow.

Mdlle. Jeanne Rey, Japanese. Introduced into England a few years ago, but not seen yet in such good form as at Ghent; long twisted florets in the Good Gracious style; colour, pure white.

Perle Dauphinoise, Japanese incurved, solid, and compact in build; medium-sized florets, deeply grooved; colour, a rich shade of golden-buff.

Jean Tissot, Japanese, rather narrow florets; reddish-crimson, with reverse of old-gold.

Fleur Grenobloise, Japanese, long drooping florets, curly, twisted, and intermingling; pale pink, flushed purple on the reverse.

Madame Menus de Proli, Japanese; rather flat florets of medium width; colour, pure white.

Piquemal de Rozeville, Japanese, a very distinct and attractive addition to the hairy section; it has sharply-pointed florets, and the colour is dull crimson, with a reverse of golden-bronze, tips golden.

Mrs. W. Coupland, Japanese incurved, very solid in build; inside colour chestnut, reverse bronze.

Fleur Lyonnaise, Japanese incurved, rather flat florets; a hairy variety; colour dull rosy carmine, reverse golden.

In all the groups there were to be found some very fine examples of the older-known kinds, such as Madame Rozain, W. H. Lincoln, Etoile de Lyon, Madame Carnot, Hairy Wonder, C. H. Curtis, Mrs. C. Harman Payne, Col. W. B. Smith, Reine d'Angleterre, H. C. Sanderbruch, and many of the best in the Anemone section. Incurveds were not numerous, but a few of the newest were on view.

The exhibit staged in the name of the National Chrysanthemum Society comprised a representative collection of Anemones and Japanese, and were grown by the following members of the Society:—Messrs. T. Bevan, A. H. Page, J. Brookes, Turk, Martin, and Skeggs.

Chrysanthemums at the Antwerp Exhibition.

At the Antwerp exhibition Chrysanthemums have played a prominent part lately. The chief exhibitors have been MM. H. Vanderlinden, Alb. Lunden, and Meulepus, amateurs; Berckelaers, Vermeulen, and Verbooghen, nurserymen, who showed plants of much merit. Some exceedingly fine cut flowers were sent by M. Florent Van Hal. In addition to Chrysanthemums there were shown also some good specimens of Cattleya labiata from M. Lucien Linden; C. labiata, Vanda cœrulea, Oncidium Rogiersi, O. papilio, and other Orchids from M. Flor. Pauwels; various Orchids from M. Vuylsteke, including hybrid Cypripediums, Ethra, Zephyre, Erato, Loochristianum, Bellone, and Calliope; Cattleya aurea, several Odontoglossum Pescatorei, and other plants. O. crispum from MM. Janssens and Cie. was accompanied by Oncidium Rogersi of unusual size.

Ghent.—At a recent exhibition at Ghent I noted Cypripediums from M. Ed. Pynaert; C. Massaianum from M. Alf. Van Imshoot; a fine collection of mixed Orchids from M. L. Desmet Duvivier, including many pretty Dendrobiums, Phalænopsis, Oncidium macranthum, of a brilliant golden yellow colour; Cypripedium Hornianum, Cattleya Warocqueana marmorata, Miltonia vexillaria rubella, Promenæa citrina, Cypripedium euryandum, selligerum majus, Schroderæ, Pleione lagenaria, and Cattleya Bowringiana. The finest Cattleya shown was C. Peetersiana from M. Van Imshoot. MM. De Smet frères sent some handsome Palms, Ferns, Cycads, and other ornamental plants; among the Palms was Ptychosperma Alexandræ in full beauty. There were also Saribus olivaeformis, from the Comtesse de Kerchove de Denterghem; Rhapis flabelliformis, from the Société Horticole Gantoise; Phœnix senegalensis, from M. Em. de Cock; Areca Baueri, from the Comtesse de Kerchove; Rhapis humilis, from the Ghent Horticultural Society; and Areca sapida from M. B. Spae. The Comtesse de Kerchove showed twenty herbaceous and tree Ferns, among them large plants of Adiantum cuneatum, A. gracillimum, Cyathea medullaris, Lygodium venustum, Adiantum pentadactylon and trapeziforme, Microlepia hirta cristata, Hypoderris Browni, and Platycerium alcicorne. There was also a fine collection from M. B. Spae of greenhouse Araucarias, including some sturdy specimens. Among flowering plants I may mention Veronica spicata, Sparmannia africana, Eupatorium odoratissimum, Sonerila Hendersoni, Medinilla magnifica, with twelve blooms (from M. L. Desmet Duvivier), Grevillea Preisii and Lasiandra macrantha.

The Ghent Royal Agricultural and Botanical Society have just published a provisional programme for the fourteenth international exhibition (April, 1898); an important section will be that devoted to specimen plants, and good and old varieties. *Ch. De B.*

CETERACH OFFICINARUM, A NATIVE RESURRECTION PLANT.

Although it is well known that this Fern is similarly constituted to a number of exotic species, so that it can withstand with impunity an amount of drought and scorching which would be fatal to the majority of the Fern tribe, I think the following proof of its persistent vitality, which has recently been accidentally afforded to me, may be of interest. At the end of September, turning out the pockets of a coat which I had worn in the Levant in April and May last, I found wrapped up in a piece of paper a dried and shrivelled plant of Ceterach officinarum, which I had gathered on one of my up-country trips, presumably early in May, but certainly in that month, as I left on the 20th. Although it looked a hopeless wreck, it struck me that here was a fine opportunity of testing to some extent the truth of tales I had heard, of even long-kept herbarium specimens having been resuscitated, so I threw it into water overnight and left it to soak. The following morning the fronds had plumped up, opened out, and assumed the usual dark-green hue, while the roots had stiffened out and their growing points could be seen to be white and healthy. I planted it in a pan, put it into a frame, and in a very few days the central fronds began to resume growth, just as if nothing had happened. This means that after fully four months' drying, roots and all, be it remarked, the inherent vitality of the cells was absolutely unimpaired. The thoroughly dry condition of the plant was such as no herbarium specimen could well exceed, and as it is obvious that all functions must have been entirely suspended, I do not see any reason why specimens kept for considerably longer periods should not also be capable of revivification in like manner. This faculty explains the fact that Ceterach is so often found on the sunny side of old walls, where, during long spells of dry weather, they would otherwise be extirpated. As it is, we may under such conditions of drought find the little leathery fronds rolled up scaly side outwards, precisely in the fashion of Selaginella lepidophylla of the Texan plains, and only waiting for a good soaking to resume their pristine verdure. Ceterach officinarum, I may add, abounds in Asia Minor, and presents no appreciable difference either in form or size from the species we found native here. *Chas. L. Druery, F.L.S.*

REARING OF ORCHID SEEDLINGS AT CHARLESWORTH & CO.'S.

The rearing of Orchid seedlings, particularly on a large scale, is a branch of practice comparatively modern. Since Mr. John Dominy tried his "'prentice hand" at Exeter, and later on at Chelsea, others have followed with small batches, until in these later days Mr. Cookson and others are rearing them by the thousand. There is not much difficulty in getting a crop up of Dendrobiums and Cypripediums, both of which genera cross and germinate somewhat freely. There is much more difficulty in getting up a large brood of Cattleyas and its compeer, Lælia, and most difficult of all it is to get up seedlings of Odontoglossums. We were much struck the other day in going over Charlesworth & Co.'s Heaton Nurseries, Bradford, to see lines upon lines of seedling Cattleyas pricked out individually into 2½-inch pots, and all as regular in size as seedling succulents, the picture of health and beauty, judged by an orchidist's eye. There were over 2000 of them pot against pot, which when fully developed will occupy a large house by themselves. These tiny individuals are planted in the centre of their respective pots, among an admixture of chopped peat and sphagnum, interspersed with gritty silver-sand. The Cypriped seedlings, which are even more numerous, are treated on similar lines, and these nursery plantations of Orchids look not unlike beds on a late spring morning of our ordinary seedling Conifers. The house is a low span-roof one, and the whole get up is eye-pleasing and satisfactory.

"But, where are the seedling beds?" said I to Mr. Charlesworth. "Have you sown the Cattleya × Lælia seed on the top of pots with which living plants are growing?" "Come, and see for yourself." In a house which the casual visitor is not allowed enter, are batches of seedlings in various stages. There the same 2½-inch pot is used, there the same kind of material is introduced, and the seed when ready, is sown in regular horticultural practice way. There is a struggle between the short shaggy moss, and the Cattleya seedlings, some capsules producing greater quantity of fertile seeds than others, and some embryos jostling each other in the struggle for existence, while some others are wide apart. At any rate the results show conclusively that the old notion that existed, and which in many quarters exists still, that the more-difficult Orchids to germinate can only be encouraged to do so on the surface of a pot in which a living Orchid exists, is altogether an erroneous one. Mr. Charlesworth has

proved it up to the hilt in his manipulation of capsules and of thousands of seedlings, and the sooner the old practice is exchanged for the new one the better the results are likely to be. It wants some delicacy of handling to transfer these embryos from their seedling home to form individuals, setting away on their own account: but it is done, and in many cases, when they are more than a year old. Some, of course, much longer; but what must strike every one before whose eyes these seedlings pass, are the remarkable regularity and success of the undertaking. The seedling home seems to be subjected to strong tropical heat modified with a proportionate degree of atmospheric moisture: the growing house for the seedlings individualised considerably less so.

The eccentricities of abnormal production are, it is to be presumed, still in their infancy. Brassavola Digbyana is called in to intercross with both Lælias and Cattleyas, and the harvest of results is yet to be seen. The hybridising of Sophronites grandiflora with Cattleya Bowringiana, and the beautiful fresh-looking seedlings whose inflorescence is yet *in nubibus*, that are coming on in the Heaton-stove, will almost in their outcome revolutionise our Orchid produce work. What hybridisers and cross-breeders should avoid is the intermixture of colours particularly, not so much forms, as to be neither interesting nor beautiful, with the lineaments of their parentage defaced. Hundreds, one might almost say thousands, of Cypripedium seedlings would be better chopped up, so far as form and general appearance go. Mr. Charlesworth, in his intercrossings, is endeavouring to improve the various species and varieties, and up to now he has a remarkably interesting progeny. *J. A.*

AMERICAN SEEDS.

THE writer of the article entitled "American Seeds," which recently appeared in the *Gardeners' Chronicle*, is evidently ignorant of the remarkable advance we of the United States have made in the art of seed-growing, especially during the past fifteen years.

Unlike the European seedsmen, who have aimed to discover how best to grow each species under their local conditions of soil and climate, we have studied to discover what conditions are most favourable for the highest development of each species, and our country is so wide, and in climatic character so varied, that we have found some spot in the United States where the local conditions are the most favourable possible for the production of the highest type of nearly every vegetable. Americans are famed for the persistence with which they seek to do everything they have to do with the least expenditure of human labour, and we have so modified old methods of cultivation, and of saving seeds or developing new ones, that we can and do produce seeds of the best quality at a lower cost in hours of labour than our competitors across the water. It may be true that we have not many seed farms such as the writer refers to—we are too wise to waste our energies in that way, but there are sections where many farms are largely devoted to, and their owners have become experts in, the production of the seeds of some vegetable which grow to exceptional perfection in that locality.

Our American system is briefly this: The seedsman carefully studies not only each species but each variety he handles, to discover what are the requisites for its highest development. He finds the locality which will best meet these requisites. He develops stock-seed of the highest possible quality, and sends it to that locality to be used in growing, under his direction, a crop of seed for him. It is not strange that he in this way produces seeds not only of better quality, but cheaper than they can be grown on a farm, no matter how skilfully conducted, where the attempt is made to grow a great many varieties.

We fear our writer will need to do more than appeal to the patriotism of consumers in order to compete successfully with American-grown seeds. *D. M. Ferry & Co., Detroit, Mich., in Florists' Exchange.*

FRANCE.

CHRYSANTHEMUM SHOW IN PARIS.

ON November 17 to 22 a grand exhibition of Chrysanthemums, fruit and vegetables, was held in the Palais de l'Industrie. Chrysanthemums in pots predominated, but there was a good display of cut blooms, the raisers of new seedlings mustering in strong force. The National Chrysanthemum of London sent a deputation, consisting of Messrs. C. H. Payne, Thos. Bevan, and H. J. Jones, who were invited to serve on the second section of the jury. The attendance was large, and continued so during the whole time the show was open. There were no money-prizes, the awards consisting of bronze, silver, silver-gilt, and gold medals of the Society, with several special prizes by the President of the Republic, who personally visited the exhibition both on the first and second days, and by the Minister of Agriculture.

A large number of new seedlings was staged by such eminent growers as MM. Calvat, Nonin, De Reydellet, Héraud, Scalarandis, Chantrier, Morières, and Gormichon. Seven First-class Certificates were awarded to M. Ernest Calvat for his novelties, three to Mr. Scalarandis, and one each to MM. Héraud, Nonin, Quétier, and De Reydellet. Many of these new varieties will not be distributed until next spring. The cut-bloom classes were well filled, MM. Conillard, Calvat, Rosette, Anatole, Cordonnier, Oudot, Lévêque et Fils, Vilmorin-Andrieux et Cie., Ch. Molin, Ragueneau, and others, occupying an important position, and receiving suitable awards.

Pot-plants in groups were very fine. A grand display was made by Messrs. Vilmorin-Andrieux et Cie., Nonin, Patrolin, Bontreux, Delavier, Lévêque et Fils, De Fresne, and Geraud. Other exhibitors, such as Messrs. Yvon et Fils, Ragout, Vacherot, and Oudot, also had good exhibits. A grand Prix d'Honneur, a work of art, was offered by M. Félix Faure, the President of the French Republic, and was won by M. Auguste Nonin, who staged a wonderfully interesting collection.

The building is well lighted from an arched glass roof, and the show was held on the upper floor in the rooms in which the salon is annually held. Altogether there were fourteen of them, and they were none too large to hold the numerous exhibits. Without counting cut blooms, there were twenty-five immense groups, in some cases containing the exhibits of several prize-winners.

The wide stone-staircase leading to the exhibition was tastefully decorated on each side with Palms, Araucarias, Hollies, and foliage-plants, interpersed with Chrysanthemums; and on the top landing M. Truffaut of Versailles had a most attractive display of Hortensia Otaksa, which was purchased by one of the leading Paris florists, M. Lachaume, of the Rue Royale.

After the judging was over, a luncheon was offered to the jury. M. Viger, late Minister of Agriculture, presided; and after the usual loyal toasts, proposed the "Health of the Foreign Members of the Jury." Mr. C. Harman Payne replied in French, expressing his pleasure at seeing so fine a show, and thanking the Society in his own name, and in the name of his fellow-countrymen, for the honour done to them in being invited to take part in the operations of the jury. Mr. Henry de Vilmorin also made some remarks.

Throughout the show there was a great variety, large numbers of the blooms staged being unknown to English exhibitors. Hairy novelties abounded; and we may on some future occasion allude to the most promising more fully than we can do at present. There were 109 classes, without taking into account the exhibits *hors concours;* and the list of exhibitors, many of whom entered in a large number of the classes, amounted to ninety-five. Upwards of 150 awards were made. This was the first time the show was held in the Palais de l'Industrie, and it may be regarded as an unqualified success, although from an English point of view, staging cut blooms in glass-bottles is not nearly so attractive as on the ordinary green-painted show-boards.

CHRYSANTHEMUM EXHIBITION AT CANNES.

The second annual exhibition of this kind was held in the society's rooms on November 6, 7, and 8, and proved a great success from the one of last year. Amongst the exhibits was a fine bank of plants in pots and cut blooms from Messrs. Vilmorin & Andrieux's establishment at Antibes, which included all the leading kinds. M. Demole occupied the greater part of the show with a collection of well-flowered specimens, very fresh, and remarkable for their dwarfness, many of which were not more than 2 feet in height. Amongst the collection we noted Etoile de Cannes (Berthier), a new Japanese variety, brick-red, reverse gold; Mons. Thibaut et Koteleer (Delaux), reflexed of a deep rich crimson-gold reverse; Marie Conte, white, hirsute; Alpheus Hardy, with several good flowers. J. Nigon from Antibes staged a good collection, including Le Reveil, quilled, copper-red; Master Clewald, Japanese, straw colour, deeper in centre; Eugène Testout, brick-red, light buff reverse, very broad petals.

Several other exhibits made up the show, including a collection of 400 varieties, but they were very badly staged. Amongst other varieties of note were Collose Grenoblois (Calvat), which is probably one of the largest incurved known; the outer petals are quilled, and often lobed, the inner ones plain, colour deep lilac with silvery reverse, measurement of flower exhibited 10½ inches across, depth 4¾ inches. Le Littoral, rich golden yellow; L. Canning, Japanese, blush; Chrysanthemiste (Delaux), hirsute, crimson, reverse bronze, very dwarf; Fleur Lyonnaise, resembling the latter, but deeper in colour; Etoile de Feu, Japanese, fiery red; and lastly, Louis Lacroix, which resembles in form Madame Lacroix, but the colour is a rich pink—in fact, it stands apart from all others of that shade of colour.

All these are of sterling merit, and many of which have not yet found their way into English collections. *F. W. S.*

ORCHID NOTES AND GLEANINGS.

ODONTOGLOSSUM GRANDE.

MESSRS. SANDER & Co. obligingly send us from Bruges a flower of this species with an unusual number of segments. The peculiarity is due to synanthy, or the union of two flowers. The union and consequent loss of space determines the partial or complete suppression of some of the segments.

LÆLIA PUMILA.

The past season seems to have suited this pretty Lælia remarkably well, for it has bloomed abundantly in many parts of the country, and correspondents have sent some remarkable flowers of it. The most extraordinary was a pure white form sent by D. B. Rappart, Esq., Liscard, Cheshire; and now a very richly coloured variety comes from James Davidson, Esq., Summerville, Dumfries, N.B. This flower is very large, with broad petals and lip. The sepals and petals are of a dark rose-colour, with a still darker flush and a veining of purple. The base of the lip is coloured like the petals on the outside, and on the inside is tinged with orange. The front portion is of bright purple, with a lilac tip and margin. A peculiarity of the flower is that the ridges running down the lip terminate at the front with a raised, Cockscomb-like blade, much more highly developed them in ordinary forms. *J. O'B.*

CATTLEYA BOWRINGIANA.

How very useful this species is at this season, and how deserving to be grown in quantity.

It is an easily-cultivated species, and can be purchased at a cheap price. There are several varieties of it, at least, distinct shades of colour are observed amongst the flowers on different plants which are in our collection, and there is a difference in their foliage. The flowers of one in particular are of a very dark colour when seen in juxtaposition with others, and every year this dark variety produces the largest number of flowers upon its spikes. Last year we counted twenty-three on its largest spike, and at

the present time its two largest spikes have respectively, eighteen and seventeen flowers. It is an improvement upon C. Skinneri, not only because it has more flowers upon a spike, but on account of its flowering at this season, and for this reason it is the more valuable to private gardeners. *T. Comber, The Hendre Gardens.*

Cypripedium insigne Sanderæ.

A fortnight ago, "J. A.," writing about this Cypripedium in the *Gardeners' Chronicle*, inquired whether any one else than F. Sander & Co. introduced it, and whether the original plant was large enough to have more than one variety in it. No one else introduced it, and the original plant was so small (three or four growths), that only one variety was in the piece. The plant was divided, one part going to Baron Schroder, and the other part to Mr. Measures, both divisions flowering alike. *J. H. T.*



Fig. 112.—Fruits of Lapageria rosea.

Cypripedium villosum.

The variability of this fine old species is well shown at McArthur's Nursery, Maida Vale, London, in a small batch imported some time ago from the Shan States. In size and form they are nothing in advance of the old variety, but the distribution of the colours, especially on the upper sepals, is singular. One form has a yellowish-green dorsal sepal edged with white, and with only a narrow chocolate-coloured band up the centre; another has the upper sepal yellow, tinged half-way from the base with brownish-purple, and with a narrow white margin; a third has a resemblance to the variety known as Boxalli, but with a rose-tinted margin to the upper sepal: and a fourth is of that pallid hue rendered familiar in C. × Chas. Canham (villosum superbiens).

LAPAGERIA ROSEA IN FRUIT.

Being on a visit to Mr. Bedford, at Straffan House Gardens, co. Kildare, lately, I was a little surprised at seeing many fruits, some ripe, and others a-ripening, dangling from the roof of a cool and half-shaded greenhouse in which this fine species and its white variety are both well grown. I enclose you a sketch of the fruits (fig. 112) Mr Bedford kindly gave to me, by permission of the Hon. Mrs. Barton.

Lapageria rosea was introduced, I believe, by the only lately-deceased Tom Lobb to Messrs. Veitch & Son's Exeter Nursery in 1847, from the highlands of Peru or Chili. It is figured in the *Bot. Mag.*, t. 4447, and was named in honour of the Josephine Lapageria, who eventually became the Empress of Napoleon I., and who, as is well known, was a most devoted gardener at Fontainebleau and elsewhere during her happier days. Even yet her private apartments at Fontainbleau are redolent of Violets, her favourite flower.

Of course, it is quite natural to believe that this noble plant has often fruited before this, its jubilee nearly, in our gardens; but I never happen to have met with its fruits before, nor have I seen them figured anywhere; though this also must somewhere or other have long ago been done. No doubt, Lapageria would fruit freely enough if properly fertilised, and it is quite possible that some nectar-hunting hawk-moth, or fly, or busy bee on honey intent, has effected the fertilisation of the flowers at Straffan during the past most favourable season.

Lapageria as a genus has for its allies Philesia, Philageria Veitchii, the hybrid between Lapageria rosea and Philesia buxifolia, at Chelsea: and another rarely-seen genus called Callixene. Formerly placed in a distinct order, Philesiaceæ, they are now considered to be outlying, woody-habited, and scandent or climbing members of the great order of Liliaceæ, with the habit of Smilax, and the flowers closely resembling those of the homely Asparagus, save in their gigantic size, bell-shaped formation, and enhanced phases of coloration.

So far as I can judge by the specimens of the fruit kindly given me at Straffan, the seeds seem plump and well-formed, and capable of germination. They have been duly sown under suitable conditions, and I will report progress, if any, at some future time: meanwhile, others may tell us of the fruiting of this plant in British gardens. *P. W. Barding.* [Not very uncommon.—Ed.]

Book Notice.

An Introduction to Structural Botany. Part II. *Flowering Plants.* By D. H. Scott, Ph.D. Adam and Charles Black.

Some time ago we had occasion to notice in favourable terms the first part of this little treatise, devoted to the flowering plants. We can speak no less favourably of the present instalment. It is a thoroughly original book, and one well thought out, so that the main points of structure, whether they be continuous and homologous, or whether they be disconnected and contrasted, stand out clearly. In the case of the flowering plants, three typical illustrations suffice to supply a comprehensive idea of structure, and to furnish a more or less connected history. With the so-called flowerless plants, the case is different. Not three but twenty-three "types" are selected for description and discussion, and the gaps between them are many and wide. Each one, then, has to be considered separately to a much greater extent than is the case with the groups of flowering plants. The slime fungi and the bacteria are instances of great groups whose true nature and position are still uncertain. The book is excellently clear, but it is not one for the study—it must be used in the laboratory, and its statements verified by personal investigation. It will be less valuable to those who have not the resources of a laboratory at their disposal, but to those who desire to get a clear, connected account of the distinctive characteristics and life-history of the great groups of the vegetable kingdom, we most heartily commend Dr. Scott's little volume.

METHODS OF PLANT PROPAGATION.

Stocks for Azaleas and Rhododendrons.—In my article on grafting indoors, the stock advised for Azaleas was Azalea pontica, a robust purple-flowered variety, or any robust form of A. indica; and for the hardy Rhododendrons, R. ponticum. Both of these kinds of stocks may be raised from seed. The soil in which the seeds are to be sown should consist of a light sandy peat, made very firm by pressure, the seed scattered carefully on this, and a light covering of the same kind of soil sifted over it to the depth of about half an inch. After this is done, add water with a fine rose-pot sufficient to wet the soil to the bottom of the pots, and place in a cool pit; and as a considerable length of time is required for germination, and cannot be shortened, the seed should be sown as soon as it is ripe, and the pods begin to open. Unless very thick-leaved, the seedlings may be left undisturbed till they are 1 to 2 inches high, when they may be pricked off singly into small 60's, making the soil firm about the roots, and shading them till the roots have penetrated the soil. When the roots appear in numbers on the outside of the ball, the plants are fit for being grafted, provided it is then the proper season.

Ferns.

Had I been writing, say, about thirty years ago, there would, perhaps, have been no necessity for a separate article on the propagation of Ferns and Selaginellas, but now, owing to the public taste having improved, the demand for Ferns, and their analogues, Palms, has been so greatly extended that their rapid increase and propagation have become a matter of some gravity to the florist and the private gardener.

An American florist has been staying with me lately, and naturally we "talked shop," as well as about the prospects of the Presidential election. Replying to my inquiry and knowing that "cuttings" would not go down in my case, he said, "Well, I call

culate that our firm's annual output of small Ferns in trays (small flat boxes) and potees (thumb-pots) is over two millions, besides fifty thousand larger plants in 48 and 60-size pots, and a few hundred large specimens." His is only one of the many establishments that cluster round New York, north, south, east, and west; but I make no doubt that some of our special metropolitan Fern specialists, notably our good friend, Mr. H. B. May of Edmonton, could even cap this statement. Nor is this immense quantity a matter for wonder, considering the marvellous elegance and grace inherent in Ferns.

It may be noted here that in those parts of England where it grows wild, the Royal Fern (Osmunda regalis) is called the flowering Fern; and the lovely "Moonwort" (Botrychium lunaria) is also called the "flowering Spleenwort," for the reason that the fertile fronds of each are so covered with thecæ that they assume a spike-like character, and appear above the ordinary fronds in a marked manner. So the remark of a lady to me on one occasion, "but they don't flower, do they?" was, after all, not inappropriate, as at first sight it may seem to be.

No plants that we cultivate is more suitable to associate with flowering plants in a collection than these, while the very low rate at which they are produced and sold makes them accessible to all classes. As an ardent lover of nature, and an admirer of art, I am inclined to think that the prominence given of late to their decorative value has as much to do with our advancing art-culture as the multiplication of art galleries, and the teaching of "free-hand" and other drawing in schools and colleges, while the canon of taste, emanating from South Kensington, "that in art, as applied to decoration, nothing should be faithfully depicted, especially on our wall-papers, carpets, dress, &c.," cannot apply to them, as their variety is so amazingly great, that I almost doubt if even an imaginative artist could evolve out of his inner consciousness, and transfer to canvas a form of Fern-frond that does not already exist in nature. Almost all Ferns have a peculiar subterranean stem, from which, at intervals, spring the leaves called in this case fronds; this stem is termed the rachis, a name equally applied to the petiole of the frond by some authors. In Polypodium, Phlebodium, and notably in Davallia (where it forms the Hare's-foot in the Canary Islands variety), it more frequently exists just above the surface of the soil, so that it is obvious that by merely taking the Fern and shaking off all the soil adhering to the roots, the rachis may be cut up into small pieces, each piece carrying a frond, or one in its crozier-like bud state. Repot the pieces so obtained and place them in a close pit at a temperature of about 60° to 70°. When the young fronds appear, they require to be syringed or sprayed gently with tepid-water, and afforded fresh air for an hour or two in the middle of the day according to the amount of bright sunshine present, afterwards keeping them closely shaded from the direct sunlight the whole of the time. When the fronds have attained their full development, air should be afforded constantly, and the amount of shade reduced.

Another self-evident way of propagating Ferns is by division; but it will be noted that in thus treating the useful Maidenhair, Adiantum cuneatum, and the noble A. Farleyense, as well as others in a less degree, that unless the pieces used are from the outside of the stock-plant, they will rarely if ever make good plants, and even in some cases they will barely grow; if, therefore, you have enough outside pieces for your purpose, do not pot these.

Some varieties of Ferns propagate themselves in such numbers in well-appointed ferneries, that little trouble need be taken in artificially multiplying them. Notably among these are the bulbiferous Spleenworts, as Asplenium bulbiferum, A. biforme, Woodwardia radicans, and others, which constantly produce on their fronds little bulbils, each bearing a frond or fronds, and these only need detaching and laying on moist soil, covering at the same time with a bell-glass, to rapidly develop into useful plants. Nor is this all, for the genus Cystopteris furnishes us with a form (C. bulbifera) which produces on its mature fronds quantities of little heart-shaped hard bulbils, which are easily detached, and may be used like the bulbils of the Aspleniums before-named to propagate this genus of Ferns. Some of the Blechnums and also the Polystichums, notably P. proliferum and P. Wollastoni, likewise increase by means of buds or bulbils at the base of the mature fronds, which, being pulled off or cut cautiously, may, in the same way, be used for the increase of their kind. *Experience.*

(To be continued.)

THE WEEK'S WORK.

THE KITCHEN GARDEN.

By CHARLES HERRIN, Gardener, Dropmore, Maidenhead.

Forcing Seakale and Rhubarb.—These subjects will now force early, and, failing suitable accommodation, they may be forced with tree-leaves and stable-manure in the beds where grown. The leaves should be those of the Oak or Beech, and the stable-litter should make one-quarter of the whole. The warmth of such a bed of leaves and litter will last a long time. The earthenware Seakale-pot, or butter-tub with the end out, or a temporary frame-work of rails, can all be made of use in keeping the fermenting materials off the crowns. When a frame-work of sticks is used, some long litter should first be placed over it, so as to prevent the leaves falling down. A stake should be thrust into each bed, which should be about 3 feet in thickness, the stake being withdrawn once a day, in order to ascertain the degree of warmth, which, if leaves form the larger proportion, is not likely to be excessive. If hard frost or much snow fall, it may be found necessary to stimulate fermentation by the addition of stable-litter.

Miscellaneous Items.—Cardoons should receive the final earthing-up or a thicker covering of hay-bands. Materials for covering the tops should also be in readiness, in the event of sharp frosts setting in. Bracken, where obtainable, is excellent for this purpose. Celery should be similarly treated; that which is fully grown being earthed-up when dry as high as possible, and the banks being finished with a slope at the top to throw off moisture, Bracken or similar materials being conveniently placed to be used for covering the tops in severe weather. The tops of Globe Artichokes are best left unprotected as long as the weather keeps open; the stools, however, should be protected with a covering of leaves or coal-ashes spread around them 6 inches in depth; this will afford sufficient protection for the present, and later, should severe weather occur, litter or Bracken may be laid round about the tops. Celeriac not being quite hardy should have some earth drawn up over the tubers, and some of the largest may be lifted and laid-in out of the reach of frost, or put into the root-house for present use. The smaller roots will increase in size as long as the weather keeps open, and they are better for being left in the ground, a little extra protection being afforded them in frosty weather. Cauliflower plants from the second sowing made little progress during the wet autumn weather; any that are now of sufficient size should be potted up, if deficiency in the quantity required exists. After being potted a few days, give water in sufficient quantity to soak the soil through, and winter in a cold frame. Others in hand-lights and frames should have the lights removed whenever the weather is fine and not frosty.

THE HARDY FRUIT GARDEN.

By G. WOODGATE, Gardener, Rolleston Hall, Burton-on-Trent.

Insects and their Destruction.—The present season, when the trees are clear of foliage, should be utilised in ridding them of insects harbouring in the buds, bark, and on the shoots. The most destructive of these, I think, are the blue-head caterpillar of the figure-of-8-moth, Diloba cœruleo-cephala; Lacky-moth, Bombyx neustria; mottled Umber-moth, Hybernia defoliaria; Winter-moth, Cheimatobia brumata, as well as some others, lay their eggs in different parts of Apple, Plum, and Pear trees, and which hatch out at the time when the leaves and flowers expand, and on which the caterpillars feed. The figure-of-eight moth may be caught in autumn and early winter by means of a lamp placed under a covering or roof of boards, dressed with coal-tar, to which the light attracts them, and to which they adhere. Spraying with petroleum and soft-soap mixture is likewise useful. The caterpillars which appear in the spring may be got rid of in great numbers by shaking the trees, and heavy applications of water by means of a force-pump. The cocoons should be scraped or brushed off the bark. The Lacky-moth lays its eggs in compact ring-like bands on the shoots, and from these black hairy caterpillars hatch out about the beginning of the month of May, and at once spin a web over themselves. The caterpillars, when full grown, turn to chrysalids in cocoons suspended anywhere near their food-trees, but do not enter the soil. During the winter these bands of eggs should be sought for, and the shoots on which they are laid cut off and burnt forthwith, or otherwise destroyed without removing the shoots. The better way to lessen their numbers is to cut off the shoots and web with which the caterpillars surround themselves, and burn the whole lot, or to plunge them in a soapy mixture containing a considerable quantity of petroleum. Paris Green is useful for spraying infested trees in leaf. Do not let rank grass or herbage be found near the trees. It may be mentioned on Miss Ormerod's testimony, that the cuckoo being fond of hairy caterpillars is useful as a helper. The mottled Umber-moth appears in October and November, and the remedies advised for the Winter-moth, namely, grease-bands placed on the tree-stems in October, or earlier, are suitable for this one. The grease used on the bands may be ordinary cart-grease if it be free from tar, or use Horne's Fruit-tree Dressing, remembering that whatever is employed should be prevented from soaking into the bark, and the best means to this end is to first place a good wide strip of grease-proof paper round the stem. Some of the railway-axle greases, which are made of tallow, palm-oil, water and caustic soda, answer well as smears; others, on the other hand, are harmful. All greases get hard, and require to be renewed twice or thrice during the autumn and winter. For destroying the eggs of these moths the kerosene emulsion should be used in March, scrubbing the trunk and limbs with it. The emulsion is made with ½ lb. of hard soap, preferably whale-oil soap, and 1 quart of water. This is heated till the soap is dissolved, when 1 pint of kerosene-oil is added, and the whole is stirred well together. Water is then added till the kerosene forms one-fifteenth of the whole. There are other recipes, but this is a good one. The gardener will be aware of the fact that the wingless females of the Winter-moth are carried to the trees by the males whilst pairing. To meet this difficulty the lamp lit at night and the tarred roof will be found useful. The soil underneath trees which were infested this year should be skimmed off and charred, thereby destroying many chrysalids. If this cannot be done, fork it up and expose it to the air and to the birds. Prune late all such infested trees, and burn the prunings, the moth laying its eggs at the ends of the shoots. This does much good. The caterpillar of the mottled Umber-moth is a "looper."

THE ORCHID HOUSES.

By W. H. WHITE, Burford, Dorking.

Temperatures.—During the winter months the temperature of the East Indian-house may range from 60° to 65°; that of the Cattleya-house from 55° to 60°, the Mexican and intermediate-houses about 55°, and Odontoglossum-house 50°. These figures ought to be adhered to in mild weather, but whilst hard frost or cold piercing winds occur the warmth may fall a few degrees with benefit to the inmates. The higher degree of warmth named is proper during the evening, and the lower degree of warmth is what the thermometer should show in the morning. Cultivators of Orchids are usually aware of the ill effects of highly-heated pipes, in causing Orchids to get into an unsatisfactory condition, and they take means to avoid heating the pipes to an injurious extent. If the apparatus is not equal to the work it has to do without making the pipes unduly hot, the amount of heating surface should be increased, and the present mild weather is favourable for undertaking this sort of work. In houses where the proper temperature cannot be maintained without excessive firing, and alterations cannot be made, the houses should be covered at night with thick canvas, garden mats, &c. The use of fire-heat in the house in which Odontoglossums are cultivated should always be kept as low as the figure given above, or yellow thrips will increase rapidly, causing the loss of much of the foliage of the plants. If the stages are made of battens, and the hot-water pipes are beneath them, a more healthy condition of things is attained by covering the hot-water pipes with roofing-tiles, and over these a thick layer of moss. It is also an advantage to have a small ventilator made close to the spot where the flow-pipe enters the house, because it is at that point that the pipes are hotter than elsewhere. As also

helping to keep the heat from coming directly into contact with the plants, a few yards of canvas-shading may be tacked under the stage, and so arranged that it will hang down in front of the flow-pipe. This piece of canvas, if kept moist, will help to overcome the aridity found at this part of the house. At the present time the indicated degree of day-temperatures will have to be maintained by fire-heat, and on light, bright days as much higher as the sun-heat will raise it; and at such times a moderate amount of air should be admitted to the plants by the top and bottom ventilators. If the wind is cold, slightly open the bottom ventilators only, there then being less risk of chilling the plants than if the top and bottom ones are both opened.

Damping Down.—A great deal will depend upon the position and construction of the houses in affording aërial moisture, and in naturally dry houses the temperature should be kept a few degrees lower than those given, which will render damping down a less frequent necessity. In the East Indian-house the paths and stages should be well damped down in the morning as soon as the right degree of temperature for the day has been reached, and soon after noon, always wetting the ground below the hot-water pipes and out-of-the-way corners. The Cattleya and Mexican-houses need not be damped so heavily as the preceding one, the majority of the plants being at rest. The intermediate-house where there are Vandas, Sobralias, Cymbidiums, Miltonias, Epidendrums, and the cooler-growing Cypripediums in full growth, will require to be well damped down twice daily. The cool or Odontoglossum-house with a northern aspect will need very little damping of the floors, &c., at any time during winter; but a span-roofed house running north and south will probably require damping once or twice every day, according to the state of the weather outside.

THE FLOWER GARDEN.

By Hedley Warren, Gardener, Aston Clinton, Tring.

Remarks on Work in General.—Recent frosts having deprived most of the trees of leaves, there should be a general clearing up of the pleasure-grounds and flower-garden. Do not in doing this leave leaf-heaps about, as a wind might scatter them again, but forthwith take them to the leaf-heap. Having cleared up the leaves, the walks and roads may be rolled. The leaves that collect under shrubs and trees should not be left, except they can be covered slightly with suitable kinds of soil, but raked out for at least some distance from the sides. If other work does not press, the shrubberies may be pointed over with a digging-fork, first affording a dressing of rotten stable-manure to those borders which are impoverished. To rake up all the tree leaves, and not afford some kind of manurial aid to the shrubs, is a sure way of bringing them into a bad condition. The leaves collected into the rot-heap should be compacted by treading them, and then covered with branches of evergreens or sheep-hurdles, so that they may not get blown about. The leaves of the Oak may be kept apart, these making the best kind of leaf-mould; whilst other and softer kinds are useful in mixing with stable-manure in the making of hot-beds. The planting of trees and shrubs may be carried on during mild, but discontinued in frosty weather.

Compost Heaps.—It is usual at this season to cart in the scrapings of the roads and parings from grass verges, &c., which when thrown together in a heap with some stable or farmyard-manure, by the return of spring, make an excellent compost for dressing flower-beds. It is a beneficial and lasting dressing for the summer bedding-plants. Where not obtainable on the estate, road scrapings may usually be bought for about 1*s.* a load.

Pruning and Clipping of Shrubs.—Hedges of Yew, Privet, and other, may still be clipped; and specimen Conifers and choice shrubs, whose branches are likely to be injured by heavy falls of snow, should be suitably supported. Very useful in this matter are stout cords secured to the branches and the main-stem, these not being so much observed as props and stakes. They can be removed in the spring. Tea and other Roses should be covered up on the approach of hard weather, and it is prudent to have a quantity of bracken litter, &c., stored in a dry place in readiness for this purpose. Ventilate the frames in which Violets are growing every day for some hours, except during frost; doing the same to the frames holding bedding Calceolarias, Violas, Antirrhinums, Pentstemons, Phlox, and half-hardy plants.

Cotoneasters.—These plants being in fruit at the present time are very attractive objects in our pleasure-grounds, where they are used for covering rockwork, or left to ramble over the ground on the margins of shrubberies at will. When once well-established, Cotoneasters grow vigorously; and the species C. Simonsi associates well with most other shrubs, being of a more upright habit than most others, and it is effective either when planted in groups, or as a solitary plant. C. thymifolia (microphylla) is a dwarf evergreen variety, and may be freely used in the rockery, where it is most effective when allowed to grow unrestricted. The berries are small and bright-coloured. This species when planted at the margin of shrubberies, becomes an effective plant in time, giving very little trouble, needing no pegging-down of the shoots, and owing to its slow rate of growth, not much trimming. C. frigida (affinis), unlike those I have noted above, is a shrub of robust growth, reaching a height of 15 and more feet, with long deciduous, lanceolate leaves, and bearing numerous corymbs of white flowers, succeeded by orange-scarlet fruits the size of those of C. microphylla. It is a highly ornamental shrub during the late autumn. It is best planted in groups, single specimens seldom growing symmetrically.

PLANTS UNDER GLASS.

By Jno. McIntyre, Gardener, Woodside, Darlington.

Zonal Pelargoniums.—The plants which have been grown on for winter display will now be generally in bloom, and should be afforded genial warmth, so that the flower-trusses may expand, and a succession of them be long maintained. It is an error to afford these zonals much pot-room, as the less they have in reason the better they flower. Assistance should be given with guano-water.

Carnations for flowering during the winter season, if raised from layers this year, potted as soon as they were well rooted, and kept growing, should have made good plants, ready for their last shift, which should be into 6-inch pots. Let the potting-soil consist of good pasture loam, free from wire-worms, one-half; dried cow-dung, which has been rubbed through a ½-inch meshed sieve, one-fourth; clean river or pit-sand, one-fourth. The soil should be made moderately firm about the old ball, and the latter should not be sunk more than half an inch below the new soil. Place the plants in a low pit, having a temperature of 50° warmth, and keep them there till they are about coming into bloom. Carnations older than one year flower more abundantly than younger plants, but the flowers are, perhaps, smaller, if earlier. I am cutting from such plants which will at the end of their season have been a period of eight months in bloom. For large plants of Souvenir de la Malmaison, pots 12 to 14 inches in diameter are not too large. Such plants require lime-rubbish and charcoal mixed with the potting-soil, in order to keep it porous and sweet. Healthy plants may be afforded frequent applications of farm-yard manure-water.

Alocasias.—These, if tuberous-rooted, should now be kept dry, water being applied at lengthy intervals of time to keep them from shrivelling. A. Sanderiana should not be dried off, but kept growing, and it will therefore require water at the roots applied regularly throughout the winter; it should also be afforded a place at the warmest part of the stove.

Stove Plants in General.—During December and January keep the heat of the stove at about 60° by night, and 65° to 70° by day, the object of the gardener being to rest the plants as much as possible, without bringing them into bad health. With a lower temperature, less root-watering is required, and the use of the syringe must be curtailed; still, the plants must not be allowed to get infested with aphides, red-spider, thrip, or scale, and a constant war must be carried on against these foes to good plant culture. If winter-flowering plants are grown, these should be given a house or warm-pit to themselves. If a house for the special cultivation of Codiæum Crotons exists, the warmth therein kept may range from 5° to 10° higher than the plant-stove, and more moisture be afforded in the air so as to keep red-spider in check. The plants should be heavily syringed with warm water on sunny days, and if mealy-bug be present on them, a wine-glassful of petroleum to 1 gallon of water may be used occasionally. Spotting of the leaves is common on plants that are regularly syringed in the winter, and this is very disfiguring to the plants. When these plants are much infested with insects in variety, cleaning by hand is the only sure method of ridding the plants of them. Strong brine may be used on the bark and main branches, first removing that which is loose, which will destroy all insects and their eggs. A winter wash for fruit trees not infested with Winter or mottled Umber-moth, is made of caustic-soda and crude potash, each 1 lb.; water, 10 gallons, used at the temperature of 120° Fahr. This also destroys moss and lichens. American blight, woolly aphis, (Schizoneura lanigera), is one of the commonest of Apple-pests, and difficult to get rid of. First prune off the dead masses of old bark, in the crevices of which the broods come forth in the spring to infest the trees. Clear off all rough, rugged bark, and carefully inspect the young bark that is in process of covering the ends of branches and shoots which have been pruned, this being a favourite laying-place; some strong soapsuds brushed into these parts will destroy the eggs or insects. As dressings to be used over all parts of infested trees, I may recommend petroleum, which is best for small young trees, no more being used than to dab the spot where "wool" is noticed, not letting it run down the bark. The dressings which smother the insects are tolerably efficient and safe in the using; for instance, lime-wash in which a little size is put to make it adhere the better; a lather made with yellow soap, and laid on with an old paint-brush; clear water or soapsuds forcibly applied with an engine. Always act with alacrity whenever any wool is observed on a tree, and uncover the roots and saturate the soil about them with soapsuds, the insect affecting the underground parts of an Apple-tree as well as the branches and stem.

FRUITS UNDER GLASS.

By W. Pope, Gardener, Highclere Castle, Newbury.

Earliest Peaches and Nectarines. — The earliest house may now be closed, affording it at the first very little artificial heat, a temperature of 40° to 45° at night, and 50° to 55° in the daytime being sufficiently high. Air should be admitted moderately when at the latter figure, and closing the house at 65° with sun-heat. Syringe the trees, &c., every morning and afternoon till the buds show colour, after which syringing should be discontinued; the paths and other available surfaces being, however, moistened as before; and always keep slightly open a few ventilators or lights at the top of the house so as to get rid of any excess of moisture, and keep the air sweet and in motion. A bed of well-sweetened fermenting materials placed in the house will lessen the need of fire-heat, and the moisture rising therefrom will benefit the trees more than applications of water with the syringe. Should the inside border require water, it should be applied at a slightly warmer temperature than the mean of the house, and enough afforded to thoroughly moisten every part of it. Water will not be necessary if the roof-lights were taken off the house during the last few months; otherwise it should be carefully seen to. Outside borders should be covered with some litter, leaves, &c., and protected in some manner from rain and snow.

Succession and Late Houses.—Pruning, cleaning, &c, should now be undertaken. Should scale infest the trees, a dressing of soft-soap (8 oz. to the gallon), and hot water, being as good a remedy as any. Allow the trees full exposure, if possible, till the time arrives for starting them, as frost cannot injure the wood if it be well ripened; although in the case of trees grown in pots, the latter must be protected with a covering of leaves or dry litter. If hotwater-pipes can be emptied in these late houses, it may prevent injury being done to them by frost.

Strawberries in Pots.—The earliest batch of plants may now be got indoors, for which an early Peach-house just closed for starting, will be a suitable place if a Strawberry-house be not at command. Each pot, before putting it indoors, should be examined as regards the drainage, and to remove worms in the soil; remove decayed foliage, slightly loosen the surface with a pointed stick, and afford a top-dressing of loam and manure in about equal proportions, and a sprinkling of bone-meal or some kind of fertiliser. Afford water with a fine rose-can, and should the pots be too full to hold of a top-dressing, the fertiliser alone may be added and slightly stirred in. Should the crowns, in consequence of rain and cold not be so plump and well-matured as may be wished, it will be well to plunge the pots in a slight bottom-heat of fermenting leaves for a week or two, made up in a cool-house or pit, getting the plants near the glass. All stock intended for early forcing should ere this have been housed in cold pits or frames, admitting plenty of air to them in all weathers, and affording water to the roots when needed. Plants for late work may be left outside, provided the pots are plunged in coal-ashes or similar material.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the PUBLISHER.

Letters for Publication, as well as specimens and plants for naming, should be addressed to the EDITOR, 41, Wellington Street, Covent Garden, London. Communications should be WRITTEN ON ONE SIDE ONLY OF THE PAPER, sent to early in the week as possible, and fully signed by the writer. If desired, the signatures will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.

Newspapers.—Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.

APPOINTMENTS FOR THE ENSUING WEEK.

SATURDAY, Nov. 28.—Royal Botanic Society.

TUESDAY, Dec. 1. National Chrysanthemum Society, at the Royal Aquarium, Westminster (three days).

SALES.

MONDAY, Nov. Dutch Bulbs at Protheroe & Morris' Rooms. Ornamental Shrubs, Liliums, and Dutch Bulbs, at Stevens' Rooms.

WEDNESDAY, Dec. 2. Dutch Bulbs at Protheroe & Morris' Rooms. Great Sale of Roses, Fruit Trees, Border Plants, Palms, Liliums, Shrubs, &c., at Stevens' Rooms.

THURSDAY, Dec. Dutch Bulbs at Protheroe & Morris' Rooms. Twenty cases of Araucaria excelsa, fresh seeds, at Kentia Balmoreana, &c., Dutch Bulbs, &c., at Stevens' Rooms.

FRIDAY, Dec. 4. Dutch Bulbs at Protheroe & Morris' Rooms. Orchids from Messrs F. Sander & Co., at Protheroe & Morris' Rooms.

SATURDAY, Dec. Dutch Bulbs, Lilies, &c., at Stevens' Auction Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—41·3°.

Colonial Horticulture.

In past years we have frequently expressed our regret that our colonial horticultural societies should so sequaciously follow the pattern and methods of the European flower-show. Of course it is natural that the colonist should cherish the flowers that he has known in the old home, but that he should do so to the neglect of the beauties and novelties around him, seems to indicate a regrettable want of appreciation. Of what comparatively minor interest to a lover of plants could a Chrysanthemum show be in New Zealand, Tasmania, or West Australia, as compared with a selection from the rich and beautiful floras of those countries? The objection that these wild plants which have not yet been made amenable to the will of the gardener, or modified consistently with the taste of the florist, are therefore of less interest, is easily met. It is only to take them into cultivation, and do to them what their forefathers have done for the Chrysanthemum or other plants.

It is impossible to realise the enormous variety, the interest, the beauty, the potentiality of new developments, which now lie well nigh untouched, whilst our colonial friends are shaking the old world kaleidoscope. From this point of view it was with peculiar interest that we learnt from the *Queensland Horticulturist* that Mr. F. M. BAILEY, the colonial botanist to whom some botanists are under so many obligations, had been requested to read a paper on the subject before the Queensland Horticultural Society. We entirely sympathise with Mr. BAILEY in the remarks he makes:—

"Being asked for this paper has pleased me more than I can express, for it shows plainly that the members of the Queensland Horticultural Society are willing and anxious to devote some little of their attention to the cultivation of the indigenous plants. I hope and trust that the tide will now set in, in favour of the plants indigenous to the colony, and that public opinion will henceforth be as strong in favour of our plants as the feeling was against them in years gone by.

I would like to remark, however, that to obtain satisfaction from any plant it must be given a situation suitable to its requirements; therefore, before planting I would suggest that the planter should take into consideration the natural habit of each plant he purposes cultivating—to give it the room it requires for full development; that is to say, he should not place a shade-loving species in full blaze of the sun, or a kind which enjoys a sunny aspect in a dense shade; or an inhabitant of the tropics in the coldest or most exposed situation in the southern gardens. In selecting, it must be borne in mind that under cultivation most plants are found to change, so that because a plant in one of our dense scrubs seems straggling and unsightly there is no reason why, when given room and a sufficiency of light and air, it should not form a handsome, compact shrub; therefore, should its flowers or foliage be thought worthy, do not discard it, but take it in hand at once, remembering that with plants of dense forests and scrubs, there is a constant fight being carried on for those essentials to their existence, viz., light and air, and in search of which they are ever reaching upwards. Thus we find those straight, erect stems formed which are of value to the builder and timber merchant. In only a few instances do we find this tall, naked stem a peculiarity of the tree or shrub.

In a paper read at the Brisbane meeting of the Australasian Association for the Advancement of Science on "The Peculiarities of the Queensland Flora," I drew attention to plants that had come under my notice in which there was a tendency to sport into a variegated foliage. For plants of this character, the plant cultivator should ever be on the look out. They are not so uncommon as some may be led to imagine, and would well repay cultivation for decorative purposes. With the above few general remarks, I pass on to enumerate, under different headings, some of the indigenous plants which I consider worthy the attention of our nurserymen and gardeners."

The enumeration is much too long for us to reprint, suffice to say it contains many of the most beautiful and interesting plants known to us, and not a few which have not been seen here in a living state.

Horticultural Institute.

We have received the following communication on this important subject, which it is now desirable should be freely discussed from a practical point of view:—

"My letters upon the above subject have not passed unnoticed; they have been commented upon in your columns, and I have received numerous replies all admitting the desirability for the establishment of a Home of Horticulture, but no one has made any suggestion as to ways and means for its accomplishment. I have given considerable thought to this subject, and am persuaded that with united effort a Home of Horticulture may be found.

"Time is of value, and none should be lost. To make a move in this matter I would venture to submit a plan for the proposed building, and a scheme for providing the necessary funds. The selection of the most suitable site is of the first importance, and I would therefore suggest that a meeting should be convened at an early date for this purpose.

With your permission, I propose very shortly to put this scheme before your readers so that they may have a comprehensive view of its details. I trust I may count upon your kind co-operation. *James L. Wood, Oakleigh Park, Whetstone.*"

OUR ALMANACK.—Secretaries of Horticultural Societies and others, are earnestly requested to forward *immediately*, the dates of Show Fixtures and of Meetings of Botanical and Horticultural Societies of any kind for 1897, for insertion in the Almanack, to be published in our issue for January 2.

LINNEAN SOCIETY.—An evening meeting will be held on Thursday, December 3, 1896, at 8 p.m., when a paper will be read by Rev. GEORGE HENSLOW, F.L.S., &c., entitled "Does Natural Selection play any part in the Origin of Species among plants?"

SOCIETY OF ARTS' MEDALS.—At a meeting of the Society of Arts, held on November 18, the Society's Silver Medals were awarded for some of the papers contributed during the last session. Among those thus distinguished were:—Dr. D. MORRIS, C.M.G., M.A., for his paper on "Bahamas Sisal Industry." Dr. MORRIS, who has on several previous occasions favoured the Society with valuable papers and lectures respecting the fibre industries, well illustrated in this paper the importance of this new fibre plant, which is largely grown in the Bahamas. To EDWARD W. BADGER, for his paper on "Fruit and Vegetable Drying." The system of artificial drying applied to fruit and vegetables is very generally adopted in the United States, and Mr. BADGER clearly showed the value to the British farmer of the system by which large quantities of fruit and vegetables may be saved in times of plenty. To G. SCOTT ELLIOT, for his paper on "The Commercial Prospects of English East Africa and British Central Africa." These territories, as a centre of British commerce, must ever be a subject of interest to Englishmen, and Mr. ELLIOT'S useful paper on this was especially noticeable, on account of his reference to the portions of Africa which might be found to be suitable for European settlement. All these gentlemen are valued correspondents of the *Gard. Chron.*

NATIONAL ROSE SOCIETY.—The annual general meeting will be held on Thursday, Dec. 3, at the rooms of the Horticultural Club, Windsor Hotel, Victoria Street, at 3.30. The annual dinner is to be held on the same day and place, at 5.30 P.M.

NATIONAL CARNATION AND PICOTEE SOCIETY (*Southern Section*). **NATIONAL AURICULA AND PRIMULA SOCIETY** (*Southern Section*).—The annual general meeting of the above societies was held in the room of the Horticultural Club, Hotel Windsor, Victoria Street, on Wednesday, Nov. 18, a good muster of members attending. The report of the hon. treasurer shows a very satisfactory state of affairs in the Carnation Society, eighty new members having joined during the year, making a total of 305 members. Upwards of £200 were offered in prizes at the exhibition held at the Crystal Palace in July last, but owing to the unfavourable season, many classes were not filled, and but £171 was paid for prizes, leaving a balance in hand of £236. The Auricula Society numbers seventy-one members, as against sixty-eight last year. £64 was paid in prize-money, a balance of £10 12*s.* being carried forward. The presidents, vice-presidents, auditors, and committees, remain the same as last year, with one or two exceptions. The Rev. H. HONYWOOD D'OMBRAIN, owing to advanced age, has resigned the chairmanship of committee of the National Carnation and Picotee Society, much to the regret of the members. Mr. E. COLBY SHARPIN was unanimously elected to fill the vacant post. Owing to his numerous engagements and increase of business, Mr. DOUGLAS has been reluctantly compelled to resign the office of secretary to both societies. The loss of his services is much to be regretted, and in gratitude for his past services he was unanimously elected a vice-president of both the societies, and the following resolution was adopted with acclamation:—"In accepting with much regret the resignation by Mr. JAMES DOUGLAS of his post as hon. secretary of the two societies, the members desire to place on record their hearty appreciation of the devotion with which he has always striven to promote to the utmost the interests and prosperity of the societies, and to express to him their grateful

thanks for his long, faithful, and efficient service." Mr. T. H. HEADWORTH was appointed hon. secretary and treasurer to both societies.

THE CHRYSANTHEMUM SHOW OF THE YORK FLORISTS.—This important event in the Northern metropolis took place in the Fine Art and Industrial Exhibition Buildings, York, on Wednesday, November 14. This was the seventeenth show held under the auspices of the Society of York Florists. The Society receive wide and liberal support, and it is enabled to offer a large amount of money to be competed for, and some of the prizes are such as to tempt the best growers in the kingdom to enter the lists, and now and then they are carried away; but as a rule the local exhibitors are quite capable of holding their own against all comers. The exhibition, which consisted chiefly of Chrysanthemums, included shrubs, conifers, fruit, vegetables, and various table decorations.

THE CURATORSHIP OF THE LIVERPOOL BOTANIC GARDENS.—The Parks Committee of the Corporation, at a special meeting held recently, Mr. Alderman BOLD in the chair, appointed Mr HARDMAN to be chief of all the public parks and gardens in the city, and Mr JAMES BARRON, of the Botanic Gardens, Glasgow, to be his deputy, and resident Curator of the Botanic Gardens, Edge Lane. Five selected candidates attended before the committee. The vacancy at the Botanic Gardens arose through the retirement of Mr. J. RICHARDSON on superannuation.

CANADIAN FRUIT.—A present of fruit grown in Ontario reached the QUEEN last week at Windsor Castle. It was contained in thirty boxes, and included Apples, Pears, Grapes, and Quinces all in splendid preservation. They were forwarded from the High Commissioner's office in Westminster on the receipt of a telegram from Her Majesty that she would be exceedingly pleased to accept the present. It is stated at the Canadian Office that the crop of Canadian Apples alone this year amounts to 4,000,000 barrels, 500,000 barrels have already been shipped this autumn to England.

CHANGE OF SEX IN THE SWEET CHESTNUT.—In *Malpighi* Mr. MIYOSHI is an account and a figure of a specimen of the Sweet Chestnut, in which the male



Fig. 113.—[illegible]. SEE P. [illegible]

or staminate catkins have produced pistillate flowers and ripe Chestnuts. Professor MEEHAN says that these cases of the development of a female flower are due to a relative excess of nutrition which determines the formation of female flowers. The catkin in the case of the Chestnut must lose its usual slender form and caducous habit, and become more or less persistent.

THE CYPRIPEDIUM GROUP.—In the current number of the *Orchid Review*, Mr. ROLFE has an interesting and valuable paper on Cypripedium and its allies. As to the genera, Mr. ROLFE makes four, thus distinguished :—

Ovary 3-celled, with axile placentas ; sepals valvate.	
leaves plicate ; perianth persistent ; seeds subglobose.	SELENIPEDIUM.
leaves conduplicate ; perianth deciduous ; seeds fusiform.	PHRAGMIPEDIUM.
Ovary 1-celled, with pariental placentas ; seeds fusiform.	
leaves plicate ; perianth persistent ; sepals valvate.	CYPRIPEDIUM.
leaves conduplicate ; perianth deciduous ; sepals imbricate.	PAPHIOPEDIUM.

CHISWICK GARDENERS' ASSOCIATION.—At the fortnightly meeting of this suburban body of gardeners, on Thursday, November 19 an interesting and able paper was read by Mr. S. T. WRIGHT, the President of the Association, entitled "Intense Culture," as applied to the small gardens usually attached to the better class of suburban houses.

A THANKSGIVING PUMPKIN.—The American Society in London celebrated a thanksgiving day on Thursday by a dinner in the Grand Hall, Hôtel Cecil, at which Mr. BAYARD, the American Ambassador, was the principal guest. A curious feature of the banquet was an enormous Pumpkin weighing 175 lb. This big vegetable, after constituting the attraction of several American horticultural exhibitions, has been placed at the disposal of the American Society in London by the grower, Captain Kromer, late 3rd New York Cavalry, Schohaire co., New York State.

HIGHGATE AND DISTRICT CHRYSANTHEMUM SOCIETY.—The Secretary of this Society desires to inform our readers who are Chrysanthemum growers for exhibition, that a silver cup, valued at 10 guineas, will be offered by Mr. HORACE REGNALT at their next exhibition as a prize for forty-eight cut blooms, of which half must be incurved, half Japanese varieties, with not more than three blooms of any variety.

MORPHOLOGY OF PINE CONES.—Professor MEEHAN, in sending some specimens with leafy bracts, writes as follows :—You will be interested in some specimens of Picea Alcockiana which I send with this. It was a great struggle between the effort to make a cone and that to make a branch. I have numbers on several plants. In some cases the branch, and in others the cone, nearly wins. I think it clearly proves my conception of the morphology of the cone which I have often presented. In my first paper "Adnation in Coniferæ," to which the Editor kindly adverted at the time, I maintained that the outer epiderm of a Pine-branch was composed of adnate (perhaps I should have said connate) leaves. In a subsequent paper "On the bractea in Larix," I showed it was these leaves, becoming free in anthesin, that formed the bractea, and the buds developed from the axis usually producing the phylloidal branch, or needle. I believe my views are now generally accepted, and these specimens confirm them. Other interesting questions are involved. Though perceiving that environment has to do with the modification of form to some degree, I have never felt the facts warranted the conclusion that it was any great factor in the evolution of species. This I would refer to varying degrees of internal energy. The mere accident of environment seems out of place in a methodical system where so many things must work together in harmony for the machine to go at all. But there are at times strong facts in favour of changes in plants from environment to a degree that we regard as specific. From my own researches, I am satisfied that Pinus fallax, and Picea pungens of the Rocky Mountains, have changed from the original Pinus ponderosa and Picea Menziesii, and that this change occurred solely from the sudden elevation of the land. Still, these changes are slight. Indeed, many regard the four forms but as two species, for all the many ages since the conditions were changed. The present specimens of P. Alcockiana are certainly due to conditions of environment. There are about a dozen plants, from 2 to 3 feet high. Transplanted in the spring of 1895, it was with difficulty we got them through the drought and torrid heat of that exceptional season. The growth was but an inch or two. Other species of the order, planted with them, died absolutely ; the vital force was certainly very low. I have shown that there must be a check on exuberant vital energy before the female element in vegetation has a chance to exert its power ; and a still greater check before the male element has any show at all. In the case of this Picea, the "environment" had sufficient influence to control the vegetative energy to some extent. My paper on the "Relative Characters of Allied European and American Species of Trees," confounded Mr. DARWIN, as he frankly admits in his *Domestication of Plants and Animals*. But I think I can now see that a change in a single particular may so divert the current of life-energy, that by mere mechanical law other changes must of necessity follow. For instance, the more dense and compact growth of the European Linden, as compared with the American Linden, may be fairly referred to the different lengths of the growing season. But the density or laxity, once acquired, the arrest or development of other parts of the plant would be a natural consequence of diverted energy ; and the manifestations would, also of necessity, be in precisely the same lines in any tree under the same original environment. The uniformity in these relative characters which struck Mr. DARWIN, myself, and others, as so remarkable, would now seem to be remarkable if they were not so. At any rate, it seems clear, that if the conditions of environment prevailing in 1895 should continuously operate on Picea Alcockiana, we should have a permanently dwarf and very distinct form.

NOVELTIES. — Messrs. JAMES CARTER & Co. forward to us a list of about 150 varieties of flower-seeds introduced for the first time by their house since 1857. Some of the flowers are of Californian origin, and were originally made known to botanists many years before by DOUGLAS. Others are the result of long and careful selection at the hands of Messrs. CARTER. In some years only two or three novelties were introduced, whilst in 1868 no fewer than fourteen varieties were offered. Certainly Messrs. CARTER may claim to have made our gardens brighter than they found them.

CATTLEYA LABIATA. — Mr. MOORE obligingly sends us from Glasnevin a flower in which the two lower sepals have assumed the yellow markings in the centre of the disc, which is found in the lip. From the same source we have a flower of Cattleya superba, in which the lateral petals are concrescent with the column, thus altering the whole appearance of the flower.

CHRYSANTHEMUMS AT ANTWERP.—The Antwerp Royal Horticultural Society organises, at each of its Chrysanthemum shows, special classes for specimens more than a year old. I this year noted the following plants sent by M. VERMEULEN :—Souvenir de Toulon, plant 6½ feet across, seventy-five flowers measuring nearly 8 inches ; Amiral Avellan, with fifteen blooms nearly 8 inches across by 5¾ inches high ; M. Benj. Giraud, plant over 3 feet high, nearly 2 feet above the pot, with 100 flowers measuring nearly 4 inches across ; Col. N. B. Smith, with fifty flowers nearly 8 inches across ; Reine d'Angleterre, with fifty blooms 9¾ inches across ; Madame Taulier, plant nearly 5 feet across, 75 flowers 5 inches across ; Florence Davis, plant about 5 feet in diameter, seventy-five blooms nearly 6 inches across ; M. Ad. Girand, plant 5 feet 8 inches high, 2½ feet above the pot, with sixty flowers 7½ inches across ; G. W. Childs, plant over 3 feet across and in height, pot included, with fifty flowers measuring 9¾ inches ; William Seward, plant 3 feet high, bearing fifty flowers 7¾ inches across ; Mrs. Irving Clarke, with thirty blooms 10½ in. diameter, nearly 6 inches high : and M. Demay Taillandier with thirty flowers 9¾ inches across and 6½ inches high. The favourite varieties in Antwerp are : Mrs. Dr. Ward, Aïda, Kentish White, l'International, Silver King, President Armand, Reine d'Angleterre, M. Ch. Molin, Louis Voraz, M. Max. de la Rochterie, Madame Carnot, Mr. H. F. Jones, and Irving Clarke. *Ch. D. B.*

WINCHESTER GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—A lecture was given on Tuesday, November 17, by Professor GILCHRIST, B.Sc. (in connection with the Agricultural Department, University College, Reading), on "Soils and Manures." Prof. GILCHRIST showed on a map the different kinds of soil in the district and in various parts of the country, but dealt chiefly with the soils of the district and how to treat them. He also stated what some kinds of soil were deficient in, and what to apply to them, especially in cases when iron, magnesia, and lime, were needed. The application of lime, and its uses, were dealt with, as well as different kinds of manures, and the crops they were most suitable for.

SCIENTIFIC HORTICULTURE.—The third expedition of the American Society for the Promotion of Scientific Horticulture is [was] on the southern slope of the Himalaya mountains, to which position it has worked its way from the Island of Formosa during a year and a half. The search for Orchids is the principal object of the expedition. Besides Orchids, however, a number of fruit, ornamental trees, vegetable, flower, and other seeds have been collected which the society proposes to distribute free to any one interested in the subject of horticulture. The general object of the expedition is to obtain some seeds of the remarkable vegetation of Asia, and then to acclimatise them to the climate of America. Some of the most enthusiastic members of the society expect, by grafting, to produce a variety of new fruits from the combination of our domestic and the foreign specimens. The party is in charge of Professor JAMES A. CRADDOCK, M.A., Ph.D., the pomologist of the society. He has four young men with him. The expedition has been exposed to the usual dangers of trans-Asiatic travel ; it has had encounters with the natives of the countries through which it has passed, and has braved the fever that lurks in the night air, not to speak of the insect pests. GEORGE C. ASPER, the secretary of the society and organiser of the expedition, lives at 440, West Forty-seventh Street, New York City. He is a member of the firm of GEORGE C. ASPER & Co., the proprietors of the Mohawk Valley Nurseries, at Schenectady, N.Y., and a similar establishment in California. He is considered an authority on horticulture, being a botanist, pomologist, and entomologist. He is delighted with the evident success of the expedition, which he declares is the most successful of any the society has sent out. The expedition now in Asia left New York in March, 1894. It proceeded to Yokohama, Japan, from San Francisco. The work of research was begun in Formosa, and continued there for several months. Specimens received from there are of great beauty. The American Society for the Promotion of Scientific Horticulture was organised fourteen years ago. The officers are :—MAXIMILIAN DURAND, President ; GEORGE C. ASPER, Secretary ; JAMES CRADDOCK, pomologist ; D. MONTGOMERY LIDDELL, M.A., Ph.D., entomologist. *Extract from the "National Nurseryman," Rochester, New York.*

Nutritive Value of the Horse-Chestnut.—M. Paul Gay contributes to the *Annales Agronomiques* for Sept. 25 a paper on the "Nutritive Value of the Horse-Chestnut," and the results of his experiments in this direction are summed up in the following terms:—"1. Horse-Chestnuts possess an alimentary value at least three times more than that of the richest forage Beet-roots. The agriculturist can, after this statement, calculate the actual value of these fruits according to the economic conditions under which they are found, and he will see if it be wise to use them after he has estimated the total cost necessitated by collecting the harvest. 2. Horse-Chestnuts, when cooked, have an alimentary value far exceeding that of the raw Chestnuts. 3. Horse-Chestnuts are readily eaten by cattle; further, they have no injurious influence over the richness and quality of the milk. Calves feed on this milk without unpleasant results. 4. Pigs show a marked dislike to this food; it must not then be thought possible to utilise it for feeding these animals. This question of the value of the Horse-Chestnut for feeding stock seems to us now completely answered. Advocated and employed for a century and a half, its use could not be made general owing to a popular prejudice, which attributed to it violently poisonous effects. We will hope that recent scientific research made in this direction, and knowledge of the alimentary value of this food, will dispel the foolish belief, and that henceforth agriculturists will decide to utilise a product so little costly and so long misjudged."

Effect of Certain Bacteria upon Leguminous Plants.—According to the *Annales Agronomiques* for Oct. 25, the chief conclusions chronicled by F. Nobbe and L. Hiltner in their recent publication as to the effect of certain bacteria upon different varieties of leguminous plants, are as follows:—"The experiments furnished a very decisive result; they showed, in fact, clearly, that the beneficial action of bacteria on the development of plants is only surely felt when the plants are inoculated with the particular bacterium peculiar to the species. As a rule, there can be no substitution for the special bacteria of the plant under consideration of a bacterium from another species without considerable impairment of the action of these micro-organisms. The same expements showed further: (*a*.) That the tubercles of leguminous plants remain without influence on the development of the aërial part of these plants, as long as the soil itself furnishes nitrogen in sufficient quantity. (*b*.) That, from the moment when the nitrogen of the soil begins to fail, plants that have no tubercles, or which are furnished with insufficiently-formed tubercles, cannot supply the required amount of nitrogen, and the leaves of leguminous plants in especial cannot be regarded as organs capable of assimilating the free nitrogen of the atmosphere. Soil is fertile only when duly aërated and in a moist condition. Air is necessary for the germination of seed; for the respiration of roots, it oxidises organic matter. This combustion results in the production of carbonic acid, which dissolves the lime and keeps the soil permeable. It burns up the ammonia under the influence of the ferments (microbes), and induces the formation of nitrates, the most powerful elements of fertility. Water is equally indispensable; in dry soil germination does not take place, or, if when the plants are raised drought supervenes, the young plants languish and end by dying. When the plant has formed its first leaves, they are submitted to the action of solar radiation and give off by transpiration a considerable quantity of water; if the roots are not supplied with well-watered soil, the leaf loses its turgescence, ceases to absorb carbonic acid from the air, and to form vegetable material. In dry soil the ferments remain inert, the nitrates are no longer formed, the plants are ill nourished, develop rapidly, quickly ripen their seed, but the crop is indifferent. The two primordial conditions of plant-life are, therefore, the aëration of the soil and its moisture." "*Sur le Travail du Sol*," *par M. P. P. Dehérain, Annales Agronomiques, October* 25, 1896, *pp.* 449, 450.

Tomatos.—The *Connecticut Experiment Station Report*, 1895, states that—1. A forcing-house Tomato crop yielding about 2 lb. of fruit for each square foot of bench-room, takes in the vines and fruit, for every 100 square feet of bench-space, not less than—

	Grams.		Lbs.	Oz.
Nitrogen	163	Equivalent to nitrate of soda	2	5
Phosphoric acid ..	67	Equivalent to dissolved bone-black	0	14
Potash	362	Equivalent to muriate of potash	1	9

Of this from a fourth to a fifth only is in the vines. 2. To enable the plants to get these fertiliser elements as required, there should be a large excess of them in the soil, perhaps double the quantity given above. 3. Every 100 lb. of Tomato fruit takes from the soil approximately

	Oz.		Oz.
Nitrogen	2·2	Equivalent to nitrate of soda ..	11
Phosphoric acid	0·9	Equivalent to dissolved bone-black ...	5
Potash	4·6	Equivalent to muriate of potash ..	10

4. It is possible to grow a crop of forcing-house Tomatos, amounting to 2 lb. or more per square foot of bench-space, perfectly normal in size, colour, taste, and chemical composition, by the aid of commercial fertilisers alone, and in soil composed of coal-ashes and peat.

Aralia chinensis.—It is comforting to know that the plant commonly called in gardens Dimorphanthus mandschuricus, may henceforth with propriety, be called by the more euphonious name which heads this note. According to Dr. Harms in an article on the genera Aralia and Panax contained in the twenty-third "Band" of Engler's *Botanische Jahrbücher*, the following specific names are also synonyms. A canescens (Siebold & Zuccarini); A. elata (Seemann); D. elatus (Miquel); A. mandschurica (Maximowicz), A. Planchoniana (Hawe). A. spinosa is considered to be distinct.

National Chrysanthemum Society.—The general committee met at Anderton's Hotel, Fleet Street, on the 23rd inst. Mr. B. Wynne, in the Chair. The secretary submitted a report respecting the recent Jubilee show, and some correspondence relating thereto, some extra prizes awarded by the judges being confirmed. A report was presented from the schedule sub-committee recommending that the usual October Exhibition should take place on October 12, 13, and 14; the November Exhibition on the 9, 10, and 11; and the early Winter show on December 7, 8, and 9; the fixture of the usual Early show in September was postponed. The foregoing recommendations were confirmed. Twenty-two new members were elected, including one Fellow, and the secretary stated that 182 candidates for membership had been elected since the commencement of the year.

National Dahlia Society.—The annual meeting of this Society was held at the Horticultural Club, Hotel Windsor, on the 24th inst., Mr. E. Mawley, Chairman of the Committee, presiding, the leading Dahlia cultivators and exhibitors being well represented. The annual report, which was read by the Hon. Secretary, Mr. T. W. Girdlestone, set forth that if the number of blooms shown at the Crystal Palace last September was less than usual, and especially of the Cactus varieties, it was not to be attributed to any diminution of zeal on the part of Dahlia growers, but to the abnormal character of the season, as an almost rainless spring and summer prevented the plants from making their natural growth at the usual time, even when the plants were well watered; and then the rain coming just when the plants should have bloomed, they instead started into growth as vigorously as to promise to flower indefinitely, many being in full growth when the show was held, and some growers were unable to exhibit in consequence. If the extent of the show was below the average, yet fine quality was displayed in the flowers. The class for a vase or epergne of Dahlias for decorative purposes was a pronounced success, and formed an excellent addition to the display. The cottagers' and amateurs' class was not so satisfactory as could be desired, as the persons who exhibited were not those it was hoped would have been attracted; what was desired was new competitors or beginners in Dahlia culture. It would, perhaps, prove more useful in this direction if the class was reserved for those who had never before won a prize at the show. The report concluded by giving a list of the varieties of Dahlias certificated at the last exhibition; and by expressing thanks to the donors of special prizes. The financial statement showed receipts from all sources, including the balance in hand at the beginning of the year, amounted to £142 19*s*. 1*d*., and the entire expenditure, including the payment of prizes awarded at the Crystal Palace, to £134 8*s*. 9*d*., a balance in hand of £8 10*s*. 4*d*. being carried forward. The list of Cactus Dahlias was revised, such varieties as Beauty of Eynesford, Countess of Radnor, Henry Cannell, Kynerith, Lady Henry Grosvenor, and Viscountess Folkestone, were struck out as being of inferior form, and the eight certificated varieties of the present year—viz., Iona, Mrs. Gordon Sloane, Mrs. Leopold Seymour, Starfish, Keynes' White, Cycle, Fantasy, and Charles Woodbridge added. It was resolved to drop the term decorative from the schedule, there being now so many fine varieties of the true Cactus type. It was announced that the annual exhibition would take place at the Crystal Palace on September 3 and 4 next. The Rev. Chas. Fellowes was re-elected President; also the Vice-Presidents and committee. Mr. E. Mawley was re-elected Hon. Treasurer, and Mr. T. W. Girdlestone Hon. Secretary. Separate classes were made for a vase of Dahlia blooms, and for an epergne, both designed to show the decorative value of the flower, foliage and grasses being added. It was also resolved to create two new classes for six blooms of one variety, viz., white and red. A resolution was unanimously passed, requesting the Council of the Royal Horticultural Society to arrange for a meeting of its committees about the middle of September, as at that period of the year a good many seedlings are in the best condition. The proceedings closed with a hearty vote of thanks to the Treasurer for his services in that capacity, and for presiding; and also to the Secretary.

Shirley and Surrounding Districts Gardeners' and Amateurs' Mutual Improvement Association.—The monthly meeting was held at the Parish Room, Shirley, Southampton, on Thursday, the 19th inst., when Vice-President T. G. Harper, Esq., presided, there being a good attendance. Mr. E. T. Mellor, B.Sc., London, Lecturer in Biology, Hartley Institution, Southampton, gave a lecture entitled, "Plants and Air," illustrated by chemical experiments and diagrams. The exhibits included cut blooms of Chrysanthemums and a few plants.

Loughborough and District Gardeners' Mutual Improvement Association.—This newly-formed Association, of which W. C. Burder, Esq. (head of the firm of Messengers & Co) is President for the ensuing year, held their first meeting on Tuesday, November 17, in the Co-operative Rooms, Woodgate. Mr. A. Hamshire, presided. There was a good attendance of members present to hear Mr. English of Kingston Hall Gardens read his paper on "Makeshifts in the Garden," which was well received, other members stating their views upon the subject-matter brought before them. A unanimous vote of thanks was accorded Mr. English for his paper. It is intended to hold fortnightly meetings during the winter months, and monthly meetings in the summer. The committee have met with much encouragement, already they have six "Vice-Presidents," and a list of nearly fifty members. On December 1, Mr. A. Hamshire, of Beaumanor Gardens, reads a paper on "Grape-Vine Culture." December 15, Mr. A. J. Willsher, The Gardens, Stanford Hall, on "The Carnation." Mr. D. Roberts, gardener at Prestwold House, is the Hon. Sec.

NEW PUBLICATIONS. — *The Hybridisation of Roses*, the National Rose Society's Prize Essay, by WALTER EASLEA.—*Proceedings of the Agri-Horticultural Society of Madras.*—*Cottage Gardening*, edited by W. ROBINSON, vol. viii. (CASSELL & Co.).—*Elementary Geology*, by G. S. BOULGER (COLLINS, SONS & Co.).—*An Introduction to Structural Botany*, Part II., *Flowerless Plants*, by D. H. SCOTT, Ph.D. (ADAM & CHARLES BLACK).—*Lindenia*, Part XLVII.—*Botanical Microtechnique*, by Dr. ZIMMERMANN, New York (HOLT & Co.).—*Natural History of the Ancients*, by Rev. G. M. WATKINS (ELLIOT STOCK).—*Pflanzen Physiologische Anatomie*, Dr. HABERLANDT (Leipsig: ENGELMANN).—*Transactions of the Edinburgh Field Naturalists' Society* (BLACKWOOD & SONS).—*Florilegium Haarlemense* (Haarlem: DE ERVEN LOOSJES).—*Le Chrysanthème* (LYON H. BOUVIER).—*The Principal Household Insects of the United States* (Washington: Government Printing Office).—*Physique Meteorologique*, par LEON DUMAS (HUY, MIGNOLET). — *A Beautiful World* (London: BALL).

PLANT PORTRAITS.

BEGONIA FESTIVA, a Pæony-flowered variety of a rose colour, raised by M. Crousse of Nancy. *Illustration Horticole*, t. 67.

BERTONERILA × MADAME LUCIENNE LINDEN, leaves dark green with a central silvery blotch, and numerous small white spots dispersed over the whole upper surface. *Illustration Horticole*, t. 68.

BOUGAINVILLEA GLABRA VAR. SANDERIANA, *Moniteur d'Horticulture*, November 10.

BOUGAINVILLEA SPECTABILIS, *Moniteur d'Horticulture* November 10.

CATTLEYA TRIANÆI VAR. IMPERATOR, L. LINDEN. A variety with the lip as deeply coloured as that of Lælia purpurata. *Lindenia*, t. DXXVIII.

CARRIEREA CALYCINA, Bixaceous shrub from south-west China, *Revue Horticole*, November 1.

CLERODENDRON SQUAMATUM, *Revue d'Horticulture Belge*, November.

DENDROBIUM FORMOSUM, ROXBURGH, VAR. GIGANTEUM, *Lindenia*, t. DXXVI.

EPIPHRONITIS × VEITCHI, *Revue Horticole*, October 16.

EPISCIA CHONTALENSIS, *Revue d'Horticulture Belge*, November.

IRIS ATROFUSCA, *Garden*, October 24.

LESPEDEZA HIRTA, *Meehans' Monthly*, t. 10.

PEAR MARGARET MARILLAT, *Bulletin d'Arboriculture*, October.

PHALÆNOPSIS LEUCORHODA, *Revue Horticole*, November 1.

PHILODENDRON MAMEI, spathe-hooded, ivory-white; tube, deep crimson; spadix as long as the spathe, white. *Illustration Horticole*, t. 66.

PRIMULA ROSEA GRANDIFLORA, *Garden*, November 7.

ROSE CRESTED MOSS—ENTIFOLIA CRISTATI, *Rosen Zeitung*, November 5.

TRICHOPILIA CRISPA VAR. MARGINATA, *Lindenia*, t. DXXVII.

EUCALYPTUS CALOPHYLLA.

A HEALTHY young tree of this handsome Gum-tree has lately flowered freely in the temperate-house at Kew. It was planted out in a bed of peat at the south end of the house about three years ago, and it has grown with exceptional vigour, Eucalypti generally growing spindly and weak in this house. E. calophylla is one of the most ornamental of the hundreds of species known. I have seen large examples of it in South Africa, where it is grown in gardens, and also as a street tree; it was also recently noted in *Garden and Forest* as one of the most beautiful of the Eucalypti grown in California, where it endures several degrees of frost. It forms a sturdy, leafy, pyramidal tree (fig. 113), and flowers when from 12 to 20 feet high, the flowers being borne in crowded clusters on the young branches, each flower consisting of a green woody cup-like calyx, and a brush-like cluster of white stamens 2 inches across. The leaves are ovate-lanceolate, about 5 inches long, bright green, with a whitish margin, the midrib, petiole, and bark of the young branches being bright red. The species was introduced to Kew by Allan Cunningham from King George's Sound, where it form an immense tree. It flowered at Kew for the first time in 1843, when an excellent figure of it was published in the *Botanical Magazine* under the name of E. splachnicarpon. The wood of this species is said to be of considerable value, being hard, close-grained, and finely veined. *W. W.*

HOME CORRESPONDENCE.

ABNORMAL PLANTS. — At one of the recent meetings of the British Association at Liverpool, during the discussion which followed a paper on certain features of Fern reproduction, the objection was raised that, as the examples brought forward were abnormal, they were not a fit subject for strict argument as to the origin of alternation of generation with which the discussion dealt. Now, considering that in these abnormal types we have a very large number of plants which, for no reason that we can determine, have broken away from the usually hard and fast lines of the species, not merely in outward form, but also in the very important matter of their mode of reproduction, it seems to me that this objection, if recognized, would close a field of research which is especially likely to yield fruitful results. In the first place, among these abnormal forms which have received the extremely unscientific name of "monstrosities," we have examples of sudden and persistent changes of type, which mean nothing more nor less than the appearance of new species in so far that they differ much more widely from the specific type than many species do from one another. In the second place, to confine study of the morphological side of Ferns to the normal varieties is to pick out those whose life cycle is known, and to ignore precisely those which have broken through the standard regulations, as it were, and are therefore the most likely, by their varietal character, to show long lost ancestral traits as well as fresh modifications of existing ones, since every cultivator knows that once a "break" is made, the progeny varies both ways. Suppose, for instance, a case of complete reversion to an antique type supplying the missing clue to the origin of alternate generation were found, this being a solitary plant, would rank as an abnormal form of some species, and be disqualified for scientific consideration. The "sports," "freaks," "monstrosities," are all pursuing certain laws of growth, of which practically nothing is known, and inasmuch as in Ferns more particularly, they are the product of purely natural conditions, being mainly wild plants, surely it is not well to discourage research because they present unusual features. Of late years, the study of abnormal Ferns has resulted in several discoveries of interest, which go far to elucidate precisely the difficulty presented to biologists by the alternation of generation. We know now of at least one Fern (Lastrea (Nephrodium) Pseudo-mas cristata) which reproduces itself freely and constantly from spores without any sexual agency whatever. This was Professor Farlow's discovery of Apogamy, and is not peculiar to that variety or species. Notwithstanding this faculty, however, this Fern has not lost that of further variation, and in one of its progeny, identical in form with itself, it was found that it was capable of producing prothalli on its young fronds without the agency of the spore. An independent sport is now in my possession in which this faculty is persistent, so that the frond becomes simply a stage of the prothallus life. The prothallus produces a bud which develops into a stalked prothallus, with a basal bud for primary frond; as the later fronds increase in size, they assume the usual cellular structure of stipe and frond, a necessary condition for their size, but this cellular structure thins out at the edges and terminals into that of the prothallus again, and upon these, buds are speedily developed if brought into contact with the soil. Query No. 1—Where is the alternation of generation here? And query No. 2—What is the use of the complicated arrangement of archegonia and antheridia when the whole business is thus completed, and robust plants result, and are perpetuated without them? *Chas. T. Druery, F.L.S.* [Query No. 3—Is not too much stress laid upon the so-called alternation of generations? And query No. 4—Are not the phenomena witnessed the result of adaptation of the old generation to new circumstances or requirements rather than to an entirely new generation? ED.]

TREES AT DUFFRYN.—A place situated in the immediate centre of a coal-mining district, as is Duffryn, Mountain Ash, the Glamorganshire seat of Lord Aberdare, is scarcely the situation in which gardens of much interest are likely to be found. On a recent occasion in company with Mr. Pettigrew, gardener at Cardiff Castle, I was conducted through the grounds by Mr. Davies, Lord Aberdare's head-gardener, we saw, amongst other interesting things, some fine trees which appeared to me to be worthy of note. The most conspicuous of these was a common Cherry, which is said to be the best specimen of its kind in Wales. Be this as it may, I can reiterate Mr. Pettigrew's remark upon seeing it, "It is the finest Gean I have seen;" and Mr. Davies informs me that its total height is 82 feet, and its girth at 3 feet from the ground is 8 feet 2 inches. Its bole is as straight as that of a Larch, and it measures 35 feet to the first branch, while the bark is without blemish—a good criterion that the soil at Duffryn suits the Cherry. A common Holly, in robust health, cone-shaped, with its bottom branches sweeping the turf on which it stands, and its whole surface thickly beset with clusters of berries, next drew our attention. The diameter of the lower branches is 58 feet, and its height is 30 feet. A perfectly-formed tree, with dense foliage like this one, particularly in winter, when thickly furnished with its ripe fruit, is an object of great beauty, rivalled by few, if any other shrubs. Another prominent tree of symmetrical shape, and about 18 feet in height, and as much through, with its bottom branches touching the turf, standing upon a sloping lawn, backed up by evergreens, which considerably enhances its beauty, proved to be Cratægus orientalis, remarkable for its downy twigs, peculiarly-cut foliage, and large bright red haws, which are produced in abundance. Thorns of this type appear to be neglected, while Paul's Scarlet, and other showy flowering varieties, are being commonly planted instead. Each class, however, has its characteristic beauty, and is equally deserving of the planter's attention. Cotoneaster frigida, upwards of 25 feet in height, and thickly bemantled with its pretty berries, was another conspicuous plant. This is also very ornamental in the autumn, and is deserving of more attention than it generally receives. Another tree deserving of mention is a large Birch, possessing unusually wide-spreading branches, which extend 29 yards in diameter. It may be of interest to mention that Osmunda regalis thrives here along the natural rocky margin of a stream, where it is indigenous, and assists considerably to make a pretty feature. *Thomas Coomber.*

NEW VARIETIES OF TOMATOS.—The past few years have brought us a great many new varieties of Tomatos, and although sometimes one makes a trial of some of these, and obtains one which is better than what has been hitherto grown, there are many gardeners who will have met with disappointment in regard to the lightness of the crop of fruit obtained, probably by reason of the new variety setting its flowers badly. I would therefore suggest that no new Tomato be awarded a Certificate, or any award, unless it is exhibited of good size in flower-pots, say, of 8-inch diameter, not less than three pots, as by so doing the judges will be better able to gauge the setting of the blossoms. The true character of the variety will be thus determined, and a more correct estimate be formed of it than is possible from dishes of fruit. *Experimenta.*

RARE CONIFEROUS TREES.—Probably nowhere in the British Isles are there larger or healthier specimens of the rarer Conifers than within a short drive of the shores of Lough Neagh, in the county Armagh, Ireland. There the Fitzroya, Podocarpus alpina, Athrotaxis selaginoides, Cephalotaxus Fortunei, and a variety with round berries about the size of ripe Oak-apples (See *Gardeners' Chronicle*, Jan. 26, 1884, var. sphæralis); Pinus Bungeana, P. Jeffreyi, Abies magnifica (true), A. lasiocarpa, Juniperus drupacea, Cupressus obtusa, C. Goveniana, C. Lindleii, Torreya californica, and L. nucifera have attained to large dimensions, and wear a healthy appearance that quite charms the lover of these interesting species. *A. D. Webster.*

UTRECHT.—At present we have in the propagating-pit very nice plants of Anastatica hierochuntica, the Rose of Jericho, remarkable that it would not grow in soil from Arabia. Leaf-mould, with river-sand and a bit of clay, is the best for them. They remain in flower for some time, but the flowers are very small. *J. K. Budde.*

ARAUJIA SERICIFERA AS A MOTH-TRAP.—Will "Riviera" pardon me if I point out to him that his description and drawing of the method by which this plant catches moths and other insects, as given on p. 523 of this volume of the *Gardeners' Chronicle*, is quite inaccurate in certain particulars, and I do not think he can have observed the actual position of the proboscis whilst held by the flower, or he would have seen that the position of the proboscis between the pollen masses as represented in the diagram A, B, C, is quite an impossible one. The structure of the flower, so far as the staminal part is concerned, is as follows: the five anthers are attached to the dilated part of the style, in the manner common to all Asclepiads, and form a short pentagonal cone around it. The margins

of the anthers are broad, hard, and horny; they are contiguous to one another, and somewhat projecting outwards, so that between each pair of anthers, and formed by them, is an almost-closed fissure, but slightly gaping at the base; behind the fissure is the stigmatic cavity, and seated at the apex of the fissure is a minute, blackish, horny body (the pollen carrier), with a chink down its outer face directly continuous with the fissure between the anthers, and to this horny body are attached by little stalks the pear-shaped pollen-masses, one on each side of it. These pollen-masses hang down in the pocket-like cells of the anthers, one mass in each cell, and the cells are separated from each other by a solid partition, so that it would be quite impossible for a moth to insert its proboscis between two pollen-masses, as shown in the illustration, for the remarkable part of the structure of the pollen-apparatus of this and all other Asclepiads is, that one of the pollen-masses attached to each of the little horny bodies belongs to one anther, and the other pollen-mass to another anther. I have never seen insects entrapped by this plant, but I have no doubt it takes place very much as in other Asclepiads; thus, the moth in sucking up the nectar gets its proboscis inserted in the wedge-shaped base of the fissure between the anthers, and, in withdrawing it, it is pulled farther and farther up the fissure, and is held more and more firmly by the pressure of the horny, elastic anther-wings, and the moth is often unable to escape from their grip. Should the moth succeed in pulling its proboscis quite up to the apex of the fissure, it then enters the chink in the little horny body to which the pollen-masses are attached, by which it is again clasped tightly; but then the insect finds little difficulty in pulling this body away from its seat, and with it the pollen-masses from their cells, and flies away with them. The horny body is never in the least glandular as described in any Asclepiad, but, on the contrary, is usually very smooth, and often highly polished; in the plant in question it is rather opaque. *N. E. Brown.* [The illustration was a faithful reproduction of the head and proboscis of the moth as it reached us. Ed.]

APPLEY TOWERS AND LADY HUTT GRAPES.—In answer to your correspondents, p. 599, I may state that I have these varieties grafted upon a Vine of Gros Colman, Appley Towers on the top, and Lady Hutt on the first spur on the bottom of the Vine. It was interesting to watch the progress of these three varieties of Grapes on the same stock. The fruits of Appley Towers and Lady Hutt were colouring nearly a month before Gros Colman showed any signs of colour. The ability to hang on the Vine in good condition was as good, if not better, and the flavour superior to that of Gros Colman, and I am sure that when they are better known they will become popular varieties for winter consumption. A Vine of White Colman, growing in the same house, is a very poor kind of Grape, and not to be compared with Lady Hutt. One of your correspondents remarks upon the northern gardeners' notion of placing Gros Maroc before Gros Colman; but we find that Gros Maroc, in the month of September, is much superior to Gros Colman—and as a proof of this I may mention that it was put first in the "any other Black Grape" class at the Edinburgh show held last September, beating Muscat Hamburgh and Madresfield Court. What do correspondents of the *Gardeners' Chronicle* say to that? *A. Kirk, Norwood, Alloa, N.B.*

—— We have these two varieties of Grapes growing together in a vinery with the Black Alicante, and so far the former has not had the good quality attributed to it by some of your correspondents. This poorness of flavour may possibly be due to the Vines not being inarched on others. Lady Hutt has pronounced Sweetwater flavour, but berries and bunches are better than those of any Sweetwater. The Vines might do better in a late vinery than an early one. The vinery our Vines grow in was started in December last, and Lady Hutt ripened first, and then Appley Towers, which was ripe fully three weeks before Black Alicante in the same vinery; the roots of the Appley Towers Vine being outside, and those of Black Alicante inside the vinery, which is more in favour of the earlier ripening of the fruit of Appley Towers. I should say that the latter would succeed if planted along with Black Hamburgh in a vinery, as if required the fruit would then hang longer than the Hamburgh, and give an extension of the supply; and I find that the fruit is better for hanging some time after it is ripe, the skin being then less tough, and the flavour improved. I may add, that this season the fruit of Dr. Hogg Vine has been good in size of bunch and in flavour, which was decidedly musky. Apparently this variety would be a suitable one for cultivating in a cool house, where Muscat of Alexandria would not answer. *T. H. Slade.*

A HORTICULTURAL INSTITUTE.—Most readers of Mr. R. Dean's letter in the *Gardeners' Chronicle* of the 21st inst., will admit that he made out a good case against this project. Many of us are well aware of the fact that he considers no place for the National Chrysanthemum Society can equal the Aquarium. I only wish he would make up his mind that the place was a most unsuitable one for a flower-show, and he would really endeavour to get a better one; then there would be some chance of the National Chrysanthemum Society holding its exhibition in a place which would do the exhibits credit. I doubt whether any other Society in the world of any pretentions holds its exhibitions in such a very unsuitable place. The Aquarium has little else besides size to recommend it, and it has much against it; for one thing, the light could hardly be worse, and on the second day of the show you could hardly see the colours of the flowers for the dust from the floor, and the shower of wet filth which drops from the roof. Then, again, all those side-shows, with the everlasting cries of "Pass this way, please, to see," &c.; "Just about to commence;" "Have you seen the Great Mystery?" &c. These cries are howled from all quarters. Undoubtedly, the three days of each of the four shows held by the National Chrysanthemum Society are a great help to the Aquarium receipts; in fact, the third day of each show may be said entirely to favour the Aquarium, for the exhibits are no credit to anyone, what with the dirt and parching heat. Mr. Dean makes much of the large amount of space required, but I, with many others, fail to understand what Apples, Pears, and other fruits, Potatos and other vegetables have to do with Chrysanthemums and the National Chrysanthemum Society. We hear a great deal about the over-worked secretary and committee, and the want of time on adjudicate to varieties of Chrysanthemums which would be put forward for certificates; and yet these vegetables, &c., are added, which require quite one-half of the large amount of the tabling used. One exhibit of Potatos in particular ran quite across the large hall, and consisted of large heaps of tubers which in the aggregate could not weigh very much less than a ton. The majority of visitors pay very little attention to the vegetable exhibits. The cut blooms of Chrysanthemums are always the primary attraction. Let us stick to our last, and the tables will not require so much space when packed away. Of course, it is very kind of the authorities to lend the Aquarium for show purposes, but I should like to see the National Chrysanthemum Society, that is, the exhibitors, considered more than they are, and the coffers of the Aquarium a great deal less. *M. U. M.*

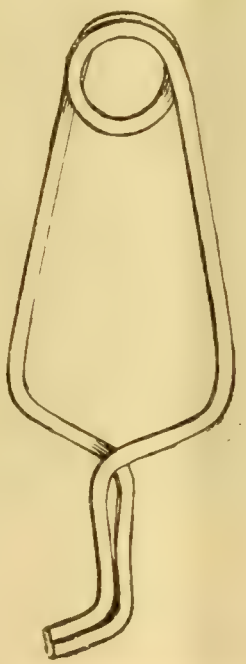


Fig. 114. A clip for suspending grapes and pears.

MICHAELMAS DAISIES IN POTS AT KEW.—There is not the least doubt that these hardy perennials will in the future be cultivated in pots for the further embellishment of the greenhouse. At p. 600 of a recent issue allusion was made to the subject, and as a succession of these plants have flowered under glass at the Royal Gardens, Kew, this year, a further note may not be out of place. It will, I think, be admitted that there is room for a selection of these plants, particularly of the varying shades of blue, a colour not very abundant at this season. These plants are also suited to a variety of purposes, while the flowers that are produced under glass are very pretty for culling for filling vases, &c. Lately at Kew, in the Camellia section of No. 4 House, a charming lot of Aster grandiflorus was noticed. This is not only the largest-flowered, but also one of the most beautiful. The plant forms a branched bush abou 2 feet high, and was surmounted with numbers of its blue starry blossoms about 2 inches across. To be able to get this variety to flower in a cool greenhouse in the middle of November is well worth the trouble, particularly as it is a species which rarely expands its flowers in the open air, and for several years in succession well-established plants in a light well-drained soil have scarcely perfected a flower owing to frosts occurring in October. One of the prettiest varieties noted at Kew was A. turbinellus, plants of which were arranged in a group; the flowers are produced on slender wiry stems. This species attains a height of 3 feet. Others were A. dumosus, well suited to small pots, and forming compact bushes 9 inches high. A. lævigatus has masses of rosy-lilac blossoms, and it stands about 20 inches high—very pretty and delicate-looking. The varieties of A. cordifolius are pretty, viz., C. albulus, C. Diana, and C. elegans, also A. ptarmicoides superba, the ray-florets of which are pure white; A. lævis arcturus, with flowers of rosy-lilac and blackish stems. Others suitable for pots are A. sagittifolius, with light blue flowers, and A, Novi-Belgii densus, though just a little stiff, may be included for its fine blue shade. The chief point to aim at is a succession of flowers from the middle of September, as up to this date the earliest forms expand equally well out-of-doors, and of course much later if frosts keep away. Where an extra good effect is desired, the plants may be allowed to grow unchecked, potting some well-rooted pieces in February or March in good ordinary soil, and plunging them a good distance apart in the open. By stopping or pinching, the bushes may be increased in size, while the sprays come in greater numbers if of smaller size. If a plant be found to be too tall, it may be cut down the first week in June to within 6 inches or 1 foot of the pots. Where height is no detriment, a system of pinching early in May, and again in June, will cause the plants to become bushy. *J.*

NEW INVENTION.

CLIP FOR SUSPENDING GRAPES AND PEARS.

In the Vine districts of Switzerland, the contrivance shown in fig. 114 is used to suspend bunches of Grapes so that they may be kept free from bruising or other injury. By pressing in the middle the two sides of the wire-loop, the clip at the lower end opens, and the stalk of the bunch being inserted, is held firmly. The clips are made in various sizes, of galvanised wire of varying thickness. We find those of the size represented above as amply sufficient to suspend Pears. Their use in the fruit-room, or to suspend bouquets, is obvious.

COLONIAL NOTES.

"WESTERN AUSTRALIAN YEAR-BOOK."

The ninth annual issue of this publication, for 1894-5, is now to hand. Among the contents is an account of the discovery and history of the district, also a record of the climate, geography, and constitution of the various districts from the earliest to the present time. The industrial and other capabilities of the colony are mentioned. Among the most interesting contents is a treatise from the late Baron Ferdinand von Mueller, on "The Vegetation of Western Australia," followed by a classified list, from the same pen, of Extra-Tropic West Australian Plants, many of which are well adapted for culture in this country. These contributions are yet another proof of the industry and knowledge shown by Baron von Mueller in the many branches of his favourite science.

LAW NOTES.

THE EXTRAORDINARY ORCHID DISPUTE.

JUDGMENT.

IN the City of London Court on Wednesday, Mr. Commissioner Kerr delivered judgment in the case of Rappart *v.* Peat and Dillon, which was before him some time ago, and which raised questions of peculiar interest and importance to Orchid growers and others. The plaintiff, Mr. David B. Rappart, The Promenade, Liscard, Cheshire, sought to recover against the defendants, Mr. W. B. Peat and Mr. Malcolm Dillon, executors of the late Mr. G. D. Owen, 24, Grosvenor Road, Newcastle-on-Tyne, the return of the sum of £17 6*s*. 6*d*. which he had paid to them for certain Orchids. Mr. J. G. Pease was council for the plaintiff, and Mr. Edwin Pollock for the defendants.

The plaintiff's case was that he attended the sale of the Selwood collection of Orchids, which was held at Selwood, Rotherham, Yorkshire, on April 24, 25, and 26 of last year, when the late Mr. Owen's fine collection was disposed of by auction. He purchased Orchids which were not, as he asserted, of the rarity represented, and he now wanted his money to be returned as a mistake had been made. He bought an Odontoglossum elegans, a Dendrobium splendidissimum grandiforum, and a Cattleya Skinneri alba. For those he paid £17 6*s*. 6*d*. The plants were not in flower when he bought them, so it was impossible to tell whether the plants really answered the descriptions contained in the catalogue upon which he purchased. When the plants flowered, the Odontoglossum turned out to be a Halli (worth 2*s*. 6*d*. instead of the 5 guis. he had paid), the Dendrobium proved to be an Ainsworthii (worth 2*s*.), and the Cattleya Skinneri alba was not an alba at all, but quite an ordinary variety. As a mistake had been made somewhere, he asked to have his money returned.

The defendants' case was that the plaintiff had purchased, as a fact, what the defendants pretended to sell him. The late Mr. Owen had seen the Orchids in flower, and when he bought them, Mr. Owen paid sums far in excess of those paid by the plaintiff. The plaintiff must have mixed them up in some way or other. There could be no doubt that the defendants sold the plaintiff the genuine plants, and not the common varieties which was now alleged.

Mr. Commissioner Kerr, on the last occasion, said there was no allegation of *mala fides* on the part of anyone; but as the case presented so many difficulties, he would take time to consider his decision. He now gave judgment. He said the case had given him more trouble than any action had involved for a long time past. He could not satisfy his mind that he ought to give judgment for either plaintiff or the defendants as he was in so much difficulty. He was bound to say that the plaintiff had not satisfied him that he did not get the Orchids that he bought. That being so, the plaintiff had failed in his action. As the plaintiff might be able to satisfy another judge in another court, he would simple nonsuit the plaintiff so that another action might be brought elsewhere. He allowed the defendants their costs.

NEW CHRYSANTHEMUMS.

[*A paper read by Mr. C. E. Pearson, Chilwell, on the* 10*th inst.*]

Taking the incurved section first, not because they now occupy that position, but from old habit, and the fact that, being few, they are soon disposed of, I should like to remark that I think our judges are getting a little lax in their requirements as to form, perhaps because novelties in this class are scarce, and therefore they do not wish to reject anything which has any pretensions to call itself an incurved. But the fact remains that several which have been admitted lately have a good deal of Japanese blood in them, and require not a little manipulation to fit them for the boards.

Of the new incurved, Charles H. Curtis has undoubtedly taken the first place, being a grand flower in form, size, and colour, also an easy variety to grow, as may be gathered from the speed with which it has taken its place as a standard variety all over the country. I should give the next place to Mrs. R. C. Kingston, sent out the same year (1895), a pale rosy-pink of first size and perfect form. It also is a good doer, coming in at the right time without stopping or other aid. Another very good pink of the same season is Mrs. James Murray (*Journ. of Hort.*, p. 439), not quite so large, but worth adding to a select collection. George Haigh, a dull bronzy flower, sent out this year, is a sport from R. Petfield, and is worth having, but, like the parent, needs special culture. It should be either stopped in May or else rooted late and grown on quickly. Two other new bronzes are Bonnie Dundee (1896), and D. D. Crane (1895); the latter is a neat pretty flower, but only large enough for the front row; the former I had great hopes of, but it is coming cross-eyed with me; however, the queer season we have had may have induced this. I hope that it may come all right another year, as it is a true incurved and pretty colour; it should be stopped in March to get it in time for the exhibition season. L'Améthyste, one of Calvat's 1895 set, was shown a fine incurved last year, and will be valuable from its purple colour, but it is too late with me to say anything of it yet, and I suppose this is the case with others, as I have not seen it shown this year. I should advise stopping it in April next year, and taking the first bud later.

I am sorry not to be able to say a good word for the red or crimson novelties of the past two years, as we want the colour sadly. Owen's Crimson has not given me a flower fit to exhibit. Jno. Fulford is better, but shows a large eye, which must be taken out early to get a full flower. Of whites we have not had much since J. Agate in 1894, the only one I have noted being Mrs. F. Hepper, sent out this spring: a well-built flower, of medium size, but rough. Before leaving the incurved section I may mention Major Bonnaffon (sent out in 1894) in order to give a cultural hint, as it comes a pure Japanese if taken in early bud. It should be stopped March 1, and not given too large a pot.

Coming now to the Japanese, and again taking the yellows first, I think this has been a red letter year for this colour. I am of the opinion that we have in Modestum and Australian Gold, two of the grandest novelties seen for the last ten years, and being so opposite in shade, there will not be any rivalry between them. Modestum is the richest colour ever seen, and simply extinguishes any other yellow placed by it for comparison. The two are faultless as to size and form, and are also fortunately good doers; those who saw the fine flowers of Australian Gold shown recently at the Royal Horticultural Society on small late-struck plants in 48's, will concur as regards that kind, and I believe Modestum will prove equally free.

Of the other new yellows, Oceana, a grand incurved flower, is worth making a note of; while Pallanza is now so well known as to scarcely need mentioning. I am rather doubtful, now that we have tried it a second season, whether it will oust Sunflower from the show-board, but it is a lovely bloom for all other purposes. Edith Tabor and Phœbus are both splendid flowers, with long falling florets, and not difficult to manage, requiring no stopping or special treatment. The former is a little too tall for decorative purposes, but this does not count for much with exhibiting enthusiasts. Though yellows are so many, John Seward must not be left out, as it is a grand flower, and of different form to most of those already mentioned, the florets being long and strap-shaped. It is a pure clear yellow except on late buds, when it assumes a bronzy tint. Buds should be taken fairly early, as it takes a long time to open. Still another grand yellow is Sunstone, deep orange at the centre, shading to primrose at the outside. This was sent out in the spring, but is very little known, however, and will undoubtedly be heard of next season. Two promising yellows, sent out in the spring of 1896, have disappointed most buyers—viz., W. Slogrove and Lago Maggiore. Of the first I have not seen a good flower, and the second is too small for anything except decoration.

Coming to whites, the swarm is almost as great as the yellows. One of the best is Lady Byron, a charming flower of most graceful form though large. Grown naturally it is a little too early, and requires stopping in March, taking first bud after. It is rather tender rooted, and should not have too large a pot. Mrs. Richard Jones is another lovely white, with long drooping florets curling upwards at the tip. It is an easy one to grow, requiring no stopping or special treatment. Mrs. Chas. Blick is another good white, doing best I find on late-rooted plants; and there are in addition three fine whites in Calvat's set for this year, all worth having—viz., Baronne Ad. de Rothschild, Mrs. J. Lewis, and Madame Gustave Henry. I had almost overlooked two, which should however be mentioned—viz., Emily Silsbury, for early work the best October variety to date, and Elsie Teichmann, a pretty flower on very dwarf sturdy plant, but not, I think, quite full enough for the board.

Of tinted whites, Mrs. H. Weeks takes the palm, being, in fact, worthy to rank with Modestum as the two finest novelties of the season. The reason it was not staged so freely as was expected on Tuesday, November 10, is that it requires special treatment, which, of course, the growers were not aware of the first season, and most of them will only get it fully general when the shows are over. It is naturally very late, and should be rooted as early as possible, pinching the point out at the end of January. N.B.—This is the raiser's advice; but my grower says he would prefer March 1, and take the first bud after. This ought to be widely known, as it is such a splendid flower as to be worthy any pains to get it. Pride of Exmouth (*Journal of Horticulture*, p. 469) is a white with pink markings, very distinct and good; as is also William Fyfe, a variety approaching the old Belle Paule, in colouring. Of the real pinks, the finest as an exhibition flower is Australie, one of the first fruits (with Oceana) from The Antipodes, where the Mum craze has taken largely; it is a purple-pink, with silvery reverse, immense in size, but not so coarse as some of the same race, e.g., Mrs. Harman Payne.

There are two or three of the striped yellow and bronze Japanese worth mentioning, the best perhaps being Mrs. Jno. Shrimpton, an immense deep yellow bloom with reddish stripings, should be stopped in the middle of May. Arona is also a fine flower, much in the colour and build of Colonel Smith, but having more substance, and consequently a much better laster, the Colonel being notoriously deficient in this respect. Mons. Chenon de Leché, a curious mixture of salmon, bronze, and yellow, is new in its second season and thoroughly established. There is no difficulty in timing it, as it makes buds so freely that if one be removed another may be confidently expected within ten days. Olive Oclee, a bronzy incurving flower which was expected to be very fine this year, is a failure with me, and I have not seen it good elsewhere. I had forgotten Mrs. Herman Kloss, a grand flower and distinct colour, orange overlaid with chestnut-red; it is one of the best of this year's novelties. I will conclude my list of Japanese with one which stands quite by itself in colour—viz., Mrs. Briscoe Ironside, a lovely flesh-pink, the best, I consider, of Mr. Ironside's introductions. It is a good doer, and requires no stopping. I have some charming flowers on plants the cuttings of which were not inserted until March 20.

The singles are most charming subjects for table decoration, and there are several very pretty novelties this season, among them notably Annie Tweed, a deep narrow crimson, Ewan Carveran and Mrs. Stubbs, white (one Japanese and the other a round regular flower); in addition to which Mr. Davis has a fine crimson single, with exceptionally large flowers, which will probably come out next year. The list of fine things I have given is a triumph to the raisers who are at work on the autumn queen, and I do not think we have reached the limit of improvement, or indeed approached it. Already several grand seedlings have been shown, which will be heard of later, but as less than half the season has elapsed it would be premature to say anything of future prospects.

SOCIETIES.

ROYAL HORTICULTURAL.

NOVEMBER 24.—The meeting held at the Drill Hall, James Street, Westminster, on the above date, was, considering the lateness of the date, an unusually bright one, numerous Orchids, including many crosses and hybrids of a remarkable character; tables filled with Chrysanthemum blossoms, chiefly of Japanese and single-flowered varieties, Gloxinias, Coleus of varied colouring, a fine group of Dracænas, and some small collections of fruit, including some very well-grown Pineapples from Frogmore being exhibited.

Floral Committee.

Present: W. Marshall, Esq., in the Chair; and Messrs. J. Fraser, H. Herbst, R. Dean, J. H. Fitt, R. Owen, G. Stevens, J. Hudson, J. F. McLeod, C. J. Salter, W. Bain, T. Peed, G. Nicholson, J. D. Pawle, C. E. Shea, C. N. Pearson, C. Jeffries, J. T. Bennett-Poë, G. Gordon, H. Turner, E. Mawley, and J. Laing.

A fine South Sea Island Dracæna, discovered by Mr. J. Broomfield (fig. 115), was shown by Messrs. SANDER & Co., St. Albans, deservedly securing a First-class Certificate. The leaves are 15 inches long and 2 inches wide where widest, are margined heavily and striped lightly with white. The plant is short-jointed as regards the stem, and compact in habit, indicating, we should say, slowness of growth, and the leaves on the plant shown are well retained, also evidence of this. They also showed Cephalotus follicularis, well furnished with its richly-coloured pitchers of green and velvety-brown. One fine plant of the species was placed under a bell-glass, and to this specimen a Cultural Commendation was given.

E. HYDE, Esq., Castle Bar, Ealing (gr., Mr. Holloway), showed the original Chinese Primrose, P. sinensis, in three well flowered examples, the colour a rosy carmine, petals reflexed, the segments, five in number, leaves narrow and deeply serrated. He also showed a cross obtained between this species and P. obconica, in which the corymb of blossoms somewhat partakes of the character of the latter species in regard to its form, height of stalk, as also the form of the leaf. The flower-segments do not reflex as in P. sinensis, but are slightly cusped, and in colour intermediate between the parents. A cross between P. sinensis and other species of Primula has for long been a desideratum with gardeners, and now that one has been obtained, we may look for great improvement along certain lines.

Messrs. HUGH LOW & Co., Clapton and Bush Hill, Enfield, showed a number of diverse winter-flowering Carnations viz., Tidal Wave, a flower of a deep-cerise colour; W. Scott, rose-pink; Daybreak, Helen Keller, Mrs. Nicholson, and others. Some well-grown and bloomed Cyclamen persicum grandiflorum were amongst their exhibits. A Flora Medal was awarded.

Mr. R. GULZOW, Melbourne Nurseries, Bexley Heath, Kent, showed a group of finely-coloured Dracænas, among which we noticed good examples of Duchesse d'Orleans, with the foliage of the lower half of the plant of a bronzy colour, and

that of the upper half a very brilliant crimson; the leaves are of great width in comparison with their length, which is about 8 inches; also Sanderiana, Barreni, Lindeni, Lord Wolseley, Renardi, Manenk Bey, A. Schütt, Doucetti, &c. A Floral Medal was awarded to Mr. Gulzow.

Mr. F. W. Moore, Botanic Gardens, Glasnevin, showed flowering shoots of Buddleia madagascarensis, with racemes of small orange-coloured flowers, which are said to grow of a far greater length in the South of France. It is probably too tender for out-of-doors culture anywhere in these islands.

Mr. H. Becket, Jersey, showed a ragged-looking single-flowered Chrysanthemum, Daisy Belle, white, with a yellow disc.

Messrs. J. Veitch & Son, Royal Exotic Nursery, Chelsea, showed Begonia Myra, derived from a tuberous variety, and B. Socotrana; the flowers are single, of a rich rosy-crimson colour. The male blossoms fortunately are somewhat freely produced; the foliage is almost orbicular in shape, of a deep green colour. Another Begonia shown was of similar but not identical parentage. It possesses peculiar double flowers, or more truly, the commencement of doubling, which are of almost the same shade of colour as Myra, and the habit of the plant is more compact than that variety. It is named Ensign, and received an Award of Merit. This firm also showed a collection of warm-house Rhododendron hybrids of the Javanico-jasminiflorum type, all of them of beautifully distinct yet soft colours, the trusses large, with many blooms on each. An Award of Merit was made to R. Cloth of Gold, a product of a cross between R. Lord Wolseley × R. Teysmanni. The truss in the case of this variety is large, as are the individual blooms, and the colour a soft shade of yellow.

Messrs. Fisher, Son, & Sibray, Royal Nurseries, Handsworth, Sheffield, showed a yellow-coloured variety of warm-house Rhododendrons, named Countess of Derby, in which there is a tendency towards doubling. The truss was of middle-size, and the colour primrose-yellow.

Sir Trevor Lawrence, Bart., Burford Lodge, showed Sonerila Leopold II., a well-bloomed example, with bronzy leaves, furnished with lines of silvery dots; colour of the flowers rosy-lilac; the height of the plant was an unusual one, being 15 inches (Award of Merit).

W. Bryant, Esq., Stoke Park, Slough, exhibited Primula sinensis fimbriata in two varieties—the so-called blue, and a white one. The flowers were in each case large, as also the trusses, but the foliage was sparse (Silver Banksian Medal).

Messrs. Young & Dobinson, Holmesdale Nurseries, Stevenage, showed numbers of shoots of varieties of Coleus, and blooms of Gloxinias. Many of the Gloxinias were of good size and substance, with distinct colour, very pleasing in some instances. The Coleus were chiefly of the tender ndoors varieties.

W. F. Darnell, Esq., Devonshire House, Stamford Hill (gr., Mr. Davies), showed a group consisting of small Crotons in pots and cut blooms of Chrysanthemums, chiefly those of Japanese varieties. A few Pandanus Veitchi, small specimens of Cocos, Ferns, &c., were used in the group (Silver Banksian Medal).

The Chrysanthemum did much towards furnishing the Drill Hall on this occasion, and in company with many good varieties now in cultivation, there was a good sprinkling of novelties, though the committee exercised a wise discretion in making awards to novelties.

From Mr. Charles E. Shea, The Elms, Foot's Cray, Kent, came a selection of some of the leading Japanese varieties, such as Golden Gate, Thos. Wilkins, M. Chenon de Leché, Maggie Blenkiron, an incurved flower in the way of Lord Brooke; Mdlle. Thérèse Rey, Abbé Mendalhall, a sulphur-coloured incurved variety, with drooping florets; and Madam A. Chatin (Silver Banksian Medal).

From Messrs. Henry Cannell & Sons, Swanley, came a choice collection of new varieties, which comprised Pride of Swanley, a reflexed white Japanese; Mrs. E. Cannell, rosy-purple, with silvery reverse, rough as shown; Charles Wilkins, delicate blush; the yellow sport from Elsie (an Award of Merit), Mrs. E. Staines, white; and Madoc, bronzy-orange—both single; and C. F. Payne, a broad-petalled soft yellow Japanese.

Mr. William Wells, Earlswood Nurseries, Redhill, also had a select collection, including Miss Louise D. Black, a deep golden incurved, fine in colour—a large, full flower, but bordering closely upon the Japanese character (Award of Merit); Gem of Earlswood, an Anemone Pompon, with delicate pink ray-florets, and a bright golden centre—a charming combination, and of the best form (Award of Merit); James Lynch, an orange-chestnut reflexed Japanese; bunches of bloom of Calvat's Australian Gold, cut from plants in 48-sized pots; some attractive single varieties; G. J. Warren, the pale yellow sport from Madame Carnot, which the committee wished to see again in better condition; and Lady Hanham, a delicate silvery buff-pink sport from Viviand Morel, likely to make a useful decorative variety (Bronze Banksian Medal).

Mr. T. S. Ware, Hale Farm Nurseries, Tottenham, also staged a collection of cut blooms, consisting of Golden Gate, Mrs. Smith Ryland, a large golden incurved Japanese; Robert Owen, Mr. Cleveland, a sulphur-white incurved; Mrs. Langtry, blush; and Miss Lister Martin, pink, both single



Fig. 115.—Dracæna broomfieldi.

(See Report of Royal Horticultural Society, on p. 668.)

Mr. R. Owen, nurseryman, Maidenhead, had Japanese C A. Owen, a fine broad-petalled incurving Japanese, bright gold in colour, and very fine (Award of Merit); John Macfee, pale yellow, deeper in the centre, a Japanese of a decidedly promising character; Mrs. Hugh Fenwick, a large white reflexed Japanese, with pale pinkish-lilac basal florets; Mrs. J. Beggs, a delicate pink, large broad-petalled Japanese; T. Lockie (incurved), soft lilac, with blush and sulphur centre, a neat flower of a promising character; Mrs. T. D. Hatfield, a small yellow incurved; Marcia Jones, a white Japanese Anemone; W. Slogrove, &c. (Silver Banksian Medal).

Messrs. Young & Dobinson, Stevenage, had a mixture of varieties—Japanese, Incurved, Pompon, and single—of somewhat poor quality, but said to be from plants grown only for cuttings (Bronze Banksian Medal).

Mr. W. Batchelor, gr. to Lieut.-Colonel Verney, Uxbridge, had about three dozen blooms of fine Japanese, including such leading varieties as Golden Wedding, Hairy Wonder, Ruth Wynne, Ethel Addison, Robert Owen, Louis Boehmer, &c. From Mr. Rickwood, gr. to the Dowager Lady Freake, Fulwell, came some effective bunches, set up in a tasteful manner, the leading varieties, Viviand Morel, Gloire du Rocher, Louis Bœhmer, J. Shrimpton, Sunflower, G. C. Schwabe, Challenger, Stanstead White, &c. (Silver Banksian Medal).

Mr. W. Bain, gr. to Sir Trevor Lawrence, Bt., Burford Lodge, Dorking, staged a plant of Japanese Mrs. Joseph Thompson, a large and full ivory-white incurved Japanese of great promise (Award of Merit).

Mr. B. Ladhams, Shirley, Southampton, sent fine bunches of Golden Elsie, a valuable sport that will make an excellent market and decorative variety (Award of Merit).

Mr. W. Jinks, gr. to E. Bruce, Esq., Walton, had some fine blooms of Japanese Mrs. Maling Grant, a very promising variety recently Certificated by the National Chrysanthemum Society, but which on this occasion arrived too late to come before the Committee.

Orchid Committee.

Present: Harry J. Veitch, Esq. (in the Chair); Sir Trevor Lawrence, Bart., President of the Royal Horticultural Society; and Messrs. O'Brien (Hon. Sec.), J. Gurney Fowler, E. Ashworth, De B. Crawshay, H. M. Pollett, H. Ballantine, F. Sander, W. H. White, E. Hill, J. Jaques, H. J. Chapman, W. Thompson, C. Winn, C. Pilcher, W. Cobb, J. Douglas, S. Courtauld, W. H. Protheroe, T. B. Haywood, Dr. Masters, and C. Moore of Sidney, N.S.W.

Baron Sir H. Schroder, The Dell, Egham (gr., Mr. H. Ballantine), exhibited a group of grand cut examples of rare Orchids, among which were the remarkable Veitchian hybrid Sophro-Cattleya × Calypso (Sophronites grandiflora ♀, Cattleya Loddigesii - Harrisoni ♂), with remarkable flowers over 4 inches across, and the general form and thick texture of C. Harrisoniæ, but much more openly displayed, especially the handsome labellum. The flower was of an uniform rose-purple, the centre of the labellum rose-orange. In the group also were fine spikes of the purple-spotted Odontoglossum Pescatorei Schroderianum; the unique and finely-coloured O. Wilckeanum Godefroyæ, O. Chestertoni; Cypripedium insigne Sanderæ, C. × Niobe, Dendrobiums Phalænopsis Schroderianum, Lælio-Cattleya × exoniensis, and the beautiful and delicately-tinted L.-C. × Baroness Schroder. The group was awarded a Silver Banksian Medal. Sir Trevor Lawrence, Bart., Burford, Dorking (gr., Mr. W. H. White), showed Lælia × Juvenilis (Perrini ♀, pumila ♂), a very handsome hybrid, with light rose-purple flowers, possessing a purple-coloured lip (Award of Merit); and Sobralia Lindeni, a white flower, with purple veining on the lip.

Messrs. Jas. Veitch & Son, Royal Exotic Nursery, King's Road, Chelsea, staged a remarkable group, consisting chiefly of crosses raised by them, and which was awarded a Silver Flora Medal. Among the hybrids were no fewer than six distinct Cypripediums, which in some instances were derived from the rare C. Fairieanum on one side. The most beautiful of these was C. × Baron Schroder (ænanthum superbum ♀, Fairieanum ♂), which was awarded a First-class Certificate. It is the most perfect in form of the set, the upper sepal white, with about fifteen heavily-dotted and feathered lines of purple; the broad petals a pale yellow, but furnished with purple-brown lines, and some spotting on the lower halves, the shining lip has also some yellow veins, and it is tinged with purple-brown. An equally remarkable cross which commanded great attention, and which also secured a First-class Certificate, was Lælio-Cattleya × Decia alba (L. Perrini ♀, C. aurea ♂), in which the sepals and petals are pure white, and the lip a delicate rose-pink, with that indescribable close tracery of silvery-white which is generally to be remarked in this fine hybrid. Two other novelties were Lælio-Cattleya × Tiresias (C. Bowringiana × L. C. elegans Turneri ♂), very bright flowers, purple-rose tinted (Award of Merit); and Lælia × Omen (purpurata × autumnalis), a very singular looking flower of a light rose colour. In the body of the group were noted examples of Lælio-Cattleya × Decia, L.-C. × Lady Rothschild, and L.-C. × Statteriana, all of them handsome hybrids of L. Perrini, and noted in the report of the last meeting; L.-C. × Pallas, Cattleya × Fabiola, Phalænopsis × Brymeriana, home-raised; Cattleya × Chloris, Dendrobium glomeratum, D. subclausum, D. Cassiope, D. × euosmum leucopterum, Anguloa uniflora Turneri, &c.

Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr., Mr. Wm. Murray), sent a remarkable home-raised Odontoglossum between O. Halli-leucoglossum and O. crispum Cooksoni, and named O. × Halli-crispum. Its flowers were of good size, and in the form of the lip and crest they disclosed much of O. Halli. The sepals were creamy-white upon which are some large red-brown blotches; the petals are of creamy-white, with one large and several small blotches, and the white lip had a yellow crest, and one large blotch in the centre (First-class Certificate); also Cypripedium × Chapmanii (Curtisii × bellatulum). The upper sepal was white, with purple dotted lines, the broad petals also white, with innumerable blackish dots over the surface, and the lip faced with rose.

E. Ashworth, Esq., Harefield Hall, Wilmslow, Cheshire (gr., Mr. Holbrook) showed Lælio-Cattleya × Schilleriana, Ashworth's variety, a very fine form with flowers as showy as those of Lælia purpurata, and with blush-white sepals and petals, and rich purple labellum (Award of Merit); Lælia autumnalis alba, Lucy Dodd, the best white form of the species; and the singular little Epidendrum (Nanodes) Matthewsii.

R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr., Mr. H. J. Chapman) sent the new Cypripedium × Regina (Leeanum × Fairieanum), a charming hybrid with the general aspect of C. × Arthurianum, but with fine white dorsal sepal with purple dotted lines; C. × Edwardii superbum, a very pretty variety; C. × Olenus (bellatulum × ciliolare), and Lælio-Cattleya × Sallierii, with pale rose flowers having a dark rose-coloured marking on the lip.

Mr. Jas. Douglas, Great Bookham, Surrey, showed Lælio-Cattleya × Apollonia (L. purpurata × C. Dowiana), a showy hybrid, with flowers somewhat resembling those of L.-C. × Pallas; sepals and petals of a light rose colour; lip of dark crimson-purple, crumpled at the edge, and margined with lilac (Award of Merit).

Sir Wm. Marriott, the Down House, Blandford, showed Sophro-Lælia × Marriottii (Sophronitis grandiflora × L. flava), a hybrid of singular aspect, having the growth of S. grandiflora, but stouter, and bearing a three-flowered inflorescence of orange-coloured flowers, which resemble those of S. grandiflora, but with the peculiar elongation of the lip, as in Lælia flava.

G. SHIRLAND BALL, Esq., Ashford, Wilmslow, Cheshire (gr., Mr. A. Hay), received an Award of Merit for Cattleya labiata, Ashford variety, perhaps the richest and brightest in colour of any shown this season. Mr. BALL also showed the fine white C. labiata alba.

E. H. WOODALL, Esq., St. Nicholas House, Scarborough (gr., Mr. W. Hughes), sent a model plant of Vanda cœrulea, with seven growths and five magnificent spikes, for which a Cultural Commendation was given.

Messrs. F. SANDER & Co., St. Albans, had a pleasing group, in which were the fine Cypripedium Leeanum giganteum, C. × L. retieulatum, C. × L. superbum, and C. × L. virginale, the last-named a very fine bold flower. Also Lælio-Cattleya albanense var. Lady Brougham, a great improvement on the older form; some good Dendrobium Johnsoniæ, Cattleya labiata, Cymbidium × Winnianum, a curiously-margined variety of C. giganteum, Dendrobium Fairfaxii, Cypripedium × Mrs. C. Maynard (nitens magnificum × Boxalli), Odontoglossum Krameri and O. K. album; Sophronitis grandiflora, Angræcum polystachys, Spiranthes Forgetianum, &c. (Silver Banksian Medal).

W. BRYANT, Esq., Stoke Park, Slough (gr., Mr. D. Kemp), showed Cattleya labiata, Stoke Park variety, a noble plant, with a four-flowered inflorescence of very large light-coloured flowers. W. THOMPSON, Esq., Walton Grange, Stone, Staffordshire (gr., Mr. W. Stevens), showed the rare Odontoglossum × elegantius; also a dozen fine drawings of rare Orchids in his collection. WALTER COBB, Esq., Dulcote, Tunbridge Wells (gr., Mr. J. Howes), showed the clear yellow Cypripedium insigne Sanderianum, and the elegant little Liparis longipes. Admiral CATOR, Hazelwood, King's Langley (gr., Mr. G. E. Day), sent Cymbidium cyperifolium, with elegant narrow leaves, and an inflorescence resembling C. giganteum, but with a white lip bearing a few red-brown spots. H. WORTHINGTON, Esq., Abbey Lawn, Whalley Range, Manchester, sent Catasetum × splendens Worthingtonianum, a large white flower, with purple tinge on the lip and petals.

Frau IDA BRANDT, Riesbach, Zurich (gr., Mr. J. Schlecht), sent fine Oncidium Forbesii, Odontoglossum Insleayi splendens, O. Harryanum, Vanda cœrulea, Brassavola cuspidata, &c. REGINALD YOUNG, Esq., Sefton Park, Liverpool (gr., Mr. Poyntz), sent Cypripedium × Pitcherianum magnificum, a fine form of C. × Niobe, and several very distinct varieties of C. insigne. WALTER C. CLARKE, Esq., Liverpool, sent Cypripedium × polychromum (× politum × superbiens).

F. W. MOORE, Esq., Royal Botanic Gardens, Glasnevin, Dublin, exhibited Acanthophippium javanicum (Botanical Certificate). Miss N. ROBERTS, 72, Loughborough Road, Brixton, S.W., showed a collection of very clever coloured drawings of Orchids. G. O. SLOPER, Esq., Westrop House, Highworth, showed a good Cypripedium × Leeanum.

Fruit Committee.

Present: P. Crowley, Esq., chairman; the Rev. W. Wilks, secretary; and Messrs. T. F. Rivers, W. Fyfe, J. Smith, G. Wythes, W. Farr, C. Herrin, W. Bates, J. A. Laing, A. Dean, J. Wright, A. F. Barron, J. Veitch, G. Miles, J. Cheal, F. Q. Lane, J. Willard, and G. Woodward.

An Award of Merit was given to Apple Clapham Beauty, a pretty round flattish variety of medium dessert size, skin green, shaded with red, flesh soft, good flavoured, and juicy. This came from Mr. H. J. SHEPPARD, Bedford. A similar award was made to Apple St. Martin, useful dessert-size, fruits conical, striped red, and pretty. Flesh pleasant, and good flavour. From Messrs. RIVERS & SON, Sawbridgeworth, who also had Broken Hill Pippin, not unlike Adams' Pearmain in size and form, but paler in colour. Mr. J. C. TALLACH, of Livermore Park, Bury St. Edmund's, secured an Award of Merit for Apple Livermore Favourite. The fruits were of fair size, conical, intensely coloured, and handsome, and soft pleasant flesh, without special flavour, that was quite white. It should make a capital market variety.

Mr. Owen Thomas, HER MAJESTY'S gr. at Frogmore, was awarded a Silver-gilt Knightian Medal for an exhibit of twelve splendid Queen Pines, that were in size and fruit, perfection. Mr. THOMAS also showed a dish of yellow Tomato Royal Windsor. This, it was desired, should be tried at Chiswick next year with some other of the large yellows. Also he had twelve very beautiful fruit, 14 inches in length, of smooth green and handsome Cucumber Frogmore Prolific, to which a Cultural Commendation was awarded.

Mr. C. E. SHEA, Foot's Cray, Kent, staged a nice, though small, collection of twelve dishes of Apples and Pears. The varieties included of the former Gascoigne's Scarlet, in wonderful colour; Beauty of Kent, Lane's Prince Albert, Baumann's Red Reinette, Reinette du Canada, &c.; and of Pears Léon le Clerc de Leval, Catillac, very fine; Olivier de Serres, &c. A Silver Banksian Medal was awarded.

A similar award was made to a large collection of forty-six Apples and eighteen of Pears, from Messrs. J. PEED & SONS, Norwood. They had of Apples, very good for the season, Lord Derby, Bismarck, Red Bictigheimer, Hormead's Pearmain, Lane's Prince Albert, Cox's Orange Pippin, King of the Pippins, Wadhurst Pippin, Hoary Morning, Fearn's Pippin, Betty Geeson, &c.; and of Pears, very fine Uvedale's St. Germain, Catillac, Bezi Mai, Duchess Tardine, Josephine de Malines, Chaumontel, &c.

Mr. Batchelor, gr. to Lieut.-Col. VERNON, Harefield, Uxbridge, staged a dozen small heaps of fruit very prettily on diverse coloured woodwork, arranged in squares. The method, however, was not so good as showing in plates. The fruits, chiefly Apples, were generally small, the best being Blenheim Pippin, Wellington, Ribston Pippin, King of the Pippins, &c. A Bronze Banksian Medal was awarded.

A single specimen of Bismarck Apple, sent by Messrs. HURST & SONS, Burbage Nursery, Hinckley, merited notice, as being the largest of the variety yet seen. It weighed 18 oz., and had a circumference of 15 inches, and was handsome and well coloured.

Mr. G. WYTHES, Syon House Gardens, had a dish of Vilmorin's white tuberous Artichoke, the tuber being 6 inches long. It was thought that this unusual elongation was a product of the season, having grown out, as Kidney Potatos will.

For Messrs. Veitch & Son's prizes, there were twelve dishes of Apples staged, and Mr. C. HERRIN, Dropmore, came 1st, with nice, clean, but not highly coloured Cox's Orange Pippin; and Mr. W. H. DIVERS, of The Gardens, Belvoir Castle, was 2nd, with a very high-coloured, conical Apple, very handsome, and having white flesh, named La Neige. The flesh was soft, but not materially high-flavoured. The Ribston Pippin, Melon-Apple, and Blenheim Pippin were also shown. Both the prize Apples were from orchard standards, the former on gravel, and the latter on clay.

There were eight dishes of Pears shown, the 1st prize being given to Beurré du Buisson, a medium-sized nuggetty obovate variety, having nice juicy soft flesh that was very well flavoured. This came also from Mr. DIVERS, the tree from which the fruits were gathered being worked on the Pear stock, and grown on an east wall. The second best variety, Knight's Monarch, a medium-sized sample, came from Mr. O. THOMAS, but no particulars were furnished. Winter Nelis, Beurré D'Automne, and Glout Morceau, were also shown, but all lacked flavour.

BRIXTON, STREATHAM, AND CLAPHAM HORTICULTURAL.

NOVEMBER 11, 12.—The 37th Annual Exhibition of this Society was held at the Town Hall, Streatham, on the above dates. The groups of Chrysanthemums were of great beauty and excellence, and were, in the opinion of the judges, all worthy of a 1st prize. The cut blooms of Japanese Chrysanthemums were exceptionally fine, and the competition amongst the exhibitors was exceedingly keen. Some remarkably fine foliage plants and Ferns were staged, and it was a matter for regret that the state of the funds did not permit of extra prizes being given. A grand display of Orchids was made. The ladies' baskets of Chrysanthemums, Ferns, foliage plants, Grasses, &c., were more numerous and tasteful than upon any former occasion, and the growing interest in these exhibits is encouraging to the kind donor of the special prizes offered for this class.

The National Chrysanthemum Society's Jubilee Medal was awarded to Mr. HOWE for Group of Chrysanthemums; and the Certificates, one to Mr. WESTON for six trained Japanese Chrysanthemums, and the other to Mr. MURSELL for twenty-four cut blooms Japanese Chrysanthemums.

LICHFIELD CHRYSANTHEMUM.

NOVEMBER 18.—A Chrysanthemum show was held in St. James' Hall on the above date under the auspices of the old Lichfield Horticultural Society, which boasts an existence of over eighty years. The show throughout was an excellent one in every section. The table decorations, bouquets, fruit, and vegetables well maintained the reputation of the gardeners of the district.

Among attractive exhibits of the non-competitive section were the fine baskets of cut flowers, bouquets, and other floral arrangements sent by Messrs. PERKINS & SONS, Coventry; the fine bunches of Gros Colman Grapes, Queen Pines, collections of vegetables, twelve dishes of very fine Apples, and a number of Pears, shown by Mr. T. WALMSLEY of the City Seed Stores, Lichfield; the fine groups of Lily of the Valley, and other plants, shown by Messrs. MATTHEWS & BROOKS, nurserymen, Lichfield; the collection of decorative plants, including the winter-flowering Pelargonium Madame Jules Chrétien, shown by Mr. BARRAN.

Groups of Chrysanthemums were shown by General DYOTT, Freeford Hall, Lichfield (gr., Mr. Dix), who was 1st. The best three plants of Chrysanthemums were shown by General DYOTT and Sir C. FORSTER; and the best three incurved varieties were those of General DYOTT and Mrs. HINCKLEY.

A group of incurved plants was shown by Mrs. HINCKLEY, including Orchids, Caladium argyrites, Eulalia japonica, Dracænas, Ferns, Richardias, &c.

Mrs. CHADWICK had the best twelve blooms of Japanese varieties, and General DYOTT the 2nd best.

Captain WEBB, Elford, was 1st for six Japanese; and Mrs. CHADWICK had the finest twelve and six incurved.

TWICKENHAM HORTICULTURAL.

NOVEMBER 17, 18.—The twenty-eighth annual autumn exhibition took place in the Town Hall on the above dates, and was universally admitted to be the best show held for some time.

Mr. A. H. Rickwood, gr. to Lady FREAKE, had the best group of Chrysanthemums, quality and effect being the leading features; Mr. G. H. Sage, gr. to the Earl of DYSART, Ham House, being a creditable 2nd.

A very pretty and effective feature was made in the class for a group of miscellaneous flowering and foliage-plants, 1st, Mr. H. E. FORDHAM, The Nurseries, Twickenham.

A group of Orchids in flower, tastefully interspersed with Ferns and other foliage plants, gained 1st honours for Mr. W. H. ODLUM.

The principal cut bloom class, in which five competitors appeared, was that for twelve Japanese and twelve incurved, distinct. Here Mr. C. J. Waite, gr. to the Hon. W. P. TALBOT, Esher, gained the leading award with very fine blooms in each section. Mr. T. OSMAN was 1st for eighteen incurved varieties.

A noble lot of flowers was contributed in the class for eighteen distinct varieties of Japanese, which came from Mr. E. Coombs, gr. to W. FURZE, Esq.

The best incurved bloom was a fine C. H. Curtis, were from Mr. C. J. WAITE; and the best Japanese, a highly coloured Charles Davis, from Mr. E. COOMBS.

The leading prize for twelve Anemones was taken by Mr. W. J. Wright, gr. to H. A. TUFNELL, Esq.

Table decorations, of which the Chrysanthemum formed the chief feature, were well shown by Mr. WAITE, the Misses COLE, the Misses FRESHWATER, Mr. A. PENTNEY, and others. Other table decorations were well shown by Messrs. T. G. MACGREGOR and A. H. RICKWOOD.

As usual, wonderfuul examples of Grapes, Apples and Pears, for competition, were very successfully shown by Messrs. SAGE, BENTLEY, RICKWOOD, OSMAN, BURTON, and GARROD.

Vegetables and fruit in competition, and as honorary exhibits formed, as usual, an interesting part of the show; and we may give the names of the following exhibitors, Messrs. C. J. WAITE, POUPART, and J. PEED & SONS.

BRISTOL CHRYSANTHEMUM.

NOVEMBER 18, 19.—The thirty-third annual show of this Society was held on the above dates in Colston Hall, and proved to be the best that the Society has as yet held. Entries were unusually numerous, and the competition close, particularly in the classes for cut blossoms of Chrysanthemums, which were of great excellence. The groups were also of considerable merit, as were likewise fruit and vegetables.

Cut Flowers.—Thirty-six blooms, Japanese, 1st, Mr. Wilkins, gr. to Lady THEODORA GUEST, with a grand lot, including Madame Carnot, Mrs. C. Blick, Graphic, Phœbus, Edith Tabor, Madame Ad. Chatin, International, Duke of York, Mrs. Hume Loug, &c.; this exhibit won the Challenge Vase, in value 12 guineas. 2nd, Mr. J. Macdonald, gr. to W. B. MARLING, Esq., who last year won the Challenge Vase. There were twelve entries in this class.

Twelve Japanese, Mr. Baker, gr. to Mrs. H. A. SMITH, was 1st amongst eight who entered in this class with Madame Carnot, Van der Heede, Lord Brooke, Thos. Wilkins, G. W. Childs, Mdlle. Thérèse Rey, Chas. Davis, &c. 2nd, Mr. Pain, gr. to C. WILLS, Esq., with Phœbus, Wilfred Marshall, Mutual Friend, Madame Carnot, &c.

Twenty-four incurved, 1st, Mr. Bishop, gr. to H. E. M. MANDERDEN, Esq., having good blooms of C. H. Curtis, Mrs. R. C. Kingston, Golden Empress, Lord Rosebery, Cherub, Empress of India, Lord Alcester, &c. 2nd, Mr. Aplin, gr. to W. M. BAKER, Esq., who ran Mr. Bishop close with Miss Haggas, C. H. Curtis, J. Agate, Major Bonnaffon, Globe d'Or, Lord Alcester, &c.

Plants.—Group of Chrysanthemums in pots in a space 10 feet by 6 feet. 1st, Mr. J. Marshall, gr. to J. DOLE, Esq., with well-arranged plants possessing large flowers and good foliage, all Japanese varieties. This gained the National Chrysanthemum Society's Jubilee Medal; 2nd, Mr. Bunker, gr. to A. SHIPLEY, Esq., who mixed through his group a few incurved varieties, thereby slightly marring his exhibit.

Group of Chrysanthemums arranged with Ferns and ornamental foliage plants, 1st, Mr. Attwell, gr. to J. B. BRAIN, Esq.; Mr. Newbery, gr. to J. SAUNDERS, Esq, being a very close 2nd.

Four specimen Chrysanthemum plants, 1st, Mr. Ayres, gr. to Mrs. GIBSON, with fine plants of Mrs. Norman Davis, Col. Smith, Mrs. Dixon, and C. J. Agate; 2nd, Mr. Sutton, gr. to W. A. TODD, Esq.

AYLESBURY CHRYSANTHEMUM.

NOVEMBER 19.—The eighteenth annual exhibition of this Society took place on the above date, in the Corn Exchange of this market town. The schedule included thirty-eight classes for Chrysanthemums, and others were devoted to fruit and vegetables. Eighteen classes were devoted to specimen plants, which always form a feature at this exhibition; and on the present occasion the competition was in most classes keen, and the exhibits generally of very good quality. Cut blooms also, more especially the Japanese, were well shown.

In class 1, for nine plants, Mr. Robins, gr. to Colonel LEE, Hartwell House, Aylesbury, was 1st, with fine plants in excellent condition; 2nd, Mr. HOPKINS. For six plants, Mr. Turnham, gr. to Mrs. BARTLETT, was 1st; 2nd, Mr. Purnell, gr. to H. GUNN, Esq.

In the class for Japanese, some beautifully-grown plants were staged by Mr. Brandon, gr. to Mrs. GURNEY, who was 1st for three; while for six Japanese or Anemone-flowered, Mr. Tipler, gr. to Miss SMITH DORRIEN, was a good 1st, having, among others, fine Sœur Dorothée Souillé and W. H Lincoln; 2nd, Mr. TURNHAM.

Pompons were very good, Mr. BRANDON being easily 1st fo

six, with very fresh and admirably-bloomed plants of Orange Beauty, White Cedo Nulli, and Rosinante, among others; 2nd, Mr. Robins.

Groups for effect were not a strong feature; in the largest class, to cover 80 square feet, only two exhibitors competed, Mr. Tipler was 1st, and Mr. Hopkins 2nd.

Cut blooms were allotted fifteen classes, the most important being that for forty-eight distinct, half to be Japanese and half large-flowered. Several competitors staged. Mr. Turnham was a good 1st.

For thirty-six blooms, Mr. Clark, gr. to T. Gurney, Esq., was 1st, Mr. Hopkins 2nd. For twenty-four incurved, 1st, Mr. Turnham; 2nd, Mr. Tipler.

In the class for twenty-four Japanese the competition was keen, and some good stands were staged, and Mr. Turnham was 1st; Mr. Warren 2nd, also with good blooms.

A class devoted to hairy varieties brought some interesting flowers, the best being Esau (a pretty pink), Hairy Wonder, Mrs. Dr. Ward, Prima Donna, and white L. Boehmer; for these Mr. Turnham was 1st.

NEATH CHRYSANTHEMUM.

November 19.—This society held a very successful show in Gurfro Hall, on the above date. Chrysanthemum blooms were the chief feature. The incurveds shown by Mr. Dumble, who was a remarkably successful exhibitor, being equal in quality to any that were shown at Bristol on the previous day. Groups of Chrysanthemums, and also of Chrysanthemums intermixed with ornamental foliage-plants, were also good. There was nothing of special merit in the classes for fruit, but vegetables were well shown.

Cut Flowers. Twenty-four blooms (twelve Japanese, twelve incurved); 1st, Mr. Dumble, gr. to Sir C. Phillips, Picton Castle, Haverfordwest, with fine blooms, well finished, and beautifully coloured.

Twelve incurved: here Mr. Dumble was placed 1st, with a fine even lot.

Twelve Japanese, Mr. Gilbert, gr. to Mrs. G. Llewelyn, was placed 1st in this class.

Group of Chrysanthemums in Pots. 1st, Mr. H. Bradly, gr. to Mrs. Gwyn, The Duffryn, who had a well arranged lot of dwarf plants with large flowers.

STONE HORTICULTURAL.

November 19.—This Society, which has been resting with a balance in hand for several years, held its first Chrysanthemum Show, at Stone.

As a first attempt of this kind, the show was considered a very successful one. The prize list was not a long one, and competitive exhibits did not form the chief exhibits. On the contrary, honorary exhibits made a very fine display, notably the fine Orchids from Mr. Thompson, of Walton Grange. Opposite to this lot, and at the end of the hall, Messrs. Jenkins & Sons, of Newcastle, exhibited a fine collection of cut flowers in baskets, some bouquets, consisting of Orchids, wreaths, and other floral designs, together with Roses, Lilies of the Valley, and the old white Pelargonium Volonté, international Chrysanthemums, and other flowers Mrs. Meakin, of Darlaston Hall, sent a group of Chrysanthemums, as also W. R. Parker Jervis, near Meaford Hall; Major Harding, Manor House, Stone; Mr. Tams, The Hayes, Stone, all of whom had well-arranged groups distributed round the hall. Mr. Walter Little, nurseryman, Stafford, showed floral designs. Mr. R. Kindirdeni, the Cedars, Stone, sent a collection of cut Chrysanthemum blooms. Some fruit was also shown Mr. A. Evans, Stone, had Apples and Pears. Mr. W. Lewis, Stone, showed much fruit not in competition

A flower stall, in aid of the Gardeners' Orphan Fund was promoted by Mr. Stevens, assisted by Miss Evans and Miss Lewis, who by their efforts made the public acquainted with this excellent charity.

NORFOLK AND NORWICH CHRYSANTHEMUM.

November 19, 20, 21.—This exhibition took place in St. Andrew's Hall, and a large side hall, as well as a temporary building, were utilised for the purpose. It was not only regarded as one of the largest, but also one of the best the Society has yet held. Plants, though not striking, were yet upright-grown examples, carrying good blooms in the case of the Japanese varieties. In addition, Cyclamens, Chinese Primroses, &c., were exhibited in their several classes.

The prime attraction of the show was the class for forty-eight Japanese, distinct. Mr. W. Messenger, gr. to C. H. Berners, Esq., Woolverstone, Ipswich, with a superb collection, fresh, well-coloured, and even, some of the blooms extraordinarily fine, in particular Madame Carnot, which was awarded the Silver Medal of the National Chrysanthemum Society. Mr. T. Hanson, gr. to Sir Saville Crossley, Somerleyton Hall, was a good 2nd.

The best thirty-six blooms, eighteen Japanese, and eighteen incurved, came from Mr. J. Shiddeck, gr. to the Hon. A. E. Fellowes, Honingham Hall, who was 1st with a well-balanced collection, the Japanese particularly good, and in all the other cut-flower classes the competition was generally even and close. Charles Curtis was well shown in the incurved class, but the finest bloom in the show was J. Agate, which was also awarded the Silver Medal of the National Chrysanthemum Society. In the class for new varieties of Japanese sent out since 1892, the best were Mutual Friend, Caddeson, Madame Ad. Chatin, J Mockar, H. T. Fils, Duke of York, Madame Carnot, and Phœbus. The limited space at disposal will not admit of fuller details.

Fruit was shown in collections of six varieties, with Grapes, Apples, and Pears, in several classes; the latter were very good, and if the dessert Apples were small, they were brilliantly coloured.

Vegetables were a great feature, and some excellent collections were found competing for the special prizes offered by Messrs. Carter & Co., Sutton & Sons, Daniels Brothers, and others.

Miscellaneous collections consisted of a fine collection of Chrysanthemums from Mr. John Green, nurseryman, Dereham; Mr. R. C. Notcutt, Ipswich; Cannas, zonal Pelargoniums, Chrysanthemums, &c., from Messrs. H. Cannell & Son, Swanley; with a large stand of flowers, fruit, and vegetables from Messrs. Daniels Brothers.

The show was continued for three days, and appeared to be successful in every respect.

MANCHESTER ROYAL BOTANIC.

November 20, 21.—The early winter show in which Chrysanthemums and Orchids form the chief exhibits, was held in the Town Hall, Manchester, under the auspices of the Council of the Royal Botanical Gardens. As a show, though somewhat limited in size, it was brighter, better, and choicer than exhibitions held at the same time in former years.

Chrysanthemums in Pots were well shown by Mr. Thos. Harker, Brook House, Fallowfield; by Mr. G. H. Gaddam, Adrian House, Didsbury; and Mr. R. Hardwick, Woodley's Grange, Ashton-on-Mersey, who took positions in the classes they exhibited in the order named. The plants of W. H. Lincoln, Etoile de Lyon, Marie Hoste (very fine indeed), and Viviand Morel being not only abundantly flowered, but the blooms were of first quality.

Cut Blooms.—There was a large competition in cut flowers, the Japanese coming to the front more prominently than the incurved, but the competition in either case was keen. For thirty-six incurved, Mr. J. H. Goodacre, Elvaston, was 1st; and Mr. A. Tate, Leatherhead, being 2nd. The best blooms were C. H. Curtis, T. W. Flight, R. C. Kingston (goo); Jas. Agate, excellent white; John Fulford, Miss Haggs, Princess Teck.

For twenty-four varieties, Japanese, Mr. A. Tate, was 1st; Mr. Goodacre, 2nd. The best among the Japanese were Pankoucke, International, Primrose League, Ada Lincoln, C. H. Payne, E. G. Hall, Etoile de Lyon, Chas. Davis, Stanstead White, Mr. W. H. Lees, Mrs. F. Jameson, Miss Dorothy Shea, Lilian B. Baird, Viviand Morel, Duke of York, Silver King, Niveus (very fine), &c.

For thirty-six miscellaneous cut blooms, Mrs. Bauner, Roby, Liverpool, was 1st; Mr. J. Brocklebank, 2nd.

In the miscellaneous collection of cut flowers, Mr. T. Statter, Stand Hall, was 1st with Orchids in variety; Miss Lord, was 2nd. Messrs. Cord and Mr. J. Watts, Cheadle, had a miscellaneous assortment of cut stove and greenhouse plants.

The Roman Hyacinths grown and shown in 6-inch pots were a feature, the best coming from Mr. C. H. Laxworth, Wilkington, and 2nd, Miss Lord.

Orchids were in great variety, and generally well selected, few of indifferent appearance being staged. There were no prizes offered for them. Special Commendations were awarded Charlesworth & Co., Heaton, Bradford; Mr Jas Cypher, Cheltenham; Hugh Low & Co., Clapton; Heath & Son, Cheltenham, and some others.

First class Certificates were awarded to the following plants:—Cattleya labiata alba and C. l. Ashfield var. The former was one of the choicest white labiatas ever seen, having excellent form to recommend it; peerless white segments, shining like a piece of ivory, and equally white lip, with the blade more ovate than round, and on the crest a shaded yellow blotch—this caused quite a sensation among the experts. The other form is of the richest purplish-crimson, solid in colour, not shaded, with a lip equally solid, of velvety-crimson, broadly edged with cerise—a grand novelty; and the two gems represented the extremes in Cattleya labiata. These came from the collection of G. Shorland Ball, Esq., Ashfield, Wilmslow (gr., Mr. A. Hay).

The same honours were voted to Thos. Statter, Esq. (gr., Mr. Johnson) for Cypripedium insigne Sanderæ—still a long way ahead of all the other varieties of insigne. The green-and-gold flowers, with the dorsal sepal top adorned with ivory-white, looked all the more charming under the shade of the bell-glass which covered it.

A similar award was made to Fred Hardy, Esq., Tyntesfield (gr., Mr. Stafford) for Cypripedium "Fred Hardy," shown the other day at the Drill Hall, which is distinct and noteworthy, but in too weak a condition to pronounce definitely upon.

Hugh Low & Co. had a nice lot of Cypripediums, three of which were singled out for First class Certificates:—

Cypripedium insigne Laura Kimball. This is one of the numerous forms of insigne which has already had an Award of Merit voted it at the Drill Hall, and which received the higher award here. It was a smallish plant, with its flower not fully developed. Its great merit lies in having no spots on its dorsal sepal, and the white at the extremity coming farther down the dorsal than in C. Sanderæ itself. Its colour and finish, as shown, are not at all equal to those of Sanderæ, but there is no doubt it is an exquisite variety.

Cypripedium × Alfred Hollington = ciliolare × lævigatum is a novelty of first rank, having a bold ovate dorsal sepal with chestnut lines radiating from the base to the extremity on a whitish ground at the base of the dorsal clouded with green; the petals are broadish and arching, with the twist of lævigatum completely disappeared, and elongated, to form a striking appearance, with dashes and spots of Indian red on a flesh-coloured ground. The lip is of good size and well inflated, but in point of colour it is the weakest part of the flower.

Cypripedium × Mrs. Tautz, = Chantini × Boxalli. This is a pretty flower, rather under-sized, on a short peduncle, suggesting a dwarf seedling of strong tall-stamined parents. It has a rhomboid dorsal sepal, with black heavy spots on the lower half; upper half bright Indian red, and chestnut-flecked in the ground colour, and surrounded for one-eighth part of its surface with white; the inferior sepal is greenish, with spots and lines sparsely placed. Petals, fine bronze, with central coloured lines, shortish in the limbs, Staminode large for size of flower, and yellowish.

Messrs. Charlesworth & Co. had a fine lot of Odontoglossum crispum, comprising some extra good forms, also good Cypripedium Charlesworthi, and C. Leeanum giganteum, the pretty C. Niobe, the white Lælia autumnalis, and a general assortment of Cattleyas.

Mr. Jas Cypher had, as usual, some extra forms of Dendrobium Phalænopsis Schroderianum, the pale forms mixing well with some of the most brilliant and dazzling we have yet seen in this way; a golden-tinted Cypripedium Leeanum, the pretty Odontoglossum × Humeanum, some good Masdevallias, and the bright scarlet Sophronites.

Messrs. Heath & Son, Cheltenham, had a small lot of Cypripediums, some bright Oncidium varicosum, and several Dendrobes.

Messrs. Clibran & Sons, Altrincham, had a good group of cut Chrysanthemums in various sorts; Dickson & Robinson had a fine set of Cyclamens, so had also Dickson, Brown, & Tait. Other collections were shown which we have no space to notify.

There was a grand assortment of Apples from John Laing & Son, Forest Hill, Sydenham, shown in the entrance hall, and which was much admired.

EDINBURGH HORTICULTURAL.

November 19, 20, 21. The great Chrysanthemum Exhibition of the Scottish Horticultural Association, held in the Waverley Market, Edinburgh, on the above dates, proved perhaps, the most successful of the series.

CHRYSANTHEMUMS.

Among the *Special Prizes* offered was one of £30 by the City of Edinburgh for forty-eight blooms of Japanese Chrysanthemums distinct, with a 2nd prize of £12, a 3rd of £8, a 4th of £5, and a 5th of £3. There were six entries for this class, which should, perhaps, for importance have led off the schedule This, like most of the important classes for cut flowers, was confined to private gardeners and amateurs only. The Scottish Challenge Cup, value 15 guineas, to be held for the year by the winner of the first prize in class 20, of £5 for the best twenty-four blooms of Japanese Chrysanthemums distinct, 2nd prize in this class £4, 3rd £3, 4th £2, 5th £1, had ten entries. The same Association offered several special Silver and Bronze Medals for the best and second best Chrysanthemums not in commerce, for the best Chrysanthemum plant in classes 1 to 12, for the best plant in classes 13 to 17, for the best incurved bloom in the exhibition, best Japanese bloom in the exhibition, for the best Japanese bloom in classes 19 and 53.

The same Association offered their Gold Medal, or plate of equal value, and their Silver Medal for 1st and 2nd prizes for a table of home or foreign fruit, ripe or unripe; plants and flowers might be used; quality, variety, and effect to be taken into account. Unfortunately, in this most suggestive and interesting class there were no entries.

The Association also offered their Silver Medal and a 1st prize of 3 guineas for the best collection of ten distinct kinds of vegetables, three other prizes being given in this class of 40s., 30s., and 20s. Some additional fifteen extra prizes were given by other patrons, ranging from 1 to 3 guineas, in kind or cash, that added greatly to the popularity and success of the show.

Turning to the regular schedule, the prizes for Chrysanthemums alone, including exhibit 75, group of Chrysanthemum foliage and other flowering plants, arranged for effect on the floor 10 feet in diameter, Chrysanthemums to be the leading feature, for which £5, £3, £2 and £1 were offered, amounted to fifty-seven.

Prizes for other plants, seventeen; for fruit, twenty-six; for vegetables, twenty-one. The more noticeable features in the general schedule were the market growers' group of Chrysanthemums, arranged for effect, to occupy not less than 100 square feet; the nurserymen's, thirty-six Japanese Chrysanthemums, arranged for effect, to occupy not less that 100 square feet.

Collections of Conifers and other hardy plants in pots, tubs, and baskets, arranged for effect, and eight specimen Palms in not more than 14-inch pots or tubs; the prizes in each of these classes being alike 100s., 60s., 20s.

Two or three of the more notable features of the schedule and on show were the handsome Cake Basket offered as a 1st prize for a circular table, four feet in diameter, arranged with Chrysanthemum blooms, blooms in glasses and vases, and interspersed with Ferns and other foliage plants (eight entries),

Four vases, Japanese Chrysanthemum blooms in each, Chrysanthemum foliage only used, £5, £3, £2, £1.

Ten show vases, Japanese Chrysanthemum blooms in twelve varieties, three blossoms of each Chrysanthemum, foliage only to be used, £7, £5, £3, £1. A Silver-gilt Medal presented by H. J. JONES, Ryecroft Nursery, Lewisham, to go with the 1st Prize.

The Judges were for Cut blooms, Mr. E. MOLYNEUX, Swanmore Park, Hants; for plants: Mr. D. HENDERSON, Castle Wemyss, Wemyss Bay; Mr. W. H. GORRIE, Mauldslie Castle, Carluke; for fruit: Mr. W. HENDERSON, Balbirnie, Markinch; Mr. THOMAS LUNT, Ardgowan, Inverness; for vegetables: Mr. JOHN CAIRNS, the Hirsel, Coldstream, and Mr. RICHARD CAIRNS, Balruddery, Longforgan.

The show was publicly opened on the 19th inst. by the LORD PROVOST in the presence of a goodly company, when LADY MCLAER presented the Corporation Cup for forty-eight Japanese Chrysanthemums to Mr. MCHATTIE, of Strathfieldsaye, Hampshire, a Scotch gardener (who used to live with the Marquis of Lothian, and take the same prize there, remarking that while she regretted this Cup was leaving Scotland, she was glad that it had been won by a Scotsman, and that the reputation of Scotch gardeners was being maintained in England.

The prize takers in this *Premier Class* were: 1st, Mr. MCHATTIE, Strathfieldsaye, Hampshire; 2nd, Mr. JAMES BEISANT, Castle Huntly, Langforgan; 3rd, Mr. JAMES MARTIN, Cornsdean Hall, Winchcombe; 4th, Mr. J. CARRUTHERS, Hillwood, Corstorphine; 5th, Mr. D. NICOLL, Rossie, Forgandenny. Most of these fruits contained many beautiful blooms.

For the Scottish Challenge Cup Prize for twenty-four blooms, Japanese Chrysanthemums, there were eleven entries. Mr. ADDISON being 1st, Mr. J. LUNT, 2nd, Mr. D. NICOLL, 3rd, Mr. G. DAY, 4th, and Mr. BEISANT, 5th.

In the next class for twelve Japanese, there were fourteen competitors, doubtless stimulated by the Silver Medal offered by the great Chrysanthemum grower, Mr. H. J. JONES, of the Ryecroft Nurseries, Lewisham. Mr. LUNT secured the Medal and the 1st prize, Mr. ADDISON being 2nd, and Mr. G. MARTIN, 3rd.

For the class for twelve Japanese, three of each, there were twelve competitors, the prizes going as follows: 1st, Mr. M. ADDISON; 2nd, Mr. J. Martin; 3rd, Mr. LUNT.

The reduction of the number of Japanese (distinct) raised the number of competitors to twenty-three, Mr. LUNT being 1st, Mr. PATERSON 2nd, and Mr. J. R. PEARSON 3rd.

Classes 24 to 40 in the schedule, were devoted mostly to blooms in Chrysanthemums of named sorts, and added much to the interest of the Exhibition.

The artistic display of cut flowers of Chrysanthemums in vases to furnish tables, with their own and other foliage, formed a most interesting feature of this great show, but the details of which our space forbids us to give.

Class 47.—A circular table four feet in diameter, Chrysanthemum blooms in glasses, interspersed with Ferns and foliage plants (eight entries). 1st prize (by MESSRS. BROOK & SONS), George-street, Edinburgh), A. BOGIE; 2nd, Mr. KIDD; 3rd, Mr. JARDINE. The tables were rather too much alike and all, save one, draped alike with Panicum variegatum, the one exception being the pretty green Smilax, a welcome change. All had a graceful Palm in the centre, and the Chrysanthemums stood up with a base of Maiden-hair and other Ferns, Mr. JARDINE having a few graceful plants of Eulalia japonica variegata in addition.

Near to these a large table well filled with autumn leaves, fruits, berries, and cones, was prettily arranged by Mr. CROMBIE, gr. to Viscount POWERSCOURT, Ireland. On the other side of the hall Mr. M. TODD, with a staff of ladies, were busy selling a quantity of pretty Grasses, plants, &c., for the benefit of the Gardeners' Orphan Fund, which we trust added substantially to its funds.

Want of space compels us to omit several other classes for cut flowers, or to find room to notice some of the finest blooms in the show on the large table so richly furnished by Mr. H. J. JONES, of Hither Green, Lewisham.

Two of the many raised or introduced by Mr. JONES were certificated at this show—Charles D. Massey, a pleasing shade of primrose, and M. P. Purnell, violet rose inside with silvery white reverse, and having like petals of good substance incurved and curled.

The most cursory observer of the signs of the times cannot fail to note that the incurved varieties, the Anemones, Pompon, and other sections of Chrysanthemums are on the down grade, and that the Japanese are all the rage. Further, that the latest fashions point to races of hirsute flowers, on the lines of Hairy Wonder, of which type we are assured there are already a score varieties.

Among the incurved flowers shown, the Duchess of Fife a sort of mixed form, however—took an easy lead. Queen of England, Alfred Salter, C. W. Curtis, Agate, Lord Rosebery, Lord Alcester, were among the best.

Chrysanthemum plants were remarkably well done, the local champion, Mr. CAVANAGH, of St. Edmonds, Murrayfield House, Edinburgh, being 1st for four Japanese, 1st for one orange-yellow; 1st for one crimson; 1st for one bronze; 2nd for two pots, and 2nd for six pots Japanese; the last, the premier prize for plants, in which not a few local growers and others thought Mr. CAVANAGH 1st, being the only decision we heard questioned in the show.

FRUIT

is always worth seeing in Edinburgh. Mr. LESLIE, of Petcullam House, Perth, took 1st for four bunches, 1st for two dozen black and white, 1st for two Muscat of Alexandria, and 1st for two Alicante.

The *Apple Classes* were extremely fine and well filled, the entries ranging from six to twelve in the different sections. There were fewer Pears, but the prize lots, especially the 1st and 2nd, were fine. There were four entries for six varieties of Apples, one peck of each, as sent to market, ripe or unripe, some of which were very fine; but they needed more careful grading and sightly packing to enable them to command the markets or allure the grocers from American, Canadian, Tasmanian, or other foreign imports.

Fine, too, as the Scotch Apples were, they were eclipsed in colour and excelled in size by the magnificent collections of Apples from Mr. GEORGE BUNYARD, of Maidstone, Kent, and of JOHN WATKINS, near Withington, Hereford. Both these gentlemen also showed new varieties of great merit, Mr. Watkins's Byford Wonder, a culinary Apple in season from November to March, equal to Peasgood's Nonsuch, and Lord Hindlip, a fine dessert Apple, from January to May, to follow Cox's Orange Pippin, and equal to it or nearly so, in quality.

Mr. Bunyan's Allington Pippin is said to succeed where the Orange Pippin fails, and it is a first-rate dessert Apple—it has received a First-class Certificate from the Royal Horticultural Society.

VEGETABLES

were good, and plentifully shown in Leeks and Onions. Celery large, but somewhat green. Beetroot in quantity, wholly carrot-rooted. Turnips, twenty entries; Golden Ball, one. White Tomato-Potatos, fine, clean, medium sizes, and clear of disease. Neither Salads nor Mushrooms were up to the highest level of culture on showing.

Before dismissing vegetables, it may be stated that Mr. JOHN IRELAND, of George Street, made a nice show of Potatos in the rough. And here also were an interesting collection of Potatos that Lord ROSEBERY has been experimenting with at Dalmeny, among the most promising of which for his soil being reckoned Mr FINLAY'S Up-to-Date, which yielded 19½ tons, and main crop 13 tons per acre.

The trade, as usual, rendered hearty support to the show, Mr. THOS. FORTUNE, of Queensberry-road, leading the way in an artistic stand of unique grace and beauty, representing floral harps and other designs of grace and elegance, furnished with Carnations, Acacias, Roses, Cattleyas, Valley Lilies, draped with Asparagus Ferns, Smilax, etc.

The Messrs. LAIRD furnished a fine group of Conifers in perfect health and great variety and beauty; Messrs. LAING & MATHER, of Kelso, a table richly furnished with Malmaison Carnations, grouped with Chrysanthemums between, fringed with Ferns, and positively illuminated with the brilliance of the new single Chrysanthemum—Princess May—which all must grow next year.

MESSRS. JAMES DICKSON & SONS, staged a nice collection of Shrubs and Conifers, which supply a welcome verdure to the brilliance of the flowers.

Mr. CAMPBELL, nurseryman, High Blantyre, showed a rich mixture of Carnations and Onions, set as a fringe in vases on a case of Maiden-hair Ferns.

Mr. JOHN DOWNIE, Prince's-street, had a fine table of Palms, Heaths, Ferns, Roman Hyacinths, Early Lilies, Cyclamens, Pandanus japonica variegata, and others, edged with a narrow-leaved grass.

MESSRS. DOBBIE & SON were again in strong evidence with Potatos and Onions, as well as a fine arrangement of choice Chrysanthemums (Japanese), and quite a large collection of single and decorative varieties, artistically blended with Palms, Ferns, &c.

Messrs. J. & B. THYNE, of St. Vincent-street, Glasgow, were strong with Palms, skilfully used, and giving verdure to the numerous white brilliant Cyclamens of the imperial strain, and very fine Lily of the Valley, make a very satisfactory show.

Mr. FORBES, nurseryman, Hawick, showed a fine stock of his scarlet Yuletide Carnations, full of buds, which looked, perhaps, all the brighter with the charming winter-flowering pink Begonias, Gloire de Lorraine.

Mr. KIRK, of the Forth Vineyard, was there also, pushing his new industry or trade in autumn leaves, which seems prospering quite fast enough for his Grapes and Vines.

CONIFERÆ IN FRUIT.

One of the most interesting and attractive features in an otherwise notable exhibition, was the remarkably fine collection of specimens of Coniferæ in Fruit exhibited by Mr. DAVID CROMBIE, gr. to Viscount POWERSCOURT, at Powerscourt, Co. Wicklow, Ireland. The specimens were well selected to illustrate the characteristics of the species and generally bearing an abundant crop of cones, or drupes, they formed a very artistic and unique table, and were a centre of attraction to crowds of admirers during the three days the Show was open. They were effectively set off by sprays, a few species of brilliant berried trees and shrubs, such as the Strawberry Tree, Arbutus Unedo, with numerous clusters of its scarlet berries, which so much resemble medium-sized Strawberries; Arbutus Andrachne, from the Levant, with large clusters of small yellowish berries hanging in strings nearly a foot in length; Pernettya mucronata, with neat foliage, and branches thickly clustered with various coloured berries; the sweet Bay, Laurus nobilis, with a fine crop of glossy black fruit the size of Morello Cherries; and sprays of the curious berried spindle tree, Euonymus europæus, with several species of climbers and trailers creeping round and hanging over from three tall vases, set along the middle of a table about 25 feet in length, and giving the whole a nicely-finished effect.

The collection comprised upwards of sixty species of Coniferæ, with about twenty other species of trees and shrubs, all bearing fruit; and the whole were set off by about a couple of dozen of handsome dishes of choice varieties of Apples and other fruits, placed in a line round the margin of the table. As the whole collection, was clearly and distinctly named, the display was highly instructive as well as attractive.

Among the more notable specimens of the Coniferæ, Abies magnifica was conspicuous by its massive dark-brown cones, fully 9 inches long by 3 inches in diameter, in fine contras with its rich silvery foliage and symmetrical habit. A. Webbiana, with dark purple cones, 7½ inches by 2½ inches; A. Pindrow, with similar but smaller cones; A. cephalonica, A. nobilis, A. concolor, A. balsamea, A. brachyphylla, A. firma, A. Fraseri, A. Pinsapo, A. Nordmanniana, and A. pectinata; Picea alba, P. nigra, P. Menziesii, P. Morinda (Smithiana); very handsome cones; P. polita, and P. orientalis, one of the prettiest coned in the collection; Tsuga Menziesii (Albertiana), T. Brunoniana, T. canadensis, and Pseudotsuga Douglasii; Araucaria imbricata, with very fine male and female cones; Cedrus atlantica, C. Deodara, and C. Libani; Cephalotaxus drupacea, with curious plum-like fruit; Cryptomeria japonica, C. j. elegans, and C. j. Lobbi; Cupressus funebris, C. Lawsoniana, C. macrocarpa, C. thyoides variegata, and C. torulosa, Fitzroya patagonica, very nicely fruited; Juniperus recurva, J. virginiana glauca, J. Sabina, and J. sinensis; Larix leptolepis; Pinus densiflora, P. insignis, handsome cones remaining on the tree for years; P. Cembra, P. Pinaster, fine clusters of cones; P. excelsa, P. monticola, and P. Strobus, three handsome Pines with cones somewhat resembling each other, and P. Jeffreyi, and P. ponderosa, with large and handsome cones produced freely on both species; Retinospora filifera, R. obtusa, and R. pisifera; Sequoia sempervirens, Taxodium distichum, Taxus baccata with a fine crop of rich golden yellow berries, in pleasing contrast with the dark foliage; Thuja gigantea, Thuiopsis borealis; and last, but by no means least, Sequoia gigantea, with a profusion of cones of unusual size, clustering on vigorously-grown branches, showing the Wellingtonia is evidently at home in the south of Ireland. Sprays of Quercus glabra were finely fruited, and the Laurustine, Viburnum Tinus, was shown in full flower, and at the same time bearing bunches of its dark-coloured shining berries, in the midst of its pretty heads of flowers.

The arrangements throughout were most creditable to the Committee and to Mr. ROBERT LAIRD, the Secretary, and Mr. J. H. Murray, the Assistant-Secretary.

NATIONAL CHRYSANTHEMUM.

Floral Committee.

NOVEMBER 25.—This body met at the Royal Aquarium on the above date, but only a few novelties were forthcoming.

First-class Certificates of Merit were awarded to Japanese C. W. Richardson, a clear yellow variety, with somewhat incurving, but with drooping basal petals—a variety promising to be of value for exhibition purposes, from Mr. E. BECKETT, The Gardens, Aldenham House, Elstree. Also to Anemone Pompon Gem of Earlswood, from Mr. W. WELLS, described in our report of the meeting of the Royal Horticultural Society. Single Chrysanthemum Ethelwhyn, a spider-formed blush variety, having twisted thread-like petals, and very free, was commended for decorative purposes, a good bunch as well as plants being exhibited.

A Special Committee is on the point of being formed to consider the position to be allotted to the American incurved varieties.

Obituary.

WILLIAM YOUNG.—We are sorry to have to record the decease of the late Mr. William Young, one of Scotland's best-known and most successful amateur florists. He passed away after a protracted and suddenly-terminating illness on November 12, at the ripe age of eighty, and his remains were followed to their resting-place by a numerous company of strictly his horticultural friends. For more than half a century he was widely and well known as an enthusiastic and successful raiser and cultivator of such florists' flowers as Pansies, Pinks, Carnations, Auriculas, &c., all of which he raised and cultivated with marked success, considering that his operations were conducted under the adverse influence of city smoke. It was he who, amongst numerous other outstanding things, introduced the original Malmaison Carnation, which, with its varieties, now hold so conspicuous and large a space in the gardens of this and other countries. Many other superior things were raised and distributed by him.

For the long time mentioned Mr. Young kept in close touch with all the leading florists and gardeners for a very wide radius around Edinburgh, and wherever there were samples of the flower he so devotedly cared for, these were his frequent haunts. He was always ready to give and take cuttings and seeds of his much-cherished and loved favourites. Every spare moment was devoted to their propagation and culture, and he was never so much in his element as when associated with gardeners, and in discussing the details of floriculture. He was a shoe merchant by trade, but his heart was much more with Queen Flora than with King Crispin.

For nearly half a century Mr. Young was known to many as, first, the Assistant-Secretary to the

Edinburgh Horticultural Society, and afterwards as holding the same post in the Royal Caledonian after the two amalgamated. This society has successfully established itself as one of the most successful in every way in Britain, and it must be admitted that much of its success has been due to Mr. Young's enthusiasm, and to the untiring energy that he brought to bear on its development and arrangement. Many years of the latter part of his life were exclusively devoted to the interests of the society. To those who did not know him intimately, his bearing at times might appear rather abrupt and imperious, but nevertheless his well-known kindness and genial nature made him a decided favourite with those who knew him most intimately. If at times he might wound the impatient and troublesome exhibitor, his bark was always worse than his bite, and he was ever ready with the salve of cheery kindness. He will be much missed, and his memory cherished by many to whom he has done a kind and generous service.



[The "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (−) the Mean for the week ending November 21.	Accumulated. Above 42° for the Week.	Accumulated. Below 42° for the Week.	Accumulated. Above 42°, difference from Mean since December 29, 1895.	Accumulated. Below 42°, difference from Mean since December 29, 1895.	Rainfall. More (+) or less (−) than Mean for the Week.	Rainfall. No. of Rainy Days since Dec. 29, 1895.	Rainfall. Total Fall since Jan. 1, 1896.	Bright Sun. Percentage of possible Duration for the Week.	Bright Sun. Percentage of possible Duration since Dec. 29, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch		Ins.		
0	2 +	24	11	+ 162	− 265	4 −	223	50·5	17	23
1	1 +	14	26	+ 93	− 170	5 −	185	25·0	17	29
2	1 −	12	26	+ 153	− 155	4 −	169	21·3	30	29
3	2 −	13	28	+ 107	− 141	5 −	163	22·0	40	35
4	2 −	12	32	+ 95	− 150	4 −	158	21·2	31	32
5	2 −	26	14	+ 212	− 190	5 −	149	22·0	35	37
6	1 +	24	9	+ 183	− 162	5 −	192	39·6	20	31
7	2 −	23	15	+ 246	− 186	5 −	175	30·7	22	32
8	3 −	29	16	+ 273	− 111	6 −	157	26·6	36	41
9	1 +	28	13	+ 183	− 163	4 −	202	35·0	28	28
10	1 −	32	10	+ 250	− 123	6 −	173	30·7	28	33
*	1 −	41	0	+ 377	− 135	7 −	176	25·0	35	45

The districts indicated by number in the first column are the following:—

0, Scotland N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

The following summary record of the weather throughout the British Islands for the week ending November 21, is furnished from the Meteorological Office:—

"The *weather* was unsettled and rainy in all parts of the kingdom at the commencement of the week. The conditions, however, soon improved in the south and east, and later on, fine, dry weather extended to almost all districts.

"The *temperature* was again a little above the mean over Scotland, and also in 'Ireland, N.,' but continued rather below it elsewhere. The highest of the maxima were recorded during the latter part of the week, when they ranged from 55° in 'Ireland, N.,' and the 'Channel Islands,' to 51° in 'England, E., and the 'Midland Counties.' The lowest of the minima were registered on very irregular dates, and ranged from 22° in 'England, N.E.,' and 23° in 'England, S.W.' (at Llandovery), to 30° in 'Scotland, N.,' and to 39° in the 'Channel Islands.'

"The *rainfall* was less than the mean in all districts; over the east and south of Great Britain the fall was very slight.

"The *bright sunshine* exceeded the mean in nearly all parts of the kingdom. The percentage of the possible duration ranged from 17 in 'Scotland, N. and E.,' to 35 in 'England, S.' and the 'Channel Islands,' 36 in 'England, S.W., and 40 in 'England, E.'"

MARKETS.

COVENT GARDEN, NOVEMBER 26.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistras, per doz.	12 0	30 0
— specimen, each	5 0	15 0
Chrysanthemums, per doz.	6 0	12 0
— specimen plants, each	1 6	2 6
Cinerarios, per doz	9 0	12 0
Cyclamens, per doz.	12 0	18 0
Dracænas, each	1 0	7 6
— various, p. doz.	12 0	24 0
Evergreen Shrubs, in variety, doz.	6 0	24 0
Ericas, p. doz.	10 0	12 0
Ericas, hyemalis, per doz.	12 0	15 0
Ferns, small, doz.	1 0	2 0
— various, doz.	5 0	12 0
Ficus elastica, each	1 0	7 6
Foliage plants, per doz.	12 0	36 0
Marguerites, per doz.	6 0	10 0
Palms, various, ea.	2 0	10 0
— specimens, ea.	10 6	84 0
Pelargoniums, Scarlets, p. doz.	6 0	8 0
Solanums, p. doz.	12 0	15 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Anemone, doz. bun.	1 6	2 6
Arums, p. 12 blooms	4 0	6 0
Bouvardias, per bn.	0 6	0 9
Carnations, 12 blms.	1 0	2 6
Chrysanthemums, doz. bun.	3 0	6 0
— doz. blooms	1 0	4 0
Eucharis, per dozen	2 6	4 0
Gladiolus, coloured, per doz. sprays	1 0	2 0
Hyacinths (Roman), doz. sprays	0 6	1 0
Lilac, wh. (French), per bunch	3 6	5 0
Lilium Harrisi, per doz. blooms	4 0	6 0
— longiflorum, doz. blooms	2 0	3 0
Lily of the Valley, dozen sprays	0	2 0
Maidenhair Fern, per 12 bunches	4 0	8 0
Marguerites, per 12 bunches	2 0	4 0
Mignonette, per doz. bunches	2 0	4 0
Mimosa (French), per bunch	1 0	1 6
Orchids:—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 bm.	2 0	6 0
Pelargoniums, scarlet, per 12 bun.	4 0	8 0
— per 12 sprays	0 4	0 6
Pyrethrums, 12 bu.	2 0	4 0
Roses (French), per doz. blooms	1 0	2 0
— Tea, per doz.	0 9	1 6
— yellow (Maréchal), per doz.	6 0	9 0
— red, per dozen	1 0	2 0
— pink, per doz.	3 0	4 0
— Safrano, p. doz.	1 0	2 0
Stephanotis, per 12 sprays	4 0	6 0
Tuberoses, 12 blms.	0 3	0 6
Tulips, per doz.	0 9	1 0
Violets (Fr.) Parme, per bunch	2 6	4 0
— — Czar, per bunch	2 0	3 0
— — doz. bun.	1 6	2 0
— (Eng.), per doz. bun.	1 6	2 6

ORCHID-BLOOM in variety.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Apples, Blenheims, per ½-sieve	2 0	2 6
— Cox's Orange, per ½-sieve	5 0	6 0
— Wellingtons, per sieve	5 0	—
— Ordinary kinds, per sieve	2 0	3 0
Grapes, Alicante, 1st quality, per lb.	1 0	1 3
— Alicante, 2nd quality, per lb.	0 6	0 8
Grapes, Gros Colmar, per lb.	1 3	1 6
— Muscat, 2nd qual., p lb.	2 0	2 6
— Gros Colmar, 2nd qual., per lb.	1 0	—
— Muscats, English, 1st quality per lb.	3 6	4 6
Medlars, per ½-sieve	2 6	3 0
Nuts, Cob, per 100 lb.	25 0	27 6
Pine-apples, St. Michael, each	3 0	4 0

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d
Artichokes, Globe, per doz.	4 0	
Beans, French, Channel Is., per lb.	1 3	1 4
Cauliflowers, p. tally of 5 doz.	5 0	7 6
Cucumbers, home-grown, per dz.	2 0	3 0
Mushrooms, (Indoor) per lb.	0	10
— (French), p. lb.	0 6	—
Sea Kale, per punnet, 3½ to 4 lb. weight	1 0	1 6
Tomatos, home-grown, smooth, per doz. lb.	3 6	4 0
selected	5 0	6 0
— ordinary kinds, do.	1 6	2 0
— Canary Islands, per case, about 12 lb.	3 6	4 0

POTATOS.

Trade this week much firmer. Prices remain about same as last report. *J. B. Thomas.*

SEEDS.

LONDON: *Nov.* 25.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., describe to-days seed market as bare alike of buyers and of business. Clover seeds for the moment, meet with but scanty attention; values, nevertheless, keep steady. For Perennial and Italian Rye grasses there is a fair sale. Winter Tares offer on tempting terms. Rye continues scarce. The new Canadian Haricots just landing come cheap and good. Wisconsin Boiling Peas command full rates. Bird seeds are at present neglected. There is no change in either Mustard or Rape seed. Windsor and Longpod Beans are this season very reasonable.

FRUIT AND VEGETABLES.

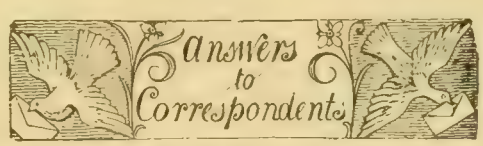
GLASGOW: *November* 25.—The following are the averages of the prices current at this market since last report:—Fruit; Pears, 6*d.* per lb.; Apples, 1*s.* to 2*s.* 6*d.* per stone; Tomatos, Guernsey, 5*d.* per lb.; do., Scotch, 6½*d.* do.; Grapes, home, 1*s.* to 2*s.* do.; do., foreign, 6*d.* to 1*s.* do. Vegetables: Turnips, white, 2*s.* to 2*s.* 6*d.* per dozen bunches; Savoys, 1*s.* to 1*s.* 3*d.* per dozen; Cabbages, 8*d.* to 9*d.* do.; do, late, 1*s.* to 1*s.* 6*d.* do.; do., Red, 2*s.* 6*d.* to 3*s.* do. Cauliflowers, Dublin, 2*s.* to 2*s.* 6*d.* per bushel; Parsnips, 4*s.* 6*d.* per cwt.; Herbs, assorted, 1*d.* to 2*d.* per bunch; Leeks, 1*s.* to 2*s.* 6*d.* per dozen bunches; Mint, 6*d.* per bunch; Onions, Dutch, 3*s.* per bag; do., Portugal, 1*s.* per stone; do., Globe, 3*s.* to 3*s.* 6*d.* per cwt.; Parsley, 5*s.* to 6*s.* do.; Greens, 4*d.* per bunch; Celery, table, 2*s.* per bundle; do., common, 9*d.* to 1*s.* do.; Potatos, 8*d.* per stone: Carrots, 2*s.* 6*d.* to 3*s.* 6*d.* per cwt.; Artichokes, 10*s.* to 14*s.* do.; Cucumbers, 4*s.* to 4*s.* 6*d.* per dozen; Lettuces, round, 6*d.* to 9*d.* per doz.; do., French, 1*s.* do.; do., Cos, 9*d.* do.; Radishes, 9*d.* to 1*s.* per doz. bunches; Horseradish, 2*s.* to 3*s.* per bundle; Mushrooms, 1*s.* to 1*s.* 3*d.* per lb.; Beetroot, 6*d.* per doz.; Cress, 3*d.* per basket; Brussels Sprouts, 1*s.* 6*d.* to 1*s.* 9*d.* per stone.

LIVERPOOL: *November* 25.—Averages of the prices at the various markets to date: St. John's: Potatos, 8*d.* to 10*d.* per peck; Grapes, English, 1*s.* 6*d.* to 2*s.* 6*d.* per pound; do., foreign, 6*d.* to 8*d.* do.; Pines, English, 4*s.* to 8*s.* each; Mushrooms, 1*s.* per pound. Birkenhead:—Potatos, 6*d.* to 8*d.* per peck; Grapes, English, 2*s.* to 3*s.* 6*d.* per pound; do., foreign, 4*d.* to 6*d.* do.; Pines, English, 4*s.* to 8*s.* each. North Hay: Turnips, 19*s.* to 20*s.* per ton; Potatos, Imperators, 1*s.* 8*d.* to 1*s.* 10*d.* per cwt.; Giants, 1*s.* 8*d.* to 1*s.* 10*d.* do.; Main Crop, 2*s.* 6*d.* to 3*s.* 6*d.* do.; Sutton's Abundance 1*s.* 8*d.* to 1*s.* 10*d* do.; Bruces, 1*s.* 10*d.* to 2*s.* 3*d.* do.; Turnips, 6*d.* to 9*d.* per dozen bunches; Swedes, 1*s.* to 1*s.* 6*d.* per cwt.; Carrots, 6*d.* to 8*d.* per dozen bunches; do., 2*s.* 9*d* to 3*s.* per cwt.; Onions, English, 4*s.* 6*d.* to 5*s.* 6*d.* per cwt. do. foreign, 2*s.* 9*d.* to 3*s.* do.; Parsley, 4*d* to 6*d.* per dozen bunches; Cauliflowers, 1*s.* 6*d.* to 3*s.* per dozen; Cabbages, 6*d.* to 1*s.* 3*d.* do.; Celery, 8*d.* to 1*s.* 6*d.* per dozen.

CORN.

AVERAGE PRICES of British Corn (per imperial qr.), for the week ending November 21, and for the corresponding period in 1895, together with the difference in the quotations. These figures are based on the Official Weekly Return:—

Description.	1895.	1896.	Difference.
	s. d.	s. d.	s. d.
Wheat	25 7	32 11	+ 7 4
Barley	25 1	26 8	+ 1 7
Oats	14 4	17 7	+ 3 3



*** *We have received numerous reports of Chrysanthemum shows, which we are quite unable to notice in the present issue, through insufficiency of space.*

A CORRECTION.—"Some new varieties of the Rose." The passage on p. 624 should read:—"Muriel Grahame, described as a valuable variation from that prolific parent of modern Tea Roses, Catherine Mermet, *I have not yet seen*; but I hope ere long to have this gratification."

BOOKS: *E. M.* The books you mention can only be obtained at the second-hand book dealers. Some of them are in the Lindley Library, and may be consulted there.

BROWNING OF THE LEAVES OF CAMELLIAS: *F. B.* Not a fungous malady, but the effect of injurious fumes, sulphur, coal or coke smoke, or lighting gas.

CHRYSANTHEMUM: *J. T.* The form that is objected to may be peculiar to the variety, or it may be due to "taking the bud" at the wrong time. Read Mr. E. Molyneux's *Chrysanthemums and their Culture*, published at 171, Fleet Street, E.C. (*Journal of Horticulture* Office).

CHRYSANTHEMUM FROM SEEDS: *G. M. M.* The fertilisation of flowers and the saving of seed are but little practised in this country, owing to the unfavourable nature of the climate, but are mostly carried out in southern Europe—Madeira and Algiers. You may ask us any questions you please in reason if they touch upon horticulture, and we will reply to them if we can do so.

HARES AND FRUIT TREES: *B. G.* Protect the stems with rabbit-proof wire, deal rods tied on the stems about 1 inch apart with iron wire; or smear them with a mixture of clay, lime, and cow-dung, into a pailful of which a wine-glass full of spirits of tar is put, and well stirred. This will not harm the trees. Whatever is used should reach to at the least 4 feet from the ground.

INSECTS IN CUCUMBER HOUSE: *C. B. W. & Co.* The insects sent are woodlice and millipedes or false wire-worms, both of which exist on living, but preferably dead or decaying vegetable matter, and doubtless they have been introduced with partially decayed leaves or leaf mould, or stable manure. The millipedes may have come in with the soil of which the beds chiefly consist. Wherever the insects are present in the soil, it should be carefully looked over, and if it could be exposed to a bed of strongly fermenting stable-dung in a close pit, many of the eggs and insects would be destroyed, or it might be treated with boiling water, although that would not be so certain in effect. Dung might be similarly treated, and that from old Mushroom beds rejected for the purpose of making up Cucumber-beds. In addition to what you have done the woodlice may be thinned in numbers by persistently pouring boiling water at night into all likely crannies, and crevices under stones, slates, &c.

LARVÆ ON ROOTS OF CABBAGE: *W. R.* The larvæ sent for inspection are those of a white millipede—Julus guttatus, one of the so-called "false wire-worms." It feeds on the roots of plants and decayed vegetation, which accounts for your finding them on the clubbed roots of Cabbages, on fallen Apples, on Potatos, &c. It is not so injurious as the true wire-worm, which somewhat resembles it; but the same means may be adopted to rid the soil of it as are found efficacious with that troublesome pest.

MARGUERITE LEAVES MINED: *W. S.* The work of the larvæ of a fly: pick off the leaves and burn them if badly affected, but smash the grub with finger and thumb if it has only just began to make its galleries.

MARKET PEARS AND STRAWBERRIES: *J. M.* Pears to sell from the trees: Doyenné d'Été, Jargonelle, William's Bon Chrétien, Beacon, Hessel or Hazel, Aston Town, Beurré de Capiaumont, Eyewood Lammas. For sale in boxes: Beurré d'Amanlis, Doyenné du Comice, Beurré Superfin, Pitmaston Duchess, Beurré Hardy, B. Bosc, Clapp's Favourite, Louis Bonne, Duchess d'Angoulême, Emile d'Heyst, Beurré Hardy, Josephine de Malines, Beurré Buisson. Strawberries: Black Prince, King of Earlies, Keen's Seedling, Noble, Pauline, Vicomtesse H. du Thury, La Grosse Sucrée, Joseph Paxton, James Veitch, Sir C. Napier, Royal Sovereign, Elton, Stirling Castle, Dr. Hogg, and British Queen; where it succeeds, President.

MEALY-BUG ON VINES: *Market Gardener.* Be careful not to use burning sulphur, as you kill the buds, if not the Vines, by so doing. Clean the rods of loose bark, and wash them with soft-soap and hot-water. Afterwards painting them with Gishurst Compound Soap, dissolved in water, at the rate of 3 to 4 oz. to 1 gallon of water. Paint and white-wash all woodwork and brickwork, and remove the upper crust of soil. This must be followed up for two or three years, and a sharp eye kept for stray bugs during the summer, touching the clusters with methylated spirits. In the summer season try Richard's XL All Compound. It will do no harm to the Vines, and may kill many of the insects.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to be so good as to consult the following number.—E. H. C.* Doubtless the plant is a Cucurbit, but we cannot say which one from your drawing. Send a specimen, and we will try to identify it.—*J. Hudson, Cambs.* Oncidium tigrinum. It should have more heat than that of the cool house whilst making its growth.—*R. N. H.* Oncidium prætextum, a species varying in colour from olive-green to brown, but always having the slight yellow margin more or less clearly defined.—*B. B.* Cattleya intermedia.—*Mrs. Briggs, Bury.* Cattleya intermedia.

NAMES OF FRUITS: *Sir C. W. Strickland.* 1, Huyshe's Victoria; 2, Beurré Rance.—*J. G.* Pears: 7, 8, Maréchal de la Cour; 9, Marie Louise d'Uccle; 10, Flemish Beauty. Apples: 1; Beauty of Kent; 2, Besspool; 6, New Hawthornden; 3, 4, not recognised.—*S. J.* 2, Gascoigne's Seedling; 3, 4, Blenheim Orange, good; 5, not recognised, excellent quality; 6, Royal Somerset.

POINSETTIAS LOSING THEIR LEAVES: *G. T.* The leaves fall from a variety of causes, such as lack of water or too much at the root, insufficient heat or ventilation, a too light potting soil, crowding the plants together or with others. We think that you kept the plants till too late a date in the cold pit.

RED-SPIDER: *C. S.* The age to which red-spider (Tetranychus telarius) lives is not known, but it is probably only one year. The egg is oval, colourless, and is found among the webs on the leaves of the plant it fastens upon; and in the case of the red-spider on Limes, frequently in heaps at the foot of the boles. The creature hatches from the egg in about eight days, and is much like the parent, excepting in having three pairs of legs, instead of four as in the mature red-spider. The fourth pair comes with the change of skin. The colour is various, yellowish-white, brick-red, orange, and sometimes, in early life, green. As far as present observations go, the change of colour is due partly to age, and the nature of the food.

SOIL TAKEN FROM A VINE BORDER: *X. Y. Z.* The border must have contained much organic matter, which has been seized upon by some species of fungus, the mycelium of which has spread through it. Before the Vines can grow healthily, this soil must be cleared out, and new soil substituted for it. When the roots of the Vines are dug out, it will be advisable to wash them thoroughly in Bordeaux Mixture, and bind them in damp straw till the new border is ready to receive them. In this employ pasture-loam not more than one year dug three-quarters; bones, charcoal, and lime-rubble one quarter, and if the loam be very retentive, a good proportion of sharp pit-sand may be added. The soil that is put in direct contact with the roots on replanting, may consist of any light kind of stuff, such, for instance, as that which has carried Melons or Cucumbers, mixing with it some sifted horse-dung in a rotten state.

COMMUNICATIONS RECEIVED.—R. N. H.—S. W.—Mathews & Brooks.—H. R.—A. L. T.—H. W. M. D.—J. R. J.—C. Lorenz. Louis Gentil.—Harrison Weir.—A. W.—J. B.—A. C. F.—G. Rose, Paris.—W. S.—R. S. L.—H. M.—*Devon Weekly Times.*—Eaton.—A. D., Leatherhead.—G. K.—W. J. R. L. should have addressed the Publisher.—R. & G. Cuthbert.—F. M.—W. R.—R. D.—T. B., next week.—S. L., next week.—W. Drummond, next week. H. J. L. W. R.—W. P.—W. K.—J. H.—S. C.—A. H.—D. R. W.—R. M.—P. T. S., Eaton Gardens.—H. M.—W. S.—A. C. F.—G. S. J.—J. C. W. R.—L. G. J. R.—J. Cobham.—A. P.—J. O'B. A. D.—R. D.—T. B.—E. Conner.—H. F.—R. C.—W. J. G. F. S. T.—T. H. S.—H. J. H.—D. T. F.—H. Stapleton.—D. W. T.

PHOTOGRAPHS, SPECIMENS, &c., RECEIVED WITH THANKS.—A. W.—W. T. Messrs. Linden.—W. B. L.—H. Fisher (Jackson-Harmsworth Polar Expedition).—Justus Corderoy. J. J.—T. P., Belfast.

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

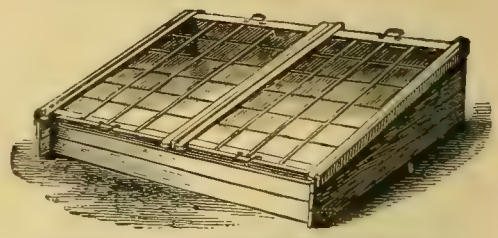
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and that it continues to increase weekly

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9	„ ..	0	5	6	20	„ ..	0	11	0
10	„ ..	0	6	0	21	„ ..	0	11	6
11	„ ..	0	6	6	22	„ ..	0	12	0
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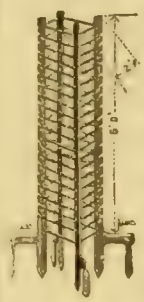
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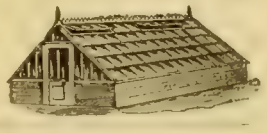
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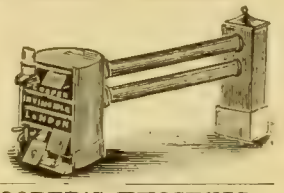
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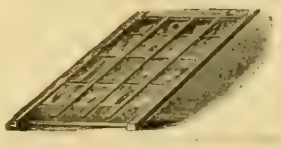
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The Gardeners' Chronicle

ESTABLISHED 1841. No. 2919.

No. 519.—VOL. XX. {THIRD SERIES.} SATURDAY, DECEMBER 5, 1896. {Regt as a Newspaper. PRICE 3d. POST FREE, 4d.}

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To County Councils, Borough Surveyors, and Others.
SPECIALTY of AVENUE TREES of proper sizes for Street and Park Planting
PLANES (large stock), OAKS, LIMES, and other Trees.
See New Tree and Shrub List, post-free, from—
PAUL AND SON, The "Old" Nurseries, Cheshunt.

AZALEA INDICA.—Fine plants, well set with bloom, in 5 inch pots, 2s. each, 21s. per dozen.
AZALEA MOLLIS, full of flower-buds, 12s. and 18s. per dozen.
ERICA HYEMALIS, fine for winter-blooming, in 5 inch pots, 18s. per dozen.
PALMS in variety, good plants in 5-inch pots, 21s. per dozen.
GARAWAY AND CO., Durdham Down Nurseries, Clifton, Bristol.

LANDSCAPE GARDENING.—W. INNES STUCKEY, Landscape Gardener, 48, Dyne Road, Brondesbury, N.W. Thirteen years with Mr. H. E. Milner.

CHOICE NEW CHRYSANTHEMUMS. Modesto, Australian Gold, Mrs. H. Weeks, Edith Tabor, and more than 100 other Novelties of 1896, including many of sterling merit, at moderate prices. Catalogue of 600 vars. free.
J. W. COLE, Midland Road Nurseries, Peterborough.

BULBS for BEDDING-OUT PURPOSES.—Hyacinths, Tulips, Crocuses, Snowdrops, Scillas, Aconites, &c.; all of best qualities, at most moderate prices. Complete Collections of Bulbs from 10s. 6d. upwards. Delivered free by rail or parcel-post.—DICKSONS, Bulb Growers, CHESTER.

THE ORCHID-GROWERS' MANUAL.—Seventh Edition: Enlarged and Revised up to the present time, containing 800 pages, and 311 Illustrations, making the most complete, up-to-date work on Orchids yet published. Super-royal 8vo. Price 25s.; Free by Parcel Post, in the United Kingdom, 25s. 10d.
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HUDSON'S LILIUM AURATUM from Japan—fine bulbs, 12, 4s; 25, 7s. 6d.; 100, 25s. 6d. Lilium longiflorum giganteum, finer and stronger than ordinary, 12, 3s. 6d.; 25, 6s. 6d; 100, 23s. Lilium odorum japonicum, much finer than Brownii, immense bulbs, 2s. 6d. each; 24s. per doz.
JAP. LILY ALBUM, depicts thirty-seven varieties, life size and true to Nature; no printed matter; produced in Japan. Price, 3s. 6d., post free.—W. H. HUDSON, F.R.H.S., Japanese Importer, Kilburn, London, N.W

OHLENDORFF'S GUANO GARDEN MANURE and CHINCHAS PERUVIAN GUANO, the Best for all Horticultural Purposes. Produce good results without exhausting the soil. Unrivalled for Tomatos, Cucumbers, and other Vegetables. A boon to Gardeners and Prize-takers. Supplied by Seedsmen and Nurserymen.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings. Patentees of the Duplex Upright Tubular Boilers.—King's Road, Chelsea, S.W. Telegraph Address "Hortulanus, London," Telephone No. 8728.

SALES BY AUCTION.

SALES DURING THE CURRENT WEEK.

MONDAY NEXT.

A large Collection of Choice BULBS, ROOTS, and LILIUMS, from Holland and other parts, in large and Lots, to suit all buyers.

WEDNESDAY NEXT.

Choice named Standard, Dwarf, Climbing, and Pot ROSES, from two of our Leading Growers, including many of the best-known varieties. A selection of well-grown Pyramid and Standard and Dwarf-trained FRUIT TREES, Japanese LILIUMS, LILY OF THE VALLEY CROWNS, SPIRÆA, GLADIOLI, PÆONIES; a portion of a surplus stock of English-grown Ornamental SHRUBS and TREES; a large collection of Hardy BORDER PLANTS; 40 lots of small Decorative PALMS, and an Importation of DUTCH BULBS.

THURSDAY NEXT.

Twenty Cases of ARAUCARIA EXCELSA, as received direct; STOVE and GREENHOUSE PLANTS; 40,000 best LILY OF THE VALLEY CROWNS; 2000 SPIRÆA, in large lots; ORCHIDS, Japanese and Dutch LILIES, DAFFODILS, and a large Consignment of BULBS and ROOTS from Holland.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., at half-past 12 o'Clock precisely each day.

On view mornings of Sale, and Catalogues had.

Wednesday Next.

EIGHT magnificent, beautifully-grown SPECIMEN PALMS, in splendid condition, and a Collection of TABLE and other DECORATIVE PALMS.

MR. J. C. STEVENS will include the above in his SALE by AUCTION at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY NEXT, December 9.

Shepherd's Bush—Central London Railway Depot.

GROWING TIMBER, SHRUBS, TURF, GLASS ERECTIONS, BAND-STAND, and other items.

Absolute Clearance Sale.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, The Woodhouse Park Estate, Wood Lane, Uxbridge Road, Shepherd's Bush, W., on TUESDAY NEXT, December 8, at 11 o'Clock, by order of the Electric Traction Company, the whole of the GROWING TIMBER and other TREES, comprising about 650 Horse-Chestnut, Ash, Oak, Planes, Lime, Poplar, Willow, Cedars, Elm, Beech, Birch, Walnut, Mulberry, and others, of various sizes; several thousands of Evergreen and Deciduous SHRUBS, consisting of Aucubas, Laurels, Euonymus, Box, and Hollies. The Erections of seven GREENHOUSES, with Staging, Hot-water Piping, and Boiler; a nine and a fifteen-light PIT, a large quantity of Garden Turf, Garden Edging, Tiles, Burrs, and Rockwork, ornamental Iron Arches, Summer-houses, two Fossilised Trees, ornamental Iron Band-Stand, quantity of Stone Columns and Pedestals, 10 Hanging Oil Lamps, and other items.

May be viewed. Catalogues may be obtained at the Offices of the Electric Traction Company, Limited, in Wood Lane, on the Estate; 16, Great George Street, Westminster, S.W.; and of the Auctioneers, 67 and 68, Cheapside, London, E.C.

Perry Hill, Cliffe, near Rochester.

LAST SALE OF THE SEASON OF 150,000 FRUIT TREES.

By order of Mr. W. Horne.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, as above, on WEDNESDAY, December 16, at half-past 11 o'Clock:—

40,000 Standard, Half-Standard, and Maiden APPLES, CHERRIES, PLUMS, and PEARS.

30,000 Baldwin, Carter's Champion and Early BLACK CURRANTS.

60,000 STRAWBERRY PLANTS, Royal Sovereign, Joseph Paxton, and Noble.

15,000 3-year Pyramid APPLES, on English Paradise, in 40 varieties.

30,000 Connover's Collossal ASPARAGUS (2 years), and others.

Catalogues may be had on the Premises; and of the Auctioneers, 67 and 68, Cheapside, E.C.

Brook House, Southgate.

CLEARANCE SALE of STOVE and GREENHOUSE PLANTS, FERNS, GARDEN TOOLS, FRAMES, IMPLEMENTS, DAIRY-COW, HOUSE and STABLE UTENSILS; also, about 200 Miscellaneous ORCHIDS. By order of P. C. Brachi, Esq., who is leaving the neighbourhood.

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, on the Premises, Brook House, Southgate, 1 mile from Southgate Railway Station, at an early date, which will be announced next week.

Friday Next.

By order of Messrs. W. L. Lewis & Co.

Grand Imported ORCHIDS, comprising—

CATTLEYA AMETHYSTOGLOSSA, in perfect condition, magnificent and varied plants.

CATTLEYA HARRISONIÆ, 25 picked specimens, Oncidium concolor, &c. Also—

ESTABLISHED PLANTS, comprising—

Lælia Dayana, Odontoglossum Rossii majus, Lælia acuminata, and Cattleya Harrisoniæ violacea, all in Flower or Bud. Also 220 plants of CATTLEYA MOSSIÆ (another property).

MESSRS. PROTHEROE AND MORRIS will SELL the above by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, December 11, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

SALES NEXT WEEK.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., as follows:—

MONDAY NEXT, DECEMBER 7.

CARNATIONS and PICOTEES, GLADIOLI, MONTBRETIAS, ANEMONES, IRIS, LILIES, CALOCHORTI, and new and rare PERENNIALS, many never previously offered; at 12 o'Clock.

DUTCH BULBS, 700 lots; also, 300 Dwarf ROSES; 90 lots of STOVE and GREENHOUSE PALMS and FERNS; at 12 o'Clock.

TUESDAY NEXT, DECEMBER 8

DUTCH BULBS, 500 lots; also 300 Dwarf ROSES, 100 lots of GLADIOLI and CARNATIONS, SPIRÆAS, LILIUM CANDIDUM, &c.; at 12 o'Clock.

THURSDAY NEXT, DECEMBER 10.

SPECIAL SALE of HARDY PERENNIALS, PYRETHRUMS, CARNATIONS, DAHLIAS, PÆONIES, TRITOMAS, PHLOXES, IRIS, Tea, Standard, and Dwarf ROSES, 300 AZALEA INDICA, 300 A. MOLLIS, 100 RHODODENDRONS, and 50 CAMELLIAS from the Continent, at 12 o'Clock.

On view mornings of Sale, and Catalogues had.

"Keble Towers," Bournemouth.

MAGNIFICENT COLLECTION of ESTABLISHED ORCHIDS, many in Flower and Bud. Also an IMPORTATION of ORCHIDS from Peru, choice FLOWERING and FOLIAGE PLANTS, &c.

MESSRS. CLUNES BARE AND CO., are instructed by Messrs. F. Sander & Co., St. Albans, to SELL the above by AUCTION, at "Keble Towers," adjoining the "Grand" Hotel, Bournemouth, on THURSDAY, December 17, at half-past 12 o'Clock.

On view day prior to and morning of Sale. Catalogues of the Auctioneers, Branksome, Bournemouth.

Immediately after above, Messrs. CLUNES BARE AND CO., will offer a splendid importation of LILIUMS, AMARYLLIS, BEGONIAS, &c.

GREAT SALE OF ORCHIDS.

MR. JOHN COWAN will SELL by AUCTION, in the COAL EXCHANGE, MARKET PLACE, MANCHESTER, on FRIDAY, the 11th inst., at 12.30 prompt, a large and splendid

COLLECTION OF ORCHIDS,

all in the very finest condition, and including a large number of Special Varieties. The entire lot has been selected with the greatest care, and with a view to meet the wants of purchasers of High-class Orchids.

On view the morning of the Sale; and Catalogues may be had from the Hall-keeper, or post-free from the Auctioneer—

THE VINEYARD and NURSERIES, GARSTON, near LIVERPOOL.

WANTED, TO RENT, with view to Purchase, 500 to 1000 feet run of GLASS, LAND, and COTTAGE.—N. S., 41, Wellington Street, Strand, W.C.

SPECIAL OFFER, through Breach of Contract.—FIVE GREENHOUSES, 100 feet by 12 feet, together or separate. Best material. Could be erected by us at greatly reduced price.

For particulars apply to G. & W. HAYNES, Horticultural Builders, Hawley, Dartford, Kent.

GLASS-HOUSES. — DWELLING-HOUSE with 90 Poles of LAND for SALE. Situate at Leagrave, Beds, near Midland Station. Five Glass houses, 100 ft. by 13 ft., and Propagating-house, with extra powerful Boilers, Pipes, and every Appliance. Wants seeing. Write for particulars. D. ALMOND, Cheapside, Luton, Beds.

For Immediate Sale,

A SMALL, COMPACT MARKET NURSERY situate in the South-western part of London, and 2½ miles from good market; 9 miles from Covent Garden. Twelve years' lease, with option to renew for fourteen years; ground rent, £10 per annum. Large Stock on the place may be had at valuation. Includes 50,000 Tulips, 5000 Hyacinths, grand house of Callas, Spiræas, and thousands of Bedding Plants. Also about 600 good Orchids, for cut blooms. A reasonable offer will be accepted. Further particulars from—OWNER, 41, Wellington Street, Strand, W.C.

NURSERY BUSINESS for SALE, compact and old-established, in the West of England. In full working order; in splendid situation, and good connection. Incoming about £500, for Buildings, Fixtures, &c. Stock at valuation. For further particulars apply AUCUBA, 41, Wellington Street, Strand, London, W.C.

FRUIT and POULTRY FARM.—Midway between Monmouth and Ross; 12¾ acres, Cottage, Stabling, Heated Greenhouses, choice Fruit Trees. To be LET, or the FREEHOLD will be SOLD.

CLUNES BARE AND CO., Horticultural Auctioneers, Branksome, Bournemouth.

MANCHESTER WHOLESALE FLOWER MARKET.

GEO. FORBES, the largest CUT FLOWER SALESMAN in the North of England.

Best Market Prices returned for Consignments. Packing Boxes and Labels free. Cheques weekly.

N.B.—Prompt attention given to all orders for Cut Flowers by Letter, Telegram, or Telephone.

National Telephone, 1059. Established, 1878.

EXHIBITIONS.

Preliminary Announcement.

A GRAND HORTICULTURAL SHOW and FETE will be held at CHESTER, on WEDNESDAY and THURSDAY, the 28th and 29th July next.

£500 in Prizes will be awarded for the Horticultural Department.

Schedules are being prepared, and may be obtained early in January, from the Secretary,—

MAJOR WALKER-JONES, Town Hall, Chester.

KINGSTON and SURBITON CHRYSANTHEMUM SOCIETY.

The TWENTY-FIRST ANNUAL EXHIBITION will be held at the DRILL HALL, KINGSTON-ON-THAMES, on TUESDAY and WEDNESDAY, November 9 and 10, 1897.

YORK CHRYSANTHEMUM SHOW, 1897.

The above is appointed to take place, Nov. 17, 18, and 19.

13, Feasegate, York. J. LAZENBY, Secretary.

WANTED, a large plant of CLERODENDRON BALFOURII. State size, condition, and price to BRIGGS, care of Priestley, North Bridge, Halifax.

WANTED, one large LAPAGERIA ALBA and one large LAPAGERIA ROSEA. Particulars to—THOS. BURY, Arley Nursery, Mellor, Blackburn.

WANTED, large Flowering Plants for Stove, STEPHANOTIS, DIPLADENIAS, EUCHARIS, GARDENIAS, &c. Must be clean and cheap.

W. CROWDER AND SONS, Horncastle.

WANTED, about 3 tons of good EVERGREENS for Wreathing, Portugal Laurel, Berberis, Aucuba, Silver Holly, Tree Ivy (not trail-), and Yew.—State price and quantity to spare to C. BOATWRIGHT, Florist, &c., Loughborough Junction, Brixton, S.W.

WANTED, STANDARD BRIARS, 4 feet and upwards, stout, and straight; ASH KEYS, and HOLLY BERRIES. Send samples, and state lowest price to—SYDNEY S. MARSHALL, Barnham Nurseries, Barnham Junction, Sussex.

WANTED, Standard RIBES, LARCH 2 feet to 3 feet, Seedling Thorns. To OFFER, Standard Ash, Standard English Oak, Hazel, Privet Oval and Common, Manetti Stocks, Box Green 1½ feet to 3 feet, cheap; also a Box Hedge 3 feet by 3 feet, tr. three years since.

B. R. DAVIS, Yeovil Nurseries, Somerset.

Fifty Nurseries, Market Gardens, Florist and Seed BUSINESSES to be DISPOSED OF.

MESSRS. PROTHEROE AND MORRIS' HORTICULTURAL REGISTER contains full particulars of the above, and can be obtained, gratis, at 67 and 68, Cheapside, London, E.C.

ORCHIDS in Bud, from 1*s.* 6*d.* each; or if Growing in West's Patent Orchid Baskets, from 2*s.* 3*d.* Carriage paid. Catalogue free.

The LEEDS ORCHID CO., Roundhay, Leeds.

PEACHES and NECTARINES. — Dwarf-trained young fruiting trees, which have kept up a continuous supply of fruit since middle of July to present date in cold orchard house. Names and price from—

FREDERICK PERKINS, Regent Street, Leamington Spa.

20,000 CLEMATIS, IVIES, and other Climbers, in pots. All the best kinds of above and many other rare Climbers are described in our New Catalogue, post free.—CLIBRAN'S Nursery, Altrincham; also at Manchester, Bangor, and Llandudno Junction.

GIANT BERLIN LILY OF THE VALLEY.

W. ICETON'S well-known GIANT BERLIN LILY OF THE VALLEY.—100,000 Planting Crowns at 12*s.* 6*d.* per 1,000, 1 and 2 years; also a few thousand retarded Crowns. Price on application to—

W. ICETON'S, Putney, S.W.

CŒLOGYNE CRISTATA, well grown and cheap.

Good plants, 1*s.*; with 25 bulbs, two or three spikes, 2*s*; stronger, 65 bulbs, six spikes, 5*s.*; 100 to 150 bulbs, eight to sixteen spikes, 7*s.* 6*d.* to 12*s.* 6*d.* each.

Also a few other ORCHIDS.

TRUSTEES late J. STEVENSON, Timperley, Cheshire.

FERNS AND DECORATIVE PLANTS!—(TRADE):—Ferns, in 2½-inch pots, Stove and Greenhouse, 30 best selling sorts, 12*s.* 100; ditto, large, in 48's, 10 best selling sorts, 6*s.* doz.; strong seedlings, 6*s.* 100, 50*s.* 1000; Adiantum cuneatum, in 48's, for cutting, 6*s.* and 8*s.* doz.; ditto, for making large plants quickly, 16*s.* and 20*s.* 100; Cyperus, Aralias, Grevilleas, Solanums, in 48's, 6*s.* per doz.; Marguerites, Chrysanthemums, and Erica gracilis, Solanums, in 48's, 9*s.* per dozen; Palms, Ficus, Dracænas, Crotons, Bouvardias, Erica hyemalis, Cyclamen, in 48's, 12*s.* per dozen. Lists free. Packed free. Cash with order.—J. SMITH, London Fern Nurseries, Loughborough Junction, London, S.W.

SUPERLATIVE RASPBERRY

(Bunyard's true stock).

The finest Raspberry ever sent out.

Per dozen, 3*s.*, post-free, 3*s.* 9*d.*, per 100, 18*s.*; extra strong, 6*s.* per doz. Price per 1000 on application.

For description see Strawberry Catalogue.

Illustrated Fruit Catalogue, six stamps.

GEORGE BUNYARD AND CO., Royal Nurseries, Maidstone.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

POTATOS.—Myatt's Ashleaf, grown on high land, 65s. per ton.
G. F. YOUNG, Swineshead Abbey, near Boston.

SHRUBS, &c., OLEARIA HAASTI, 1½ to 2 feet, bushy, full of buds, 6s. per doz., or 40s. per 100; larger sizes 9s to 12s. per doz. ABIES DOUGLASII, finest stocks, 1½ to 2 feet. £4 per 1000; 2 to 2½ feet. £5 per 1000.
GARLIES MITCHELL, Nurseryman, Stranraer.

HOLLIES, Green English, from 1 to 3 feet. Well-rooted, perfect plants; will move any distance. Samples and price from—
FRED. PERKINS, Regent Street, Leamington Spa.

CHINESE ARTICHOKES (Stachys Tuberifera).—A few cwt. for disposal, 40s. per cwt., on rail; small quantities, 6d. per lb. Cash with order. Sample on application.—H. & A. PULLEN-BURRY, Sompting, Worthing.

30,000 CHRYSANTHEMUMS.
Calvat's Set and New Varieties of 1896, 1s. 3d. each.
List free.
HEAD GARDENER, Perly Cross, Teignmouth, Devon.

RASPBERRY CANES. — Northumberland Fillbasket, Carter's Prolific, Norwich Wonder, Falstolf. Well-rooted planting canes. Price and sample on application.
JAMES W. TODMAN, Platt, near Wrotham, Kent

OWEN'S BRITISH CHRYSANTHEMUMS hold highest positions at Exhibitions and Elections of best varieties, surpassing all other firms combined. Catalogue, 1d. *Culture*, by W. H. Lees, W. Tunnington, E. Molyneux, and C. Orchard, 7d.—R. OWEN, Maidenhead.

ALLINGTON PIPPIN.—The finest new Dessert sent out for thirty years.
Maidens, 5s.; 2-yr., 7s. 6d. each; larger to 21s each.
GEORGE BUNYARD AND CO., Maidstone.
Distributed in November.

Important to Mushroom Growers.

CUTHBERT'S SPÉCIALITÉ MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5s.
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Herbaceous and Alpine Plants.

CUTHBERTSON'S Illustrated and Descriptive CATALOGUE of over 1000 species and varieties post-free.
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ONCIDIUM CRISPUM, IN SPIKE.
Fine, healthy unflowered plants,
5s., 7s. 6d., 10s. 6d., and 15s. each.
W. L. LEWIS AND CO., Southgate, London, N.

50,000 EUONYMUS, Green and Golden, all splendid bushy plants.—GREEN: 12 in. to 15 in., at 30s. per 100; 15 in. to 18 in., at 40s. per 100; 18 in. to 21 in., at 55s. per 100; 21 in. to 24 in., at 75s. per 100; 25 in. to 40 in. at special prices.
GOLDEN: 5 in. to 12 in., at 3s. to 8s. per dozen. Cash with order. J. J. CLARK, Goldstone, Brighton.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free.
P. McARTHUR, The London Nursery, 4, Maida Vale, London, W.

HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.C. Prompt cash.

A Large Stock of
HORTICULTURAL BONES for SALE, In small or large quantities, suitable for all buyers.
Sizes:—1 inch, ½ inch, ¼ inch, meal; splendid analysis.
Apply to E. S. WILES & LEWIS, Bone Crushers, St. Albans.

SEAKALE. — SEAKALE. — Noted Fulham Seakale Crowns for sale. Extra large, 9s. per 100; or 75s. per 1000, for cash with order.—Apply to WM. BAGLEY, Millshot Farm, Fulham. Established over 200 years.

To Rose Growers.—Amateurs and Trade.

SEEDLING BRIARS. — Transplanted, for Budding next season, per 100, 3s. and 4s.; per 1000 on application. STANDARDS of GLOIRE DE DIJON, with good heads, per dozen, 12s.
G. HODGSON, Hemsworth, Wakefield.

STRAWBERRIES, Strong runners.—Royal Sovereign, 2s. 6d. per 100; Sir Joseph Paxton, 1s. 6d. per 100; Vicomtesse H. de Thury, 1s. 6d. per 100.
RASPBERRY CANES.
Carter's Prolific, 3s. per 100; Semper Fidelis, 3s. per 100; Hornet, 3s. per 100. Special quotations for large quantities.
Carriage paid on orders of £1 value.
JOHN CHIVERS, Histon, Cambridge.

10,000 NOW READY.
FINE STUFF, OF MY
GRAND NEW ZONAL PELARGONIUM,
"KING OF DENMARK."
£3 per hundred, free on Rail.
R. LINSEN, Mansfield Hill Nursery, Chingford, Essex

GRAND ROSE TREES—in Standards, and Dwarfs, and Climbers.
FINE PEACH TREES—in Newest and Best Varieties.
ROYAL SOVEREIGN Strawberries—in Runners; and many other varieties in pots.
FORCING RHUBARB—the best Early Red Champagne.
SEAKALE, Grand Roots.
GRAND LONDON PLANES—straight in stem and good heads.
EVERGREEN SHRUBS, thousands of.
LEAFY BOWERS—for Villa Gardens: the Weeping Ash Tree.
HARDY CLIMBERS, in Pots—the self-supporting Creeper, Ampelopsis Veitchi, & Ivies.
PROFUSELY BLOOMING CLEMATIS, in great variety, Honeysuckles and Jasmines.
JOHN PEED & SONS,
The Nurseries, Mitcham Rd., Streatham, S.W.

SEAKALE! SEAKALE! SEAKALE!—Magnificent selected Crowns for forcing, 9s. per 100, 80s. per 1000. Net cash with order.—J. DIXON & SON, Spencer Park Nurseries, Wandsworth Common.

LYCASTE SKINNERI, LÆLIA ANCEPS, &c., all strong, unflowered plants, in spike, from 3s. 6d. upwards.—The LEEDS ORCHID CO., Roundhay, Leeds. Agents for the West's Patent Plant Receptacles.

STANDARD ROSES.—Splendid, straight, well-grown, large heads, leading varieties. Catalogues on application.—FREDERICK PERKINS, Nurseryman, Regent Street, Leamington Spa.

ROSES, Bush, extra strong plants, in good variety, 4s. 6d. per dozen, free. Low quotations for larger quantities; also for Manetti Stocks.—B. HOUGH, Bisley, Surrey.

PALMS for Sale.—Six large very handsome Palms, all in good condition.
Apply to the GARDENER, North Breache Manor, Ewhurst, near Guildford.

GRAND new VIOLETS.—Princess of Wales, large as a Pansy. Decidedly blue. Award of Merit. Princess Beatrice, equally good. Victoria, much larger and deeper than California, each 4s. 6d. per dozen. Cash with order.—S. RANDALL, Exeter.

CHRYSANTHEMUM CUTTINGS.—Splendid healthy stock of Old and New Varieties. LIST sent on application. The following five new varieties, one Cutting of each, sent post-free for 2s. 6d.:—Mrs. John Shrimpton, Calvat's Boule d'Or, Graphic, Amiral Avellan, and Mrs. Hume Long.—F. SIMMONDS, Mamhead Park Gardens, near Exeter.

ROSES, Dwarf H.P.'s,
Principally on the Briar Cutting; first-class stuff.
Also Standards and Half-Standards.
Eight Large PEACH TREES, from a Peach-house, still to offer.
Prices and Catalogue on application to
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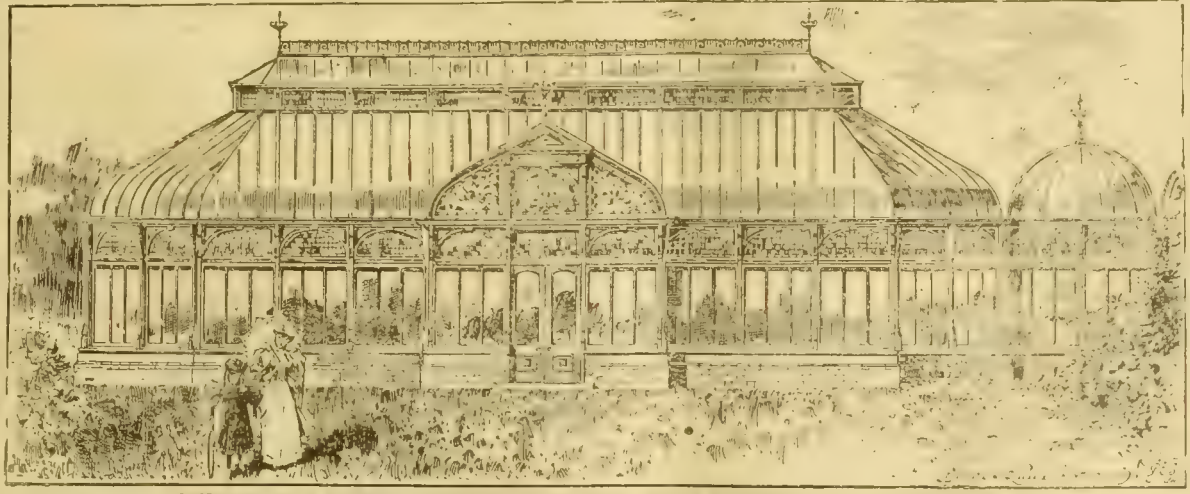
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We hold a large and varied stock of the above, in first-rate quality, and at reasonable prices.
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S. SPOONER & SONS,
HOUNSLOW NURSERIES, HOUNSLOW.

500,000 very Healthy Thriving young
FRUIT TREES for SALE,
OF THE CHOICEST MARKET SORTS, IN LARGE OR SMALL QUANTITIES.
CATALOGUES on application to—
J. SMITH & SON,
MARKET GARDENERS AND FRUIT TREE GROWERS,
SIPSON, WEST DRAYTON, MIDDLESEX,
And 458 & 459, COVENT GARDEN MARKET, LONDON.

BOULTON & PAUL, NORWICH.
CONSERVATORIES, VINERIES, PEACH, PLANT, ORCHID, TOMATO, and CUCUMBER HOUSES, BOILERS, VALVES, PIPES, and FITTINGS.

RANGES OF HORTICULTURAL BUILDINGS ERECTED COMPLETE IN ANY PART OF THE KINGDOM.

GREENHOUSES FOR AMATEURS.
No. 47A LEAN-TO.
10 ft. × 7 ft. £3 10s.
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10 ft. × 8 ft. £10 10s.
Well made, painted, glazed, and carriage paid.



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VIOLET FRAME,
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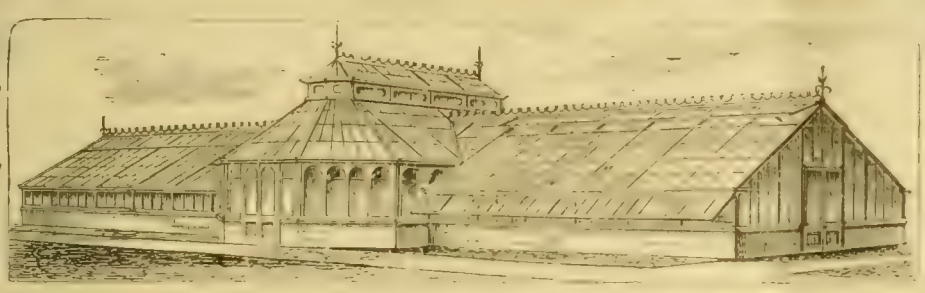
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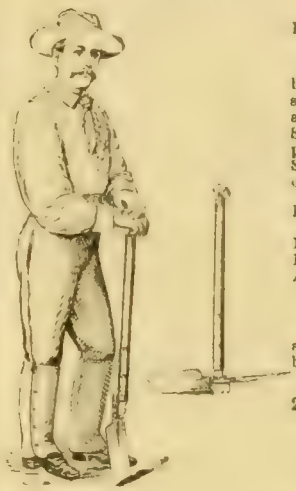
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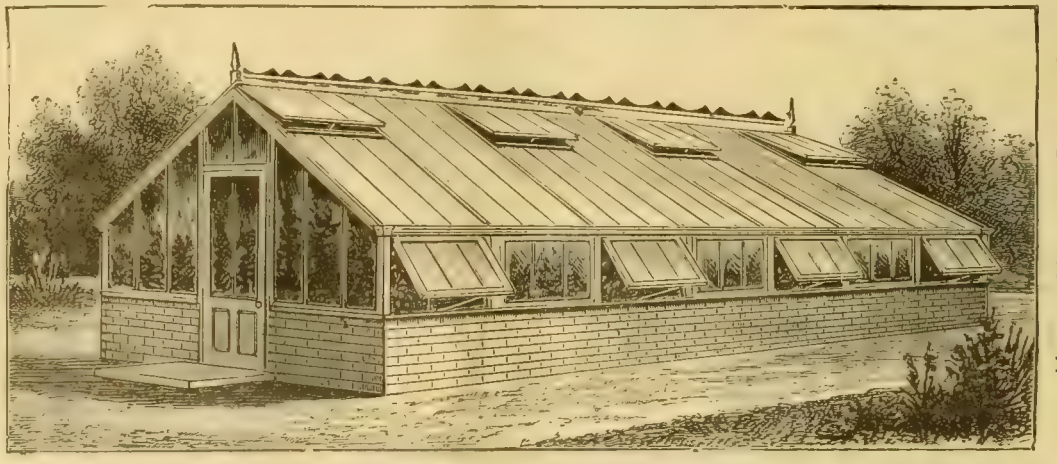
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THE
Gardeners' Chronicle.
SATURDAY, DECEMBER 5, 1896.

CASTLEWELLAN.

FEW country seats in these islands are so delightfully situated as Castlewellan, the residence of the Earl of Annesley, in the county of Down. The estate lies about 4 miles from Newcastle, a rising watering-place, which nestles at the foot of the Mourne Mountains, just where they dip into the Irish Sea, and it is close to the market town of Castlewellan. On nearly all sides the home estate is surrounded by Mourne Mountains, whose outline, as is usual with those consisting of granite, is rugged and broken. Slieve Donard, the highest peak, 3790 feet, is fully in view. The locality is probably of easiest access by railway from Belfast to Newcastle, but the traveller from the south would do well to leave the main Dublin-Belfast line at Scarva Junction, and take the branch line to Ballyroney, whence a "long-car," holding six persons on each side, will take him, if he so please, 9 miles further, by a road skirting the mountains most of the way. It is a short drive from the town to the Castle, partly by what is a public road, and the remainder of the distance through undulating park-land.

The residence (fig. 116), a modern castellated structure of blue granite, stands on a slight eminence at the extremity of a fine sheet of water, more than one mile in length, and is admirably placed for obtaining fine views of the landscape, which is varied to an uncommon degree.

Once inside the gardens under the guidance of Lord Annesley's head gardener, we were compelled to cease surveying the mountains, to admire the unequalled collection of rare trees and shrubs to be found on the lawns. The symmetry and fine growth of everything are remarkable, and in many cases unequalled. Remodelled, and in parts wholly laid out by Mr. Ryan under his Lordship's unremitting superintendence in the course of the last thirty years, the very large gardens abound in plants from Japan, New Zealand, Australia, Mexico, Peru, California, and Chili, introduced during the last half-century, which have been planted to the exclusion of commoner ones, whenever their hardiness in the mild climate of the district had been ascertained. Hence the splendid Senecios, Pittosporums, Podocarpus, Bambusa, Eucryphia, Lomatia, Osmanthus, Daphniphyllum, Larix Kæmpferi, Aciphylla squarrosa, Japanese Acers, Eriobotrya, Eucalyptus, &c.

The natural contour of the lawns on which many of the arboreal treasures of the place are planted, enables the beholder who chooses his points of view with judgment to inspect the

arboretum, for such in fact it is, as a whole, the ground gently falling to the south, with high ground to the east, and a terrace to the north.

Taking shrubs first, Mr. Ryan, his lordship's gardener, directed our attention to a perfect specimen of Pittosporum Mayii, the native country of which is not known, clothed to the ground with foliage, and measuring 10 feet in height and diameter. Another, equally perfect in its outline, was 15 feet high by 14 feet through. Other species remarked were P. nigricans, phillyræoides variegatum and P. eugenioides variegatum, most desirable shrubs; P. crassifolium, the latter perhaps a trifle more capable of withstanding cold than the others; P. viridiflorum, and P. Colensoi, with very glaucous leaves, the most distinct looking of the group. Fitzroya patagonica, a very handsome habited and graceful shrub, chiefly from the southern hemisphere, are too tender in this country excepting in the most favoured localities of Ireland and the south-west counties of Scotland and England. A small bush of Eucryphia pinnatifolia was in bloom this and E. purpurea are evergreen shrubs, quite hardy at Castlewellan. Lomatia ferruginea, fine foliage plants which are usually regarded as cool greenhouse plants, do well here; a specimen of the pretty L. pinnatifolia 5 feet high has stood out several years, and has foliage of a healthy dark green colour. Osmanthus Aquifolium and O. myrtifolius, a fixed sport of the former, grow into handsome bushes; O. argenteo-variegata, O. aureo-variegata, probably forms of O. Aquifolium, as well as O. robustifolia, are all to be found here, as shrubs of low growth, with glistening dark green foliage. Ligustrum glaucescens, an evergreen shrub of which too much cannot be said in its favour, was remarked in several fine examples, one being a perfectly round bush 6 feet in diameter, and a variegated form of this species introduced this year from Japan is a very desirable form. Some of the Senecios are shrubs with a good deal of character in their foliage and flower, and are scarcely to be recognised as belonging to an order which includes our common Groundsel. S. Forsteri (fig. 121, p. 693) is a fine evergreen species, with bold, handsome, deeply-serrated leaves; S. compactum has pretty grey-green leaves, which are edged with white; and S. Greyi has grey coloured foliage, a pretty contrast to other leaf-tints. Hymenanthera crassifolia is a creeping shrub, with the habit of a Cotoneaster, bearing white, berry-like fruits. The somewhat tender Nepalese Berberis aristata stands outside well. An excellent creeping plant suitable for covering a wall or furnishing a small bed, is Schizandra chinensis. Escallonia rosmarinifolia is quite hardy, producing its red-magenta flowers in the winter. The Eleagnus form a genus represented by three species, viz., E. edulis (=multiflora), E. macrophylla, and E. oblongifolia, and what we take to be a variety of E. pungens, named E. aureo marginata. When these half-trees and big bushes are in fruit they form pretty objects in any garden. It is unfortunate that, although hardy everywhere, they are seldom planted. The beautiful Mexican Choisya ternata is never hurt by frost at Castlewellan, and it grows into a beautiful bush when planted quite out in the open. A plant of Desfontainea spinosa was 10 feet high, as much in diameter, and flowers well every year. Of this species hundreds are to be found. Plants of Buddleia Colvillei and Xanthoceras sorbifolia occupy positions against a south wall in order to flower them. A plant of the musk-scented Aster argophyllus was noted, also one of Cæ alpinia japonica, which at this place gets its late growth nipped with frost. The Japanese Maples are, as one might imagine, never hurt by frost, as they unfortunately are in this country. We noted a plant of Enkianthus japonicus, one of Rhapidophyllum cyanocarpus, with blue flowers, which are succeeded by dark coloured fruits. The almost perpetual-flowering Veronica Lyallii is an excellent shrub, as Veronicas generally are in the mild climate of Ireland. We observe in the Castlewellan plant-list that seven species exist in the gardens. The species V. Andersoni, V. Traversii, and V. decussata grow in a very few years into plants of a very large size, and all of them bloom abundantly. An enormous example of Veronica Traversii, twenty years planted, has a diameter of 18 feet, a height of 8 feet, and circumference of 25 yards! Veronica Hendersoni variegata, a nice plant, was full of bloom. One of the best autumnal-flowering St. John's Worts, is Hypericum oblongifolium. The fine large-flowered H. Moserianum is included among the eight species existing in the gardens. A somewhat tender plant is Eurybia erubescens, but it suffers here only in severe winters.

Viburnum macrocephalum may not be classed among tender plants, for it is capable of withstanding the hardest frosts of this country; the heads of white blossom exceed 6 inches in diameter. Clethra arborea may be trusted out of doors, although it is usually reckoned among the inmates of the greenhouse. Cedrela sinensis is a tree of fine characteristics, which might be taken at first sight for Ailanthus glandulosus; Corynocarpus lævigatus is a fine evergreen shrub, of large growth, said to be quite hardy at Castlewellan. A specimen of Drimys Winteri has reached the rare height of 4 feet, and one of Eugenia apiculatus was in blossom (second week in August); the black stemmed and white-flowered Hydrangea mandschurica picta is a remarkable-looking shrub, which is doubtless of sufficient hardiness to figure in English gardens.

Vitis Coignetti, about which so much undeserved notice was made a few years ago, is found here, as elsewhere difficult of propagation; and a Vine measuring 15 feet in width, is being abundantly layered. Whether Mr. Ryan will succeed in obtaining fresh plants by this method has yet to be proved. Many American Vines, and some others cultivated for their fruits in this country, have leaves more handsomely coloured in the autumn than this species; the colour is reddish-purple. The so called evergreen Laburnum, Piptanthus nepalensis, was remarked. Of Griselinias, the species known in gardens as G. lucida has a much larger leaf than the better-known G. littoralis. The unique example of a species of Banana hardy enough to exist out-of-doors in Ireland may be remarked in Musa Basjoo from Japan; whether it will bear fruit or exist for any length of time are matters which have yet to be proved. If it should live but not fruit, it would still be a gain to the subtropical gardener, or it might be found to yield serviceable fibre. [?] Several species of Eucalyptus may fairly be said to be hardy in Ireland, and an example of E. cordata was noted, but which does not always escape injury from frost. A specimen of E. urnigera eighteen years old, is 40 feet high, and proportionately broad.

As will be readily understood, the species of Bamboos from Japan form handsome clumps, and we noted Arundinaria japonica *syn.* B. Metake, B. tessellata or Ragamouski, with foliage measuring 4 inches in width and 18 inches in length, as large, therefore as that of B. palmata: also B. striata aurea, of which a small example only was seen; and B. spathiflora, with very striking foliage. It was a surprise to find Aralia papyrifera quite hardy in this part, and carrying fine foliage. Clethra paniculata was just coming into flower. A handsome palmate-leaved Hibiscus was remarked in H. heterophyllus, the leaf having five segments or lobes. Edwardsias are not very certain doers, and Mr. Ryan said that E. microphylla and E. grandiflora are apt to get nipped by frost when standing in the open borders. Of Ilex, of which there are several noble specimens, there were noted I. insignis, a species remarkable for its fine foliage; I. latifolia, according to Professor Sargent, the finest Japan species; I. cornuta, and several of the more common golden and silvery variegated forms of Ilex. The rare New Zealand Forget-me-Not of relatively gigantic proportions. Myosotidium nobile, is a hardy plant here, as are likewise Buddleias Lindleyana, Colvillei, and variabilis, of which latter a good example was noted. A fine bit of Rhus Toxicodendron occupies a place on a wall; Berberis Thunbergi is a very fine plant, covered with small globular fruits of a scarlet colour. An example of Ornus europæus measures 40 feet by 40 feet; and Spiræa opulifolia lutea, we were told, is a picture of beauty of colour in the spring. A plant of Rhododendron Thompsoni, carried 150 trusses of bloom last January—a truly grand plant.

Before concluding our notes of the many beautiful shrubs growing in these gardens, we would pass in rapid review others that were noted in the course of our visit, viz., Stephanandra flexuosa, Glyptostrobus heterophyllus, 5 feet in height, resembling a Taxodium in leafage and habit, but with more grace; a plant of Prumnopitys elegans, 3 feet high; the well-known Philesia buxifolia, with tubular flowers of rosy-red colour; Mitraria coccinea, with similar flower, but smaller; Meliosma pungens, also with tubular flowers of a scarlet hue; Lindera sericea, Olearia nitida, Philodendron amurense, Calceolaria violacea, Damnacanthus indicus, Nandina domestica, Entelea arborescens with cordate leaves, 9 inches across; Berberis Wallichiana, B. nepalensis, B. Fremonti, which has blue-green foliage, and B. Neuberti ×; Metrosideros floribunda, and M. robusta, a nice evergreen shrub; Eugenia Ugni, a plant once thought to be of domestic value, but which has now dropped out of cultivation; a Saltbush (Halimodendron sibiricum), Enkianthus japonicus, Escallonia pterocladon, Leptospermum bullatum, Cercidophyllum japonicum, Decumaria barbara, Coprosma Baueri, Elæagnus Frederici, a species with fine leaf variegation; Cornus florida rubra, Mallotus japonicus, Lagerstræmia indica, Daphne Cneorum, Acanthopanax sps. deciduous; Nerium Oleander, Magnolia hypoleuca, Cinnamomum sericeum, and Castanopsis chrysophylla. Whilst the following new plants are under trial, viz.:—Exochorda Alberti, Planera crenata, Abutilon vitifolium and A. vitifolium purpureum, Citrus trifoliata, Garrya Thureti and G. macrophylla, Hedysarum multijugum, Meliosma myriacantha, Senecio rotundifolius, Stauntonia hexapetala, a rapid wall-climber; Nemopanthes canadensis, berries large and beautiful, of a crimson colour; Pittosporum rigidum, P. Ralphi, and P. Buchanani; Rhamnus californica and R. frangula asplenifolia, Itea virginica, Ribes chilensis, Callicarpa japonica, and Oreodaphne californica.

(To be continued).

PLANT PORTRAITS.

ASTER INFIRMUS, *Garden and Forest*, November 18.

CATTLEYA TRIANEI, vars. festiva, regalis, dulcis, amplissima, superba, ardens, splendens, majestica. *Lindenia*, t. 580, 581.

CITRUS AURANTIUM, Linnæus, var. TACHIBANA MAKINO, *Journal of the Japanese Horticultural Society*, August, 1896.

CŒLOGYNE LUCIDA, Linden and Cogniaux, produces its flowers on erect spikes. *Lindenia*, t. 582.

CYPRIPEDIUM × LEBAUDYANUM, Hort. A hybrid between C. philippinense and C. Haynaldianum. *Lindenia*, t. 579.

ERANTHINA CONSTANTIANA. A description of this plant is given by M. Micheli. There is only one plant of it known, and that is in the garden of M. Constant at Golfe Juan. *Revue Horticole*, November 18.

GORDONIA FUNEBRIS, *Madame' Monthly*, November.

HYACINTH GRAND MAITRE, single blue, suitable for bedding. *Floriculteur Horticole*, t. 4.

FLORISTS' FLOWERS.

THE SHOW, OR LARGE-FLOWERED PELARGONIUM.

MR. HARRY TURNER assures me that the Show and Fancy Pelargoniums, once so popular, are in a declining state in the popular estimation, as shown by the decreasing demand for plants. That there is a decreasing demand for high-priced named varieties we have been assured for some time past; but it is difficult to believe that a subject so easily cultivated, so free and plenteous in blooming, and so attractive for several months of the year, is on the downward plane. And yet thousands of plants are grown for market, and it should be borne in mind the market trade—at least as far as its present gigantic proportions are concerned—is of comparatively modern development, and by its means the Pelargonium finds its way to numbers of cultivators, who would otherwise have to depend upon the ordinary nurseryman. Then also the old show Pelargonium—the delight of the old school of florists of forty years ago

– with its perfect shape and high colour, has had to give place to a large extent to the vigorous-growing, free-flowering, decorative types, and quality of bloom is not now nearly so much considered an abundance of it; though among some of the more modern varieties, and especially to those raised by Hayes, Jones, and others, there is a gradual development in the decorative varieties of that perfection in form reached in the older section by Hoyle, Foster, and others.

There is this advantage about the larger-flowered Pelargonium, that it is evergreen, and its bright green foliage is pleasant to the eye at mid-winter, and the scented leaves—though this quality is not so strongly present as it is in the case of some of the species—always give forth a grateful perfume. When a specimen plant has gone out of flower, it is generally placed in the open—if possible in some partially shaded spot, to ripen its wood. When this is perfected, it is cut back somewhat hard, leaving only a frame-work of naked branches; the cut shoots are made into cuttings, which soon form young green plants, while the cut-back specimens are put under glass, where the shoots soon put forth growths. Then it is shaken from the soil, the roots trimmed, re-potted into a smaller pot, fresh soil of a suitable nature being employed, and it is again placed under glass. Kept close for a few days root-action soon becomes active, and when the pots are fairly well filled with roots, another shift into a larger-sized pot is made, which is generally the one in which the plant blooms. The second shift should be given in the second week in October. In the old days, when three exhibitions were held at the Regent's Park, one in May, one in June, and one in July, Pelargoniums were shown at each; and then different treatment as to cutting down and re-potting was required in the case of plants shown in May and those two months after. Pelargonium exhibitions are now almost a thing of the past, though fine collections appear at the Temple exhibition.

At the Royal Nursery, Slough, and other places, the show Pelargonium is still grown. A selection of eighteen of the finest varieties should include Amethyst, rich purple, with dark top petals; Blue Beard, light purple, shaded dark upper petals, and a conspicuous white throat, quite distinct in colour; Candidate, one of Mr. Foster's newest introductions, rosy-purple, with a paler tint on the edges of the lower petals, dark spot on the top petals, and conspicuous white throat, extra fine; Chief Secretary, rosy-crimson, shaded with maroon and orange, white throat; Curtius, new, maroon top petals, shading to bright crimson, dark crimson lower petals, white throat—a fine and rich variety; Duke of Norfolk, deep crimson-scarlet, with dark top-petals: Exquisite, deep orange-scarlet, with dark top petals—extra fine; Fortitude, orange upper petals, with black spot, the lower petals pink, shading to rose; Maid of Honour, dark top petals, margined with fiery orange, the lower petals pink, shading to rose—one of the finest; Martial, rich deep crimson, with dark top petals—very striking; Magnate, black top petals, shading to fiery crimson, conspicuous white throat—extra fine; Mrs. Coombs, pure white, with carmine spots on the upper petals—extra fine; Outlaw, pale crimson,

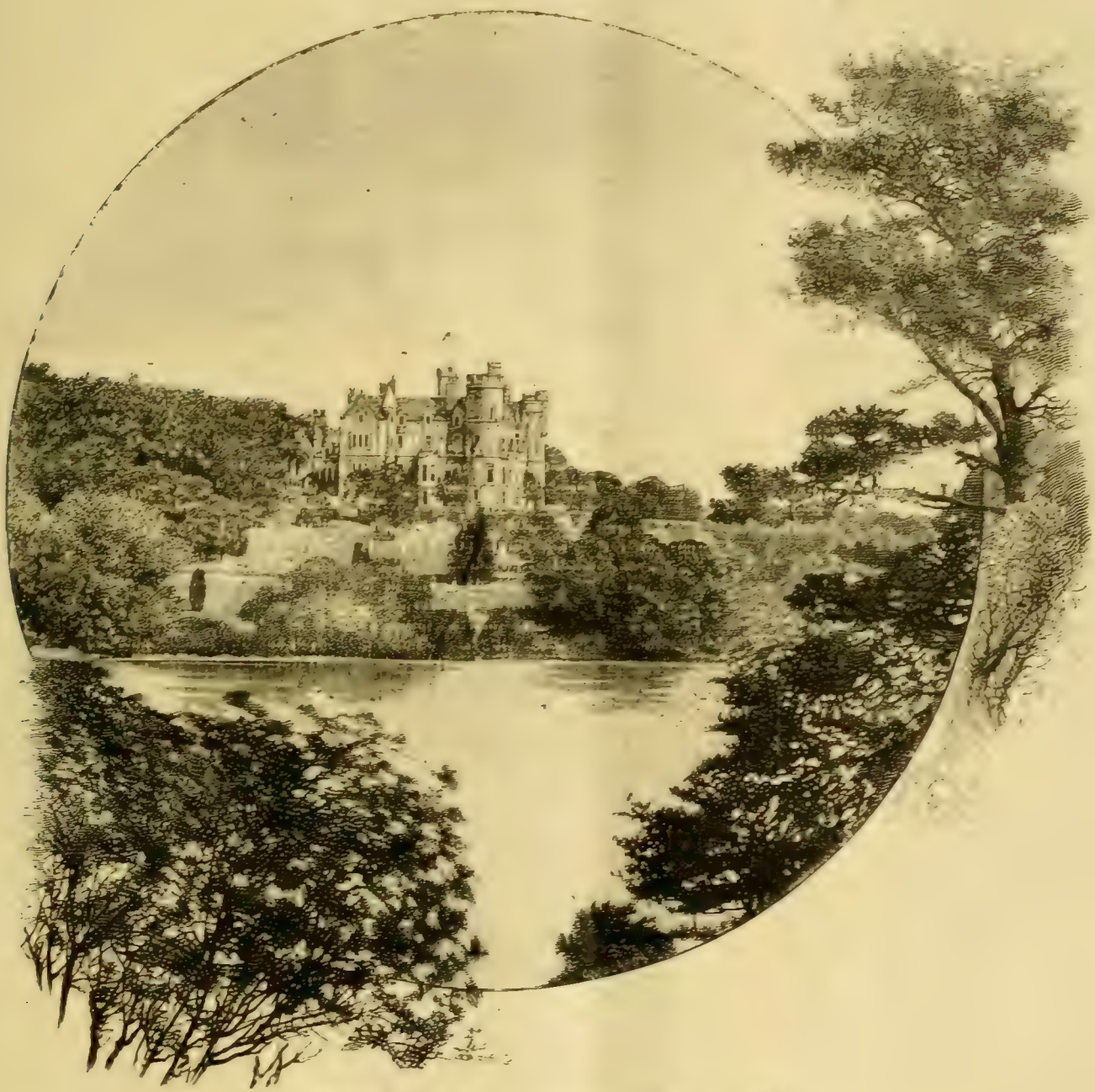


Fig. 116.—View of Castlewellan and Lake. (See p. 693.)

with dark top petals, compact habit: Resolute, one of the finest, deep rose lower petals, dark maroon top petals, large pure white throat, flowers of fine quality; Royal Review, the lower petals richly painted with crimson, dark top petals—very fine; Statesman, pale rose lower petals, with dwarf top petals—a large, bold variety; and The Czar, a brilliant deep crimson Pelargonium, flowers of great substance and quality.

At this time of the year all the plants should occupy the stage of a light and airy house, and young struck cutting plants should by this time be making nice bushy specimens, having been potted on. In order to make these young plants bushy, the centre shoot should be pinched out as soon as the young plants are well established after their last shift; this causes them to put forth shoots near the base, and so lay the foundation of what is technically known as a good bottom. Such plants may presently need a further shift, and a good compost will be found in one made up of good turfy loam, well-decayed manure, and silver-sand, good drainage being provided. Careful watering is required, and when the weather is cold, the house in which the plants are, should be shut up early. As soon as the autumn fogs come on in the cold, damp weather, a little fire-heat may be given with advantage, but on no account sufficient to cause the plants to become drawn. Green-fly must also be closely looked after and destroyed. *R. D.*

ORCHID NOTES AND GLEANINGS.

A TRIANDROUS CYPRIPEDIUM.

MR. LATHAM sends us from the Birmingham Botanic Garden a flower of a Cypripedium raised in that establishment out of C. Spicerianum by C. hirsutissimum. In the flower in question the lip is nearly flat, but marked with a few purplish vertical streaks, the column bears three violet-coloured staminodes corresponding to A 1, *a* 2, *a* 3.

SEMI-DOUBLE CYPRIPEDIUM.

Mr. Linden sends from Brussels a flower of Cypripedium Dauthieri, or one of its derivatives, with four distinct sepals, two petals, one lip, and a column with three staminodes, A 1, *a* 2, *a* 3. The axis of the flower is a little twisted, so that whilst the uppermost sepal or standard bends to the right, as the flower lies before us, the lip turns to the left.

PELORIATE CYPRIPEDIUM.

Mr. Linden also sends us a flower of C. venustum (?), in which the two lateral petals have assumed the form of lips, so that there are three lips to the flower. Otherwise the conditions are normal. *M. T. M.*

WHAT CONSTITUTES A "CRISPUM?"

In the *Gardeners' Chronicle* issue for November 21, Mr. Crawshay asks what constitutes a "crispum?" Odontoglossum crispum, I suppose, he means; and the Editor closes by asking what were the characteristics of the plant first introduced. Not having Lindley's works to refer to, I must refer to Bateman's *Monograph*, in which he calls the white variety "Weir's" and the spotted forms "Blunt's," and also gives a full-size plate of a plant with two spikes, and a detailed sketch of the lip, which clearly shows the construction of that organ, i.e., the column side-wings on to the disk or plates in the throat, and two teeth with a central raised prominence between them. Messrs. Veitch in their *Manual of Orchidaceous Plants*, say flowers polymorphous, 2½ to 3½ inches in diameter, in colour generally white, or white tinged with rosy-mauve, occasionally pale yellow, sometimes more or less spotted and blotched with red, but always with the disk of lip bright yellow, lip oblong or subpanduriform, with the edge jagged or toothed; sometimes rotund at the apex, sometimes two-lobed, and not unfrequently acute, or even apiculate, crest expanded into two yellow lobes barred with red, and terminating in two diverging teeth, column slightly arching with two broad jagged wings. Williams, in his *Manual of Orchids*, gives pretty much the same description, calling it a charming addition to our collections, and one which affords many varieties, ranging from pure white to yellow and rose, and including various spotted forms. After the above description of O. crispum from recognised authorities, there should not be much difficulty in deciding what is a pure "crispum;" but Mr. Crawshay in his note seems to imply that only pure white or rosy forms are true "crispums." If we accept his theory, we shall have a difficulty in classing the yellow and spotted forms. I cannot help thinking, that as long as a flower has the characteristics of O. crispum as laid down by experts, we must accept it, notwithstanding the variation in colour. I am afraid one of the "discussants" will not agree to settling it in this way, and he would have helped to clear the air f he had given his own definition first, as it will be a difficult matter to persuade growers of Odontoglossums that such varieties as crispum, Stevensii, Chestertoni, apiatum, Cooksoni, and the thousand-and-one fine varieties and crosses, also the yellow ones, that now and then crop up, are not crispums; and if they are hybrids, they run so near to O. crispum as to be indistinguishable from it in form.

I have already exceeded reasonable limits in this note, still I hope some more capable person than myself will continue the discussion. I send a photograph of the flower in question—O. crispum Golden Queen; and one more, which is an undoubted hybrid, also a pure white O. crispum. *W. S.*

THE ROSARY.

ROSE NOTES.

November 23.—I have still a few blooms upon plants in the open of Madame Hoste, Caroline Testout, and Marchioness of Lorne—being among the best. Madame Lambard, Safrano, Dr. Krell, and Souvenir d'un Ami are also quite presentable. In the Rev. Dr. Williamson's interesting notes on p. 624, he is surely in error as regards Fiametta Nabonnand. This was not a sport from Papa Gontier, but the result of crossing that variety and Niphetos. The size, colour, and form confirm this. I do not find the blooms so oval as Dr. Williamson describes; in fact, the buds are fully as long as those of Papa Gontier, and this is one of its chief charms as a coat flower. There is a great future before Fiametta Nabonnand, and it will assuredly be much grown in the Rose garden for pleasure, and as an early forcing Rose under glass. I do not think it will ever become an exhibition Rose, except in the classes for garden Roses. The best substitute for Maréchal Niel is climbing Perle des Jardins, but we cannot get the intense colour, grand size, and form of the Maréchal yet. Climbing Perle des Jardins is as constant a bloomer if unpruned as the normal variety, and carries peculiarly handsome bronzy foliage.

A LITTLE-KNOWN ROSE.

H.P. Duc d'Orleans, although sent out by so reliable a raiser as E. Verdier, as long ago as 1889, is very little known. It is one of the very best-shaped Roses grown. The supplement of the National Rose Society's Catalogue describes it as "a deeper-coloured Marie Baumann and a better grower." This is about the highest praise possible, but it is not by any means overdone. Very few trade catalogues contain it. This is by no means the only extra good Rose that has been overlooked by the majority of growers, and I mention it now hoping to be in time for many to make good the omission. *A. P.*

METHODS OF PLANT PROPAGATION.

(*Continued from p.* 658.)

Ferns.—None of the methods already mentioned would adequately supply the demand for small Ferns for table and apartment decoration, now so much the fashion, so that the florist has to fall back on the spores.

Let us briefly state the process of Fern-reproduction from the spore, which may be studied by anyone possessing a microscope of low power, or even with a good single lens, as a Coddington or Stanhope, the whole process being intensely interesting.

When the dust-like spores are sown on moist earth—or, for more facile observation, on fine silver-sand—or, perhaps, handier, on thick white blotting-paper, kept constantly moist by the application of tepid water, they soon begin to germinate, especially if taken fresh from a frond. The minute brown cell-wall bursts open, and from the rent so formed issues a transparent process, like a minute root or radicle; this increases in size, and soon a plate-like expansion is seen, resembling a minute cordate leaf, which is termed the prothallus which under a low power of the microscope appears like a small Liverwort (Marchantia). Up to this point there is not much difference observed from the germination; but now the parallel ceases, for on the lower surface of this prothallus are formed numerous minute globular cells, or antheridia, and these, when mature, being detached and placed in a drop of lukewarm water, on a glass-slide under the microscope, are seen to burst open and emit numerous exceedingly minute spiral filaments, or spermatozoids, which move rapidly about, when freed, in the drop of water, by means of eyelash-like fins (if I may use the word) called "cilia." These singular bodies play the part of pollen-grains in the higher plants.

Somewhat later other cells, a little larger and more complex in structure, are found just at the angle of the heart-like prothallus, and close by where the little rootlets of the frond-germ are found. These are the "pistillidia" or "archegonia," bodies analogous to the pistil and ovary of flowering plants, and like them, containing the germinal cellule or vesicle. These, through the agency of water, dew, or moisture, are fertilised by the motive spermatozoids, which, being exceedingly minute, are capable of swimming in a mere film of water, and afterwards slowly develop into a minute plant, producing a terminal bud, out of which in the next process grows the tiny first frond. Then the prothallus dries up, and presently more fronds are produced; but it is some time ere these bear any fixed likeness to the parent Fern. During this process, too, the little roots are fixed firmly in the ground, and the Fernlet is on its way to grow into a perfect specimen, and again reproduce its kind.

Not many, as far as I am aware, except Mr. Lowe and a few others, have up to this date endeavoured systematically to hybridise Ferns, but on the lines I have imperfectly sketched above, it can doubtless be done, and I have little hesitation in saying that all the singular and interesting varieties in the Lady Fern (Athyrium), in the Buttonhole Fern (Scolopendrium), with which the late lamented Mr. Sim, of Foot's Cray, made such a long catalogue of, resulted from cross fertilisation during the complicated germination of the spore.

I suggest, therefore, that to those who have the opportunity and time at their disposal, the sowing of mixed spores of allied genera under the same bell-glass, and keeping a record of the varieties used, and of the ultimate result, thus adding a few facts to our very limited knowledge of Ferns in their early stages of existence and growth.

In propagating Ferns from spores, we must make practical use and application of this knowledge, and find in the minute spores such an environment that their wonderful and complex method of reproduction may be easy, and not hindered by improper conditions in any way.

First, therefore, prepare your pots or pans, which should be new ones, as old earthen vessels used for garden purposes almost always have the dormant spores of mosses or Liverworts encrusted on their surface, only waiting for favourable conditions to germinate. Half fill the pan with small crocks, place on them a small quantity of mixed soil, and finish with fine sand, which, as well as the soil, must be sterilised—that is, heated to such a temperature in the oven or stoke-hole fire, that all existing spores of moss or Liverworts may be destroyed. Press the sand and soil down firmly, and water all over with a fine-rose pot using water that has been steri-

lised by boiling. Allow the water to soak well into the sand, and then with care sow the Fern-spores evenly over the surface, and cover with a piece of clean glass resting on the rim of the pan or pot, or a bell-glass may be used that just fits within the rim resting on the soil. Plunge the pan in cocoa-refuse in an inside pit, where the temperature is low and even. Never let the soil get dry, but do not water



Fig. 117.—Stropholirion californicum (Brodiæa volubilis): flowers crimson.

the surface, but immerse the pan up to the level of the soil in boiled water at about 70°, by which means the young sporelings will not be disturbed, and the essential degree of moisture will be maintained.

Selaginellas.

The propagation of the plants known as Selaginellas and Lycopodiums, which are not so useful or so well known as Ferns, but which in some kinds are almost indispensable for associating

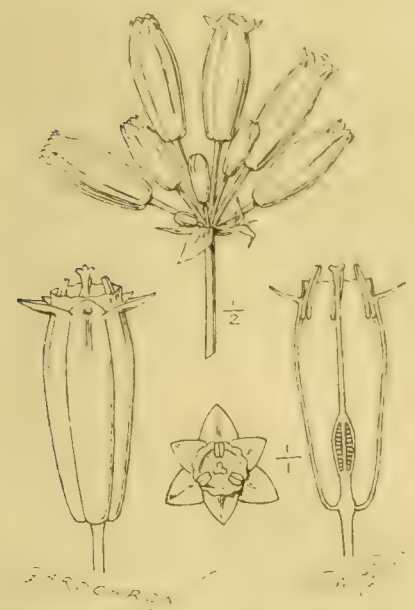


Fig. 118.—Brevoortia Ida-maia (Brodiæa coccinea): flowers crimson.

with flowers. Mr. B. S. Williams, and other growers, catalogue over fifty varieties and sub-varieties, many of which require but a greenhouse temperature, accompanied by shade, to cultivate them successfully. Most of the species propagate themselves freely under favourable conditions, producing quantities of adventitious roots along the wiry creeping stems, which then only require to be divided into short lengths, potting these in light peaty soil and keeping them close in a shady part of the stove, or under bell-glasses, to soon make good useful plants. They may also be raised from their spores in the same way as directed for Ferns, the spores not being produced like the latter, at the back of the fronds, but in little spikelets of brownish scaly leaves terminating the branchlets. These had better be cut off and allowed to drop into a clean dry pan or on to a sheet of white paper, and placed on a dry shelf for a day or two, when the very minute spores will be scattered around. The spores may now be sown into moist, sterilized sand under a bell-glass, kept moderately moist and warm, and they will soon germinate and give an ample supply of plants. The most useful kinds to grow are Selaginella africana, S. cæsia and its variety S. c. arborea, S. denticulata and its golden sport S. d. Kraussiana, S. Mertensii, and its pretty variegated form, with S. stolonifera, and some of the minute forms such as S. apoda or caulescens, Browni, &c., which, unless you aim at a complete collection, will be found ample for all ordinary purposes.

Before concluding let me suggest that the practice of allowing mosses to grow and cover the soil of Ferns and foliage plants, though agreeable to those who do not like to see a patch of bare soil, is not by any means conducive to the health of the plant occupying the pot, inducing a state of things in the soil which, for want of a better word, I will call by its well-known appellation "sourness," always baneful, and if continued, likely to be fatal to the plants. *Experience.*

(*To be continued.*)

THE GENUS BRODIÆA AND ITS ALLIES.

(*Concluded from p. 659.*)

In the *Genera Plantarum* the following plants, nearly allied to Brodiæa, are kept up as distinct genera.

Milla biflora, Cav., has four to six filiform leaves, one to six flowers on long rigid pedicels, a subcylindrical perianth-tube, with six anthers nearly sessile at its throat, white or purplish perianth-segments 1 inch long, with a distinct brown keel, and a shortly stipitate ovary. It inhabits the mountains of Mexico, ascending to 5000 feet above sea-level, and has been found also in New Mexico and Southern Arizona. It is figured in the *Botanic Register*, t. 1555, and in *Flore des Serres*, t. 1459.

Stropholirion californicum, Torrey (*Brodiæa volubilis*, Baker), is figured *Bot. Mag.*, t. 6123 (see fig. 117). It has a climbing stem that sometimes reaches a length of 8 to 10 feet, an umbel of fifteen to twenty flowers, with short pedicels, a bright red perianth ½-inch long, with oblong segments as long as the ventricose tube, three emarginate strap-shaped staminodia, three broadly-winged antheriferous stamens, and an acutely-angled oblong capsule 1½ inch long. It inhabits the foot-hills on both sides of the Sacramento valley, with a range from north to south of 100 miles.

Brevoortia Ida-maia, Wood (*Brevoortia coccinea*, S. Wats.; *Brodiæa coccinea*, A. Gray), has narrowly linear evanescent leaves, an erect fragile peduncle 2 to 3 feet long, four to twelve flowers in a lax umbel, a bright red perianth 1 to 1⅛ inch long, with an oblong tube, saccate at the base, short ovate yellowish-green spreading segments, three fertile stamens, inserted inside a short faucial corona. This also is a native of California, and is figured *Bot. Mag.*, t. 5857 (see fig. 118). It inhabits rich soil on the mountains from Humboldt to Shasta counties.

Behria tenuiflora, Greene. I have not seen this either in a living or dried state. It is described in the second volume of the *Bulletin of the Californian Academy*, p. 143, from fragmentary dried specimens in the herbarium of the Academy, collected in the neighbourhood of Cape St. Lucas. It has eight to ten flowers, on slender pedicels 1 to 2 inches long, a perianth under 1 inch long, with a globose tube, six-saccate above the attenuated base, thence more gradually contracted into a long narrow tube, with very short ovate-oblong teeth, and six perfect stamens, with filiform filaments free down to the ball of the perianth. The ovary is stalked, and the cells many ovuled. It was named by Dr. Greene after Dr. Herman Behr, Professor of Botany in the College of Pharmacy of the University of California.

Bloomeria differs from all the other plants dealt with in this paper by having the perianth-segments

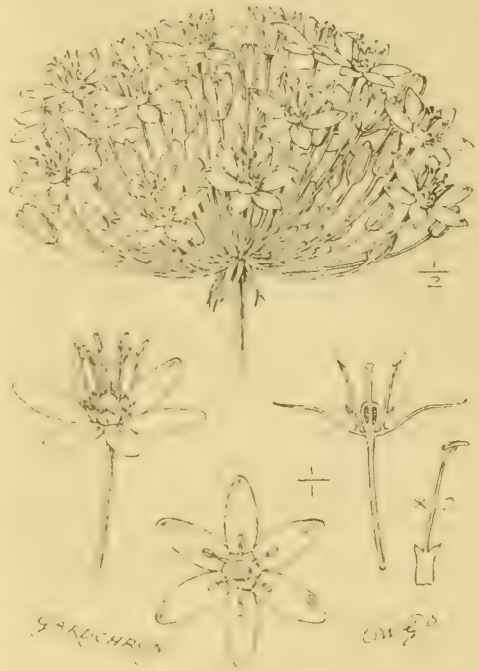


Fig. 119.—Bloomeria aurea (Brodiæa aurea): flowers yellow.

free down to the base, as in Allium and Nothoscordum. There are two species, **B. aurea,** Kellogg (*Nothoscordum aureum*, Hook. fil., in *Bot. Mag.* t. 5896 (fig. 119; *Allium croceum*, Torrey), with a dense umbel of bright yellow flowers, with oblong segments spreading from the base, and hypogynous stamens nearly as long as the perianth, with



Fig. 120.—Bloomeria clevelandi.

filaments suddenly dilated in a square process at the base; and **B. Clevelandi,** S. Watson (fig. 120), with the same structure, but the scape more slender, the flowers (also bright yellow keeled with brown) smaller, and the stamens shorter in the proportion to the perianth. Both these are natives of California, and fine plants for horticultural purposes; *B. Clevelandi* has not been previously figured. *J. G. Baker.*

France.

LILLE.

For the last three years, since the retirement of M. Jadoul, the various town and suburban public gardens have been under the management of the Travaux municipaux. These spaces include the Botanic Garden, the Ecole d'Arboriculture, Jardin Vauban, various squares, the Deule woods, and certain other promenades. The *Botanic Garden* was formerly in the town, but about eighteen years ago it was moved to the suburb St. Maurice, a rather out-of-the-way spot, and near the large cemetery. The area of the garden is nearly 10 acres. On the occasion of my recent visit, many plants were in the open air. I remarked a fine series of Cycads, including Stangeria paradoxa and Bowenia serrulata, rather rare plants; Burbidgea nitida, with orange-red flowers clustering at the top of the stem in graceful bunches; and Calamus ciliaris, a pretty Palm resembling Cocos Wedelliana in the lightness of its delicately cut fronds. In a small hothouse hang Platycerium, some pretty Bromeliads of the Anoplophytum and Tillandsia type, grown on blocks of wood, and including the rare and curious T. usneoides, its slender stems winding round a branch.

In the same house were Anœctochilus, including Rollissoni, with fine branches; Cocos nucifera, a nut sprouting and putting out its first leaves; numerous Aroids, such as Alocasia, Cyrtosperma, Aglaonema, Curmeria, and others, forming a fine group, and completing a collection of Dichorisandra, among which are the pretty D. musaica, Bertolonias, and Sonerilas.

I also noted two Nephthytis in the houses; N. picturata, valued for its fine truss of leaves; and N. liberica, less fine in foliage, but curious for the clusters of large orange fruits which it always bears. In another house my attention was drawn to Ferns, and Lycopods, the former, very numerous, included some interesting specimens, among others Marrattias, Hymenophyllum, Actiniopteris radiata, somewhat resembling Latania minuscula; Rhipidopteris peltata and gracillima, as well as Gymnogramma lanata, remarkable for its woolly, flexible petioles.

Lycopods were in fine variety, including fifty-four recently-received Selaginellas, among them Lycopodium pinnifolium, fine plants; and Psilotum triquetrum from New Holland. This plant should be known outside botanic gardens as a *plante d'appartement*. Among carnivorous plants, I saw twenty-five varieties of Nepenthes, among them many specimens of the always rare N. Veitchi, Cephalotus, Dionæa, several curious Droscera, such as D. binata capensis, various Sarracenia and Drosophyllum lusitanicum.

The entrance to a hot-house was decorated with Pothos celatocaulis, an Aroid remarkable for its imbricated leaves; Marcgravia dubia, and Ficus barbata; plants with somewhat similar foliage, and growing round the door-posts; also, there were various Gloriosa, among them G. superba with curiously undulated flowers; also Vanilla and several species of Ceropegia. There was a fine collection of Dioscorea, including D. Anœctochilus, argyrea, chrysophylla, melanoleuca, discolor, illustrata, sinuata, pentaphylla, and numerous others, one of which, yet unnamed, bears large blackish bulbs in the axils of the leaves.

I noted also as interesting plants, the Baobab (Adansonia digitata), Antiaris toxicaria, Gnetum Gnemon, Theobrama Cacao, Bombax Ceiba, Dillenia aurea, pentogyna, speciosa, forming trees of rare beauty, and a fine collection of Piperaceæ.

In the open air, near the houses, greenhouse plants were arranged in beds, among them Australian and South African plants, including the curious Testudinaria elephantipes, with its remarkable stem. Not far from this is a Conifer group—Araucaria, Athrotaxis, Dammara, Podocarpus, Fitzroya, Torreya, and Frenela. The greater part of the ground occupied by the École de Botanique is bisected by a central walk, along which are, at intervals, tanks for the cultivation of aquatic plants. Here are found herbaceous plants only, the trees being grouped about on the lawns of the pleasure-grounds. Thus, specimens interesting to the public are grouped together in one place. In front of the school are borders, filled yearly with decorative plants suitable for growing in gardens in northerly regions; one specimen of each species or variety is included, and there are climbing plants, those with ornamental leaves and flowers, suitable for greenhouses and the open air.

The fine garden of the *École d'Arboriculture* is situated at the end of the *Jardin Vauban*, and has an area of about an acre. There is here a collection of fruit trees, Apples, Pears, Plums, &c., grown in pots, and fruiting well. The Municipal Administration of Lille has instituted free public courses of instruction on fruit culture, which take place in this garden, and are regularly attended. The courses include eighteen lessons on the management of a fruit-garden, grafting, cutting, and the cultivation of various fruits.

Jardin Vauban.—This is the largest garden in Lille, having an area of 17½ acres. It was laid out on the plans of the well-known landscape gardener Barrillet Deschamps, and is very fine, including all features likely to render it popular. It is well kept up, and the bedding is a prominent decorative attraction. Among the pretty combinations of bedding plants, I admired a mixture of Nicotiana colossea fol. var. and Calceolaria Gloire de Versailles upon a carpet of Iresine acuminata; this was bordered with three rows of plants; Begonia versaillensis, B. fulgens, Centaurea candidissima, and zonal Pelargonium M. Poirier, on a background of blue Lobelia erinus.

Another bed contained tuberous Begonias with Chrysanthemum-like, salmony-rose flowers, rising from a mass of dwarf B. multiflora Petit Henri, a very floriferous variety, with little double brick-red flowers; the border was a double band of yellow Alternanthera, relieved here and there with Begonia Bruanti pygmæa and blue Lobelia (Fair Maid of Moray).

Another successful mixture was of Abutilon Sawitzi, plants two years old, with Pelargonium Harry Hieover, and a border of blue and rose Ageratum and Begonia on a background of Abutilon megapotamicum fol. var.

In other beds I saw Cannas, greenhouse plants, and many Begonias, including the varieties Madame Ernest Tourtel, Octaire Mallet, Gloire d'Austerlitz, and Madame Courtois. On the lawns were several plants of Sciadophyllum pulchrum; splendid Aralias, with large digitate shining leaves; Solanums and Dahlias. Near the river are fine clumps of Cyperus, Papyrus and Polygonum tomentosum, a new species, with white foliage. On a slope by the shrubberies are tropical plants, such as Musa Ensete, Palms, &c.

The other squares, de Jussieu, Ruault, de Jena, du Palais des Beaux Arts, and du Palais Rameau, are also well kept, but with less choice plants. The best specimens are to be found in the Jardin Vauban, whence, after two seasons' growth, they are passed into the other gardens. Credit for the excellent condition and management of the various open spaces in Lille is largely due to M. St. Léger, himself a pupil of the Versailles École d'Horticulture. *Ch. de Bosschère.*

Violet Princess of Wales.

This Violet has already received the praise due to it as a novelty of sterling merit, and it cannot be disputed that its large well-formed flowers and long flower-stalks enhance its value, but compared to other varieties (exempting V. Princess Beatrice), it is a shy bloomer. It is purely an amateur's flower, and not adapted for market purposes. It has been thoroughly tested here in the Riviera, and I know that at Hyères, where Violets are grown in large quantities for market purposes, that most of the growers are already dispensing with it as being unprofitable.

When it first came into the market, it naturally fetched a good price, but I afterwards saw it sold at 2*d.* and 3*d.* for a large bunch; and, considering that the older varieties sell at 1*d.* or 2*d.* per bunch, it is evident that the freer-flowering varieties are selected. The new variety California, if answering to the description given of it, will certainly be sought after. I have a few plants this season, and it bids well to be a very free-flowering variety.

Chrysanthemums at Villa Victoria, Grasse.

The culture of the Chrysanthemum in the Riviera has been quite neglected until the last three or four years, and there is little possibility of their becoming popular here, as they flower too early for the majority of proprietors, who do not arrive before the month of December; but nevertheless, what has been done is good proof that they may be grown as well, or probably better, than in the north. The greater amount of sunshine which we get is favourable to the ripening of the wood, and during the rainless summer they can be fed with stimulants with much less risk than in the rainy climates.

The Chrysanthemums grown at Villa Victoria are cultivated specially for specimen blooms, and it is not too much to say that they would vie with any that are seen at exhibitions in England. They were at their best at the time of my visit, and it may be interesting to note some of the leading varieties. Varieties with the reverse colouring of silver and gold on the petals have been chiefly selected, and when grouped together, they produce a very pleasing effect.

Many of Calvat's varieties were conspicuous, the greater number of which were remarkable for their dwarfness. Three or four plants of Le Colosse Grenoblois were carrying enormous flowers. President Armand was very fine, Madame Carnot measuring over 12 inches, Chenon de Leché, Directeur Tisserand, Reine d'Angleterre, Surprise, Jules Chrétien, L'Echevelée, Madame Calvat, and Enfant de Provence, all very fine.

Amongst those of other raisers might be noted:—Phœbus, Col. W. B. Smith, Viviand Morel, Edwin Molyneux, Chrysanthemiste Delaux, very fine; Hairy Wonder, Mrs. A. Blanc, Mrs. Isaac C. Price, and many others worthy of mention.

All the plants were furnished with luxuriant foliage down to the pots, and showed every sign of high class culture. *Riviera.*

Phytolacca decandra in the Riviera.

Although a native of Virginia, this plant has thoroughly naturalised itself in some parts of the Riviera, and at Grasse it is quite a common weed, but a very showy one, and it has more than once occurred to me that it would make a very effective pot-plant, or it might also be used with effect in the sub-tropical garden. It is easily raised from seed, and is a very rapid grower, resembling in habit the Daturas. The long racemose inflorescences, which are produced in quantity, are succeeded in the autumn by bunches of dark purple berries, which are even more effective than the flowers. The berries contain a crimson juice, and it is probably for that reason it is sometimes called the "Red Ink Plant." The leaves also change their colour from a red to purple in the autumn, which further enhances its value as a decorative plant. *Riviera.*

ORCHIDS AT SUNNINGDALE PARK.

The gardens of Major Joicey's fine estate at Sunningdale are noted for the excellent culture of both flowers and fruits, and his clever gardener, Mr. Fred. J. Thorne, is an adept at keeping up the large supply needed at all seasons of the year. Certainly there is a very fine air for gardening at Sunningdale, as the ever-present odour of the Fir trees and Pines with which the neighbourhood abounds, plainly indicates, although the height of summer on that light, heathy soil must be rather trying to growing crops. Still, the number of subjects here thriving admirably, which many in similarly heathy situations cannot succeed in growing, give the highest testimonial for skill which a gardener could desire.

The Orchid-houses are well filled with plants, and among them we noticed about one dozen meritorious examples of Diacrium (Epidendrum) bicornutum, a plant which scarcely any grower induces to assume

even a tolerable degree of health before its decline, but which here, in a warm-house, have increased in vigour and beauty for several years, and borne a profusion of flowers. The plants are pleasant objects even when not in flower, their large, fleshy growths and bright green leaves indicating perfect healthiness. One of the specimens was carrying thirteen growths, most of which will flower. Alongside of these were other difficult subjects, also West Indian, viz., the beautiful carmine-crimson Broughtonia sanguinea, this being likewise in splendid health, and well furnished with flowers. Two other examples of remarkably good culture of species which are notorious bad doers are Dendrobium atro-violaceum, of which one of the earliest plants introduced by Messrs. Veitch is here, and steadily increasing in size, flowering profusely and regularly; and a number of the similar-habited D. Johnsoniæ, some of which bear spikes of ten or eleven large snow-white flowers. These plants, Mr. Thorne believes, grow more vigorously here than in places where they are kept in a higher temperature, the house in which they are growing being generally below 55° Fahr. at night. Another superb example of good culture is the stage of Miltonia vexillaria, one of which was illustrated in the *Gardeners' Chronicle*, Dec. 21, 1895, p. 743, bearing thirty-nine spikes, each averaging seven flowers. Among the batch is a remarkable variety, which, as soon as it has flowered, re-commences to flower. It is now in bud, and it is stated that it has been either in flower or in bud continuously for three years.

The Brazilian Miltonias here thrive remarkably; the beautiful Miltonia × Joiceyana has just flowered, and many of M. Clowesii, M. candida grandiflora, one or two M. spectabilis, and the remarkable M. Russeliana, a very old but still rare species, were still in bloom.

A full collection of Orchids is not attempted here, but a number of showy species, together with some of the rare species which require skilful management, are got together, and as one and all are well grown, it will be profitable to give Mr. Thorne's opinion as to some of the points which are supposed to bring about these results. In the first place he is careful about the temperature, and especially about the houses having a temperature much lower at night than in the day-time; secondly, no houses are assigned to different classes of plants, but each is moved about from time to time to whichever house it may be supposed to do best in, although the larger classes occupy certain of the houses for a considerable period each year. Lastly, the plants known to be difficult to grow, are mostly suspended in the houses having an intermediate temperature, and in which quite half or two-thirds of the staging of the houses is occupied by flowering and foliage-plants in pots, and this last condition is thought to be of very great importance.

Entering the first range we found in the end compartment a fine lot of Dendrobiums, with D. luteolum looking the picture of health—a not very common incident with that species; D. Dalhousieanum, with growths, some of which were 5 feet in length; D. albo-sanguineum, a grand mass, with many growths; and many other species, among which are some fine D. nobile, which Major Joicey's son himself collected. Large numbers of Calanthes, some beginning to flower, were remarked as filling a high shelf, and on one side was a lot of fine plants of Cypripedium: some good C. Charlesworthii, C. × Leeanum, C. Chamberlainianum, C. Spicerianum, C. callosum, C. Lawrenceanum, and some hybrids raised on the place, being in bloom, for here also is a great number of hybrids of different genera in various stages of growth. Along the centre runs a fine Nepenthes hybrida, with many pitchers; and in the adjoining division the Cattleya labiata, C. aurea, Miltonia Roezlii, Epidendrum dichromum, &c., were making a fine display. At the other end was a fine batch of Miltonia vexillaria, to which we have previously made allusion; and in flower some plants of Cattleya elongata, some more Cypripediums, and specimens of Pleione lagenaria, the stage on one side being filled with dwarf Poinsettias.

In another house some Cymbidiums were showing flower-spikes most profusely, and some of the C. Lowianum and C. giganteum were in bloom. So well do the C. eburneum and C. Mastersianum thrive here, that even single pieces in small pots are sending up spikes. In a rather sunny house, some specimens of the fine old Cyrtopodium punctatum occupy the centre, and in the summer these made a fine display with their large spikes of richly-coloured flowers and equally bright pendent bracts.

In the cool-houses we found a number of Odontoglossums in bloom, besides Sophronitis, Oncidium varicosum, O. prætextum, O. Forbesi, and some species of Masdevallias; a specimen of M. corniculata having more than 100 blossoms. In another house a number of plants of Cypripedium insigne were in flower, some Cœlogyne cristata well set for bloom, especially a plant of C. cristata alba. In a warm-house the plants of Pescatorea Klabochorum and others of the class were growing vigorously, and some in bud; also in flower several Dendrobium cruentum, D. formosum giganteum, D. Phalænopsis Schroderianum, Cypripedium villosum.

The Chrysanthemums were in excellent condition, and well furnished with their showy and useful flowers. Mr. Thorne has for years made a special study of cutting back a large number of his Chrysanthemums from the middle of May to the middle of June; and so well has he succeeded, that he has a certain proportion of his plants every year in dwarf bushes, and yet bearing large flowers equal to those which have not been cut back, and far more useful for general decoration.

In other houses were noted a fine batch of Amaryllis, of which about 100 are expected to flower at Christmas, a season for which Mr. Thorne also studies to get his houseful of Cyclamens, which are now beginning to bloom, to come in. In several houses were some of the handsome flowered Cannas, which are much liked here, still in bloom, and good batches of Streptocarpus, Saintpaulia ionantha, Freesias, Eucharis, Gardenias, Begonias, and other showy flowers, either in bloom or bud, and the large batches of Crotons, Dracænas, and other coloured foliage-plants, as handsome as the flowering species.

The Vines in the fruit-houses have borne excellently, and a fine house of Muscat of Alexandria and Lady Downes Grapes after keeping well, are now in use.

FORESTRY.

TYPES OF BRITISH WOODLAND.

Although the terms woods and plantations are loosely applied to all land occupied by trees or bushes of any kind, yet the class of vegetation and scenic effects included within those terms vary greatly, both in regard to species and the system of management adopted. A great deal of this variation is undoubtedly due to the introduction of exotics into our woods, and amongst these the Coniferæ have exerted the most influence by a long way. Leaving out of account the purely ornamental kinds, they have, if not entirely changed the character of British woodlands, at least added a new feature to them. This is more particularly noticeable in hilly districts, where Spruce and Larch have been so extensively employed in forming new plantations of recent years. The effect of these introductions has been the more marked by the fact that the only indigenous representatives of the coniferous family are the Scots Pine, Yew, and Juniper, but of these only the first-named can be said to have any important effect upon our woodland scenery. It is a curious fact that the whole of these genera are confined, so far as their native habitats are concerned, to hilly districts, the Scots-Pine to the Highlands of Scotland, and the Juniper to the chalk downs of the south, while the Yew seems to have a more general distribution than either of the others. Probably they represent the surviving remnants of a more ancient type of vegetation than the prevailing deciduous families which now constitute the indigenous sylva of the south.

As a predominant timber-tree, or existing in unmixed masses, the Scots-Pine is chiefly confined to the Scottish Highlands, and the sandy or gravelly Heaths of the South of England, although in mixtures it is ubiquitous. According to Mr. Gerald Lascelles of the New Forest, the Scots Pine was introduced into the plantations of that district in 1776, and from seed from these the tree has spread over a considerable area of the heathy land of the Forest. In the same way, it is undoubted that the more or less Pine-covered tracts of Surrey and Berkshire, and those occurring on a more limited scale elsewhere originated from seed produced by plantations in their vicinity, as no traces of old forests of this tree exist in the south [of recent age]. Considering its wide range of distribution, the previous absence of this tree can only be accounted for by the thick block of deciduous trees occupying the heavier and more fertile soils of the midland counties which separates these southern tracts from the hills and moors of the north. At the present time, however, the Scots Pine makes itself completely at home in the south wherever heather abounds, and when left alone, it is afforesting considerable tracts of poor land entirely unaided by man, and in a manner leaving little doubt as to its fitness for the locality. The quality of its timber in these districts will also compare favourably with that grown in the north, for although the majority of the Scots Pine timber grown on rich soils in the south is of poor quality, that from poor soils, owing to its slower growth and finer habit, is quite equal to the average of any country or district. It is interesting to note how closely certain plants, botanically far removed from one another, are associated on certain classes of soils. Scots Fir and heather, for instance, are almost as inseparable in the mind of the forester as duck and Green Peas in the menu of the epicure.

In German forestry, the "soil flora" is made a special study, although it is probable that in old and unmixed forests, the original nature of the soil, and with it, the character of the surface vegetation, become greatly modified by the constant accumulation of humus and its resulting acids and ashes. It is a constantly noted fact, however, that the natural regeneration or extension of Scots Pine is greatly determined by the presence of heather as a ground covering. One reason for this may be found in the shrubby growth of the heath plant, which affords sufficient protection to the tender Pine seedling without suffocating it as is the case with rank grass or herbaceous plants which die down annually. An almost invariable companion of Scots Pine is the Birch, and one which ultimately paves the way for the introduction and growth of other deciduous trees which finally crush out and exterminate the Pine by a system of natural rotation of cropping more or less general in the vegetable kingdom. When once Birch secures a firm footing in a Scots Pine forest, the extermination of the latter is only a question of time, although the struggle for supremacy may continue for many generations, and many causes may give now one and now another the advantage. *A. C. Forbes.*

(To be continued.)

FOREIGN CORRESPONDENCE.

CARNATIONS AS GROWN AT FERRIÈRES.

In the gardens at Ferrières about 10,000 Carnation plants are annually grown in flower-pots. Some notes concerning the cultural methods pursued there may be interesting and useful to those readers of the *Gard. Chron.* who take an interest in this popular flower. The plants are raised from cuttings, which are taken off at intervals, from the beginning of the month of October till the end of February. In doing this the plants are not stripped of their young growths all at once, which would seriously disfigure as well as weaken the mother plants, at a time when all their force is needed in supplying flowers, but a few only are taken from each, choosing the cuttings from the healthiest plants, and never any shoot that shows a tendency to throw flowers.

In the preparation of the cuttings the knife is used

as little as possible, all the varieties that are strong and brittle being taken off at a joint, the two bottom leaves broken off, and the tips of the "grass" shortened somewhat. As pots, small 60's, are employed, and these are well crocked with plenty of moss laid over the former, they are then filled with a sandy, loamy compost, not pressed in too lightly. The cuttings are then pushed in with the finger and thumb ten or twelve in a pot, according to the size and vigour of the variety. After being once afforded water they are placed in frames arranged on hot-beds out of doors with the tops of the cuttings almost touching the glass; the temperature of the bed is kept at about 20° Centigrade (70° F.).

As soon as the cuttings are struck, they are potted off singly into thumbs, and placed exactly as before, but this time in a bed having a slightly lower temperature. Towards the end of March they are planted out in frames 4 inches apart each way, and when established they are pinched for the first time.

The second week in May sees them finally planted out in a good loamy soil, in beds, in the full sun, at a distance of 10 inches apart. About the end of the month of June the plants are looked over once more, and the points pinched out for the last time. At the end of August they are taken up and potted in 32's, and after being well watered, they are slightly protected for a few days from the sun before being placed in their permanent position in frames, where abundance of air is always allowed them, and where heat is only applied at night, or during wet or frosty weather. A house is set apart especially for the "collection," and to which abundance of air is afforded. At night a temperature of 6° to 8° Centigrade, say 40° to 58°, is kept up, but in daytime, with sun-heat, it rises sometimes to 18° or 20°. Chemical manure is never used, but an occasional watering is afforded of liquid-manure from the farmyard. In the winter great attention is always paid to affording water, and then only when quite necessary.

Such is the method employed by M. M. Bergman, and a glance at the fine healthy collection of Carnations to be seen at Ferrières at the present moment speaks for itself as to the soundness of the method pursued. Enormous quantities of flowers are cut daily all through the autumn and winter months, from considerably more than a hundred varieties. I give the names of a few of the best:—Lafontaine, bright yellow, striped and edged with rose, very large; President Carnot, very dark crimson-red, very large; Madame Ernest Bergman, pale pink, very large; Jean-Pierre Nugues, bright red; Schwaller, Jean Sisley, Docteur Raymont, Comtesse de Paris, Blanche, Esperance, Hooper, and Chateaubriant.

A. C. Cook.

THE WEEK'S WORK.

THE ORCHID HOUSES.

By W. H. WHITE, Burford, Dorking.

Chysis.—Plants of Chysis bractescens, C. Limminghei, C. lævis, C. Chelsoni, and C. Sedeni, whose new pseudo-bulbs have attained their full size, will stand in need of some attention at this season. To bloom these plants satisfactorily, they require a long period of rest to induce complete maturity, affording them, from the present time till the leaves turn yellow and fall off, a gradual diminished quantity of water at the roots until it is discontinued. As soon as the foliage begins to change its colour, the plants should be placed in the lightest part of the Cattleya-house.

Odontoglossum citrosmum.—This lovely species will by this time have completed its growth, and when this has occurred, water should be gradually withheld, and in a few weeks quite discontinued. Owing to dryness at the root during the resting period, the pseudo-bulbs will shrivel a good deal, but this is not to be feared, it not being injurious to the plant, as when the flowering period arrives they return to their normal condition, if kept well moistened for a few days. Occasionally a few plants will recommence to grow as soon as the current season's pseudo-bulbs are made up, but if such plants are treated as above described during the resting season, such growths make little or no progress, and the plants seldom fail to flower at the right time.

O. Reichenheimi and O. lævе, having likewise finished their growth, should receive but little moisture at the root during the winter. These three species should be placed in the lightest and coolest part of the Mexican or intermediate-house during the season.

Trichopilia crispa, T. lepida, T. tortile, T. Wagnerii, T. coccinea, T. Galeottiana, T. suavis, and its variety alba, having also made up their growth for the season, should be very carefully supplied with water, or the leaves will soon get spotted. So long as the bulbs remain plump, no water is required, and only when shrivelling becomes apparent should water in moderate quantity be afforded. In some gardens some of the species mentioned will have started to grow, and in this case the plants should be afforded heat and moisture till these growths are fully made up. Trichopilias in the resting stage should occupy a light shelf in the Cattleya-house, and be near to the light. T. fragrans, a species that will now be in flower, is one of the best of the fragrant Orchids, and deserves more general cultivation than is now the case. The blooms, which are white, are good for decorative purposes generally. It requires a little more warmth than the Odontoglossum-house affords during the winter, and the coolest part of the intermediate-house will be found the best place for it. After flowering, it needs but a very small quantity of water at the root, and care should be taken that no water lodges in the young breaks at any time, or they will decay. Trichopilia lana thrives under similar treatment.

Zygopetalum Mackaii and others.—In the warm stove-house, this plant grows well, and produces strong flower-spikes, which are seen at this season at their best. When flowering is passed, or the spikes removed, the plants may be repotted or top-dressed, and as it is a free-rooting species, plenty of pot-room and a great depth of compost are required. The pots should, therefore, be filled to about a quarter of their depth with drainage materials, and good turfy loam, fibrous peat, with abundance of crocks mixed with these, will form a suitable compost. When the plants have become thoroughly rooted, a thin layer of living sphagnum-moss may be placed on the surface of the compost, which is found very conducive to the health of the plants during the growing season. The rare Zygopetalum Burkei, now in flower, requires a course of treatment identical with that recommended for this species; Z. maxillare being at rest should be placed at the warmest end of the cool-house, and be kept moist at the root at all times.

FRUITS UNDER GLASS.

By W. POPE, Gardener, Highclere Castle, Newbury.

Pines.—To obtain ripe fruits in May and June, which is a part of the year when home-grown Pines are most appreciated, some of the earliest plants, or those most likely to show fruit, should be selected at this date, and afforded a greater degree of heat. The chief points to be observed in a plant that is likely to show fruit quickly, are a thickening of the collar, whilst the centre leaves become somewhat short and spread apart. If a sufficient number of such likely plants be selected let them be accommodated in a house or division of the pinery by themselves, or if such places are not at command, a light position at the warmer end of the fruiting-house may be utilised instead. Afford the soil a thorough watering, and afterwards, as may be necessary to keep it moderately moist till such time as the fruit becomes visible in the rosette of heart leaves. A bottom heat of 85° to 90° should be afforded and steadily maintained, and a top-heat of 65° to 70° with a rise of 10° by sun heat, and a slight increase of atmospheric moisture. It is not advisable to start more plants at this season than are really required, those of a suitable age throwing up fruit more readily and strongly a month hence.

Succession Pines.—The remainder of next season's stock of fruiters may be kept cool and dry, as before advised. Those suckers which were potted early, and are well rooted, will need very great attention if the bottom-heat be supplied by means of the heating apparatus, as any neglect in watering is apt to cause some of those that are very dry to show fruit when shifted in the spring, and subjected to a higher temperature. All of the young stock of Pines should be afforded plenty of room, which may usually be provided by clearing out plants that have fruited, or sacrificing some of the unsatisfactory plants. Continue to take suckers when sufficiently large, and pot, and plunge them into a bottom-heat of 90°. It is only by rooting a small number of suckers at various seasons that a proper supply of fruit can be ensured where the stock of plants is a limited one. Be sure to get a quantity of suitable soil under cover in readiness for the February re-potting.

Cucumber Plants.—No attempt should be made by increasing the temperature to push the plants on during the cold and dull weather, as by so doing the leaves are rendered thin and growth attenuated, and liable to the attacks of various injurious insects or diseases. Let the roof-glass be kept very clean, so as to ensure all the sunlight that is to be obtained at this season; pay close attention to stopping and tying the shoots, and removing old leaves. The temperature at night should be 60° to 65° in frosty weather, with a rise of 10° in the daytime with sunheat. Do not overcrop nor allow the fruits to hang till fully grown, or the plants will soon go out of bearing. Should red-spider appear on the foliage, syringe it lightly with soft-soap, 2 oz. in 1 gal. of water, or use an insecticide. Aphis can be destroyed by fumigation with tobacco-powder. Keep the soil regularly but moderately moistened, and apply liquid-manure only sparingly for the next month or longer.

PLANTS UNDER GLASS.

By JNO. MCINTYRE, Gardener, Woodside, Darlington.

Winter Pests in the Stove.—The use of much fire-heat, in order to keep the necessary degree of warmth, favours the increase of thrips, red-spider, and brown scale, and the more so when the syringe may not be freely used because of the moisture-laden air of the house. However, by taking advantage of sunny days to afford the plants a good syringing, something may be done to keep thrips and spider in check. It is very necessary to well moisten the paths and bare surfaces in the stove several times a day.

Decorative Plants.—Codiæums (Crotons) should be allowed a period of rest at this season, but the plants which were struck in the autumn may be kept in a partially active state, although the gardener will find it difficult to attend to these details when he has only one stove and no warm pits, and he has therefore to accommodate all of these hot-house plants in one house. I find a place for stove plants struck in the autumn, which have to be kept growing, in a Melon-house during the winter months, removing them early in the spring to one of the stoves. To furnish material for house decoration, the species which are more enduring of cold have to be used, both foliage and flowering; and first amongst these are the Palms. Of these, I may note such species that I have found useful at this as well as at other seasons, viz., Kentias Fosteriana and Belmoreana, which I would place amongst the more useful, they standing a lower temperature without injury than some other hothouse Palms; then comes Phœnix rupicola, a very pretty and valuable decorative species, but less hardy than the Kentias above mentioned. Then we have species of Rhapis, plants well suited for winter decoration. Seaforthia elegans is not sufficiently hardy to be used for any length of time in the dwelling, although it is a most graceful subject; as is also Areca lutescens, but which must not be made use of in cold weather. It will be understood that any of these tender species of Palms may be used for a single day or night if frost can be kept from them. In rooms that are warmed, Cocos Weddelliana, Geonoma elegans, and G. gracilis, when of a suitable size, may also be employed throughout the winter months in table decorations, or as subjects to place in vases.

If Chrysanthemums be used in entrance halls, it is well, for the sake of improved effect, to mix Ferns freely with them, especially to form a kind setting for them, the Ferns helping to hide bare stems and flower-pots.

The Warm Fernery.—If Euphorbia (Poinsettias) pulcherrima is grown well and in quantity, the plants may be stood about among the Ferns when the bracts have expanded, and the plants become attractive. Every morning the fernery should be carefully examined, and decaying fronds cut off and removed, affording water to all plants in need of it, being careful to afford only as much as will avert the desiccation of the roots of Ferns that are resting, or which are devoid of fronds. The fernery is largely drawn upon at this season for material wherewith to furnish vases, and the Gymnogrammas are especially useful in this way.

THE FLOWER GARDEN.

By Hedley Warren, Gardener, Aston Clinton, Tring.

General Work.—Trees and shrubs recently planted should be securely staked and tied, in order to steady them, or rooting will be greatly hindered, and if convenient the roots should be well mulched with strawy litter. The leaves having now fallen from deciduous trees and shrubs, should be collected and removed to the rot-heap, or stored under thatched hurdles for forming hotbeds. A general clearing-up should then take place, and the lawns, borders, shrubberies, &c., be made presentable for the winter. If there are parts of the lawns which have sunk below the general level, rendering machine-mowing difficult, these should be unturfed and filled up with new soil, fresh loam if obtainable, trodden firm and level, and the turf returned to the spot and well beaten and rolled. This sort of work may be undertaken at any time during the winter when the ground is not frozen. Never beat turves when frozen in ever so slight a degree, but wait till they thaw before doing so; nor use light rich soils, which are sure to sink considerably, besides causing an undue growth of the grass, and a difference in colour to the rest of the lawn. In the event of very severe weather ensuing, half-hardy or recently-removed evergreen shrubs may be afforded some slight amount of protection; and the prunings of hardy evergreens afford a good sort of material for this purpose, and they do not look so unsightly as bast mats or the like. As frosty winds generally do more damage to tender things than still frosts, it is well to protect them in some manner.

Pampas Grass.—This plant, when aged, will often show signs of exhaustion, a state of things due to the poverty of the soil in which are the roots, and which may be improved by mulchings of farmyard manure. In the case of clumps in conspicuous parts of lawns where manure would not be tolerated, the turf may be cut and rolled back out of the way, and the soil for some distance above and round about the extremities of the roots removed, its place being filled with rich loamy soil. In doing this the roots should be but little disturbed—no more indeed than is absolutely necessary.

Alpine Pinks.—At this time of the year much damage is done to these plants by slugs, and as these creatures lie concealed during the day beneath the foliage, the soil beneath this should be heavily dusted over with some dry wood-ashes, mixed with fresh soot; two or three dressings of which, applied during the winter, generally sufficing to stop their ravages, as well as affording a suitable food for the plants.

Bedding Begonia tubers lifted from the beds some weeks ago and left to become dry, may now be examined, the adhering earth removed, and the tubers stored in shallow boxes or baskets, placing these in some place to which frost has no access.

Trollius europæus (Globe Flower) may be grown to perfection if planted in a moist border, or better still by the side of a stream or on the banks of a pond, and autumn is the best time to propagate the plant, by division of the root. Some growers do this in the spring, but as a rule, the display of bloom the following season is very short-lived, the plants not having time to get established before the dry cold winds of March set in.

THE HARDY FRUIT GARDEN.

By G. Woodgate, Gardener, Rolleston Hall, Burton-on-Trent.

Insects Injurous to Fruit.—The Slug-worm, or larvæ of the Sawfly Selandria cerasi, is another insect which plays havoc with the foliage of the Pear and Cherry; dusting the trees with fresh slaked lime will destroy the larvæ which it comes into contact with, but those which escape descend into the soil, remaining just beneath the surface, thus rendering their removal a comparatively easy matter. It should be taken away to a depth of about 3 inches, and charred, and as numerous pupæ will go with it, their numbers another year will be very much lessened. The Black Currant-mite, although an exceedingly small insect, is capable of doing a great deal of mischief, but its presence may be readily observed at this season when the bushes are bare in the enlargement of the terminal buds. All shoots affected in this manner should be cut off and put into the garden-furnace forthwith. This done, the bushes should be sprayed with a solution, made by boiling 5 lb. of soft-soap in 10 gallons of water, to which ½ lb. of washing soda and 2 lb. of flowers-of-sulphur are incorporated with each gallon of water, keeping the ingredients well stirred till they become dissolved; then boil the mixture for thirty minutes. Before using it add 15 gallons of water, and warm it up to 100°. The spraying should be performed at the present season, and again in the month of February. Another reliable remedy is to dress the bushes with a petroleum emulsion, see p. 606.

Fruit Tree and Bush Planting, &c.—The operations which most claim attention from the gardener in favourable weather are planting and pruning, and these should be expedited as much as circumstances will permit. Be sure to make all the freshly-planted trees secure against wind-waving by staking them, doing this preferably as the work of planting proceeds. Let the ground over the roots and some little distance further, be afforded a mulch 3 inches thick of half-rotted stable or farmyard litter. Autumnal planting, it should be remembered, is to be preferred to spring planting, the roots being to some extent established in the soil by the time that we usually experience the drying harsh winds in the spring, and the shrivelling of the bark of the young shoots always noted in spring-planted trees is averted.

Pruning.—The pyramids and bushes of the Apple and Pear growing in the borders of the kitchen garden should be the first that are pruned, in order that the necessary preparation of the land for cropping may be carried out. Before commencing to prune any tree or bush, an examination should be made for insect-pests, and if any of these are present, means should be taken to destroy them. Trees which bore heavy crops of fruit this season should receive a dressing of good turfy loam and rotten manure in equal parts, well mixed together, first removing some of the surface-soil as far as the roots extend. Those trees and bushes which have made good shoots will need no top-dressing; whilst such trees as have made weak growth, or are naturally weak growers, should be afforded one or two good applications of the drainings from the stables or cow-sheds during the winter. Hard-and-fast rules in this matter, which would be applicable to any variety of Apple and Pear cannot be given, and each tree must be treated according to its needs. Shoots of the season's growth suitable for making scions for grafting purposes may now be taken, doing this before beginning to prune. These shoots should be clean and well ripened; having attached the correct name to each lot, lay them in, in thin rows, 6 inches deep, in a cool, shady position.

THE KITCHEN GARDEN.

By Charles Herrin, Gardener, Dropmore, Maidenhead.

Early Potatos.—If the Potato is forced very early, it will be advisable at this season to make a selection from the planting sets of the Ashleaf (Marjolin of French gardens), of which there are several varieties more or less early, that is, they produce edible tubers in a little more than three months after planting them. The variety Royal Ashleaf, synonymous with Early Alma, Early Racehorse, Royal Ash-top, Myatt's Ash-leaf, &c., although excellent for an early crop out of doors should not be chosen for frame or pot-planting, the tubers not growing so close together round the base of the stem as in the true Ash-leaf. These sets may be placed upright in boxes having finely-sifted leaf-mould spread over the bottom. Having filled the box, shake in some leaf-mould between the tubers so as to fill up the spaces between the sets, and put the boxes in a house having a warmth of 45° to 50°. Here they may remain till the soil has become partially penetrated with the roots, but not matted, that is in about two or three weeks from the time of setting them in the boxes. They will then be in a fit state for being planted in the frames, &c. It is scarcely advisable to plant Potatos very early in frames where the heating depends entirely upon fermenting materials, but pits should be chosen for this purpose which are furnished with hot-water pipes for affording top-heat. The woodwork, walls, and glass should be well cleaned, the walls being lime-washed. This done, fill the pits to within 2 feet of the top with about equal proportions of tree-leaves and stable-manure, which have been turned several times. Make the beds quite firm as the work proceeds, and when the desired height is reached, place a layer of moderately rich light soil 9 inches thick. The pit should be got in readiness for planting a week previously, so as to allow for the settlement of the beds and the due warming of the soil. If heated pits do not exist, early Potatos may be obtained by growing as many as space can be found for in 8-inch or larger sized pots, filling them to two-thirds of their depth with suitable soil, one tuber being planted in each, or three in a 12-inch pot. The earthing will occupy the rest of the space in the pot. These pots may be stood on the floor of any house where a temperature of about 45° to 50° is maintained, early started Peach-houses or vineries just suiting them at this stage.

Spring Cabbage.—The Cabbage quarter, when the surface is dry, should be hoed over and the weeds pulled up and collected. Generally, Cabbages have not made much growth this season, and the plants are not large or succulent. The late rains have somewhat consolidated the soil, which should be brought well up to the stems of the plants. Before the forking over or stirring the soil is undertaken, a sprinkling of wood-ashes and soot in mixture may be afforded.

Salading.—Plants of Lettuce and Endive standing in frames should be abundantly ventilated in fine weather, all decaying portions being removed as soon as seen. Late Endive may be lifted and housed where room can be found for them on the borders in an orchard or late Peach-house, where, if lifted with a large ball and laid on the border, and the roots covered with a little fresh soil and afforded water, they will increase in size. A sufficient number of the earliest batch should be kept in a blanched state to meet requirements. The blanched shoots of Chicory form a useful winter salad, and a few roots should be introduced to the Mushroom-house weekly, and blanched similarly to Seakale. Mustard and Cress may be sown at short intervals of time in shallow boxes, and grown in a warm-house with a rather dry atmosphere.

THE APIARY.

By Expert.

Hives.—One of the best hives for ordinary use is the one known as the "Cowan." It is very simple in construction, and can be made by any handy-man at a small cost. All the boards used should be dry, or they will warp under the sun; and the hives when made should be primed before being painted, which will improve the wood largely. If it is possible, the best way is to make them in the winter, prime and store them till the spring, and then afford three coats of paint, and number them all. An apiary no doubt looks best with the hives all placed at a certain distance apart, and numbered; and in addition to this you can, if you keep a register, refer to any given number, and see at a glance what work the bees have done, and what state they are in. A good sort of hive consists of a body-box made of 1-inch board, and made to take from eight to fourteen or fifteen frames. It should be 14½ inches from front to back, and 8¾ inches high, measured inside; the edges of the top, front, and back are rabbeted and fitted with strips of tin for the ends of the frames to rest upon. The frames should be 14 inches long and 8½ inches deep, ⅜-inch thick, the bottom bar ⅜-inch, and the side bar ¼-inch. The top bar must be 17 inches in length. The floor-board should be made of 1¼-inch stuff, and two wedges should be let in to strenghten it. A passage ⅜ of an inch deep and 8 inches wide is cut out of the floor-board, sloping towards the centre of the hive; the outside case should be made of ⅜-inch board, or a little stouter if necessary, and made to rest on the floor-board. To prevent rain getting in at the junction between the outer covering and the floor-board, strips of wood should be nailed on at the angle. Nail a piece of wood between the outer cover and the front of the body box, which will prevent the bees getting into the outer case, or it may be left loose so that the body box can be brought backwards or forwards. Beneath the porch roof a small block of wood is secured, grooved out a little so as to allow two shutters to slide for enlarging or contracting the space as may be desired. The roof fits on to the top of the sides, and should incline towards the back, and may be painted, or covered with zinc or Willesden card and painted. It can be fixed on the sides by a fillet nailed on to the hive or the roof itself. The alighting board should be 15 inches in length, and slope towards the ground; this will enable a good many bees to get into their hive when coming home laden and tired. The bottom of the hive should be 6 inches in height; and a piece, 6 inches high, should be nailed on at the back to keep it secure.

Mr. Harman Payne.—At the late Chrysanthemum exhibition in Paris, Mr. Harman Payne, the Foreign Secretary of the National Chrysanthemum Society, was made a Chevalier of the *Merite Agricole*. This is a compliment to British horticulture, and an appropriate recognition of the claims of Mr. Harman Payne.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the PUBLISHER.

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

APPOINTMENTS FOR DECEMBER.

SATURDAY,	DEC. 5	Isle of Wight Horticultural Association. Société Française d'Horticulture Meeting.
SUNDAY,	DEC. 6	Royal Horticultural and Agricultural Society of Ghent, Meeting.
SATURDAY,	DEC. 12	—Royal Botanic Society, Meeting.
SUNDAY,	DEC. 13	—Brussels Orchidéenne, Meeting.
TUESDAY,	DEC. 15	Royal Horticultural Society's Committees.
FRIDAY,	DEC. 25	—Christmas Day.

SALES FOR THE ENSUING WEEK.

MONDAY,	DEC. 7	Carnations, Picotees, Hardy Perennials, &c., at Protheroe & Morris' Rooms. Dutch Bulbs, Roses, Greenhouse Plants, &c., at Protheroe & Morris' Rooms. Dutch Bulbs, Liliums, &c., at Stevens' Rooms.
TUESDAY,	DEC. 8	Dutch Bulbs, Roses, Gladioli' Spiræas, &c., at Protheroe & Morris' Rooms. Absolute Clearance Sale of Growing Timber and other Trees, Greenhouses, Pits, Stone Columns and Pedestals, &c., at The Woodhouse Park Estate, Wood Lane, Uxbridge Road, by order of the Electric Traction Co., Ltd., by Protheroe & Morris, at 11 o'Clock.
WEDNESDAY,	DEC. 9	Roses, Plants, Shrubs, Fruit Trees, Palms, Bulbs, &c., at Stevens Rooms.
THURSDAY,	DEC. 10	600 Azaleas, Rhododendrons, Roses, Phloxes, Dahlias, &c., at Protheroe & Morris' Rooms. 20 Cases of Araucaria excelsa, Liliums, Bulbs, &c., at Stevens' Rooms.
FRIDAY,	DEC. 11	Imported and Established Orchids at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—41°.

Experiments in Potato-growing on the Earl of ROSEBERY'S Farm.

THE results of some experiments on the growth of Potatos on the estate of Lord ROSEBERY at Dalmeny, were exhibited at the great Chrysanthemum Show in the Waverley Market in Edinburgh last week. It seems that the lines followed in these experiments were laid down by Mr. HUNTER, District Analyst, and by Professor MCALPINE. The cost of the special manuring reached to 32*s.* 6*d.* per acre, while the most profitable returns seems to have been obtained from an expenditure of 9*s.* per acre on superphosphate of lime, which seems the most profitable dressing for a crop of Potatos on such soils as those at Dalmeny. This dressing alone increased the yield of Potatos 3 tons per acre.

The gross returns were most encouraging; and while doubtless confirming the value of superphosphate as a manure for Potatos, also attest the rejuvenating and recuperative energy of new blood in increasing the crops of Potatos. It is only as we realise that the average yield does not greatly exceed 7 tons per acre, that the full meaning of the results obtained at Dalmeny, or on other experimental plots, are realised.

"Up-to-date" Potato yielded 19½ tons per acre, and has suddenly leapt into the first rank for quantity and quality; British Queen, 18 tons; Jeannie Deans, 16 tons; Main Crop, 13 tons per acre, &c.

The best results on the whole, in the case of grain crops, were reaped from a mixture of superphosphate, lime compost, and sulphate of ammonia, and on all the grain crops sulphate of ammonia gave better results than nitrate of soda. Experiments are also being carried out at Dalmeny for the culture of soil-bacteria for the inoculation of the soil, with those that are most powerful in the liberation or retention of nitrogen.

Conveyance of Agricultural, Farm and Dairy Produce.

THE Board of Directors of the Great Western Railway Company have issued to the public, in a concise and handy form, a pamphlet embodying particulars of Scales of Reduced Rates recently adopted by the Company for agricultural, farm, and dairy produce carried by passenger and goods trains respectively.

The rates applicable by passenger trains have been specially provided for small consignments of farm and dairy produce, such as eggs, butter, cream, poultry, game, fruit, and vegetables, with the view of enabling the farmer to supply his products direct to the consumer; and will no doubt be much appreciated by those who require a rapid service.

The scales of reduced rates granted for traffic sent by goods trains embrace fresh meat, dead poultry, dead rabbits, eggs, butter, fruit, and vegetables, and apply to quantities of 10 cwt., 1 ton, 2 tons, and 3-ton lots respectively. One important advantage in connection with these rates is that they will cover mixed consignments of any or all of the articles named, so that farmers may combine to send away varying small quantities (exceeding 3 cwt.) amounting in the aggregate to 3 tons, 2 tons, 1 ton, or 10 cwt., and have the whole of the separate lots charged at the rates applicable to those quantities, the only stipulation being that the traffic must be sent at one time from one station to another station; and that the carriage must be paid by one sender, or by one consignee.

In addition to the reductions thus announced, rates for the same descriptions of traffic have been specially arranged to London, in no case exceeding the scales above referred to; and rates have also been given for consignments of less than 10 cwt., by goods train, in order to supplement the facilities offered by passenger train for small quantities going to the London markets.

The company have also revised and largely reduced the rates for cider and perry from the producing districts of Devonshire, Somersetshire, Herefordshire, and Gloucestershire; and are making numerous and important reductions in the charges for other articles of agricultural traffic, such as Potatos, Turnips, Parsnips, Carrots, Mangel Wurzel, feeding-stuffs, and manures.

It will be observed that the Great Western Company is evincing an earnest desire to assist the agriculturist; and it now remains for the farmers and gardeners to see how they can best obtain (by combination or otherwise) the fullest advantage of the concessions given, and justify the experiment that is being made by bringing about such a development in the quantities of home produce forwarded by railway as will compensate for the loss of revenue that will otherwise result from the reduction in the charges.

We append three schedules of immediate interest to our readers. For others application should be made to the officials at any station of the Great Western Railway.

CONVEYANCE BY PASSENGER TRAIN.

Scale of Rates for cream, eggs, honey, game, dead poultry, dead rabbits, fruit, vegetables, and Mushrooms, at owner's risk, inclusive of delivery within the Company's ordinary Free-cartage boundary:—

Distance.	7 lb.	9 lb.	10 lb.	12 lb.	14 lb.	16 lb.	17 lb.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Up to 30 miles	0 6	0 6	0 6	0 6	0 6	0 6	0 6
,, 50 ,,	0 6	0 6	0 6	0 6	0 6	0 6	0 6
,, 100 ,,	0 6	0 6	0 6	0 6	0 7	0 7	0 8
,, 200 ,,	0 6	0 7	0 8	0 9	0 10	0 10	0 11
Above 200 ,,	0 6	0 8	0 9	0 10	0 11	1 0	1 1

Distance.	19 lb.	20 lb.	21 lb.	22 lb.	23 lb.	24 lb.	Above 24 lb.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	d.
Up to 30 miles	0 6	0 6	0 6	0 6	0 6	0 6	½ p. lb.
,, 50 ,,	0 6	0 6	0 6	0 6	0 6	0 6	½ ,,
,, 100 ,,	0 8	0 8	0 9	0 9	0 9	0 9	½ ,,
,, 200 ,,	0 11	0 11	1 0	1 0	1 0	1 0	½ ,,
Above 200 ,,	1 1	1 2	1 2	1 3	1 3	1 3	½ ,,

* No smaller charge than 6*d.* per consignment.

CONVEYANCE BY GOODS TRAIN.

Scale of Rates for eggs in boxes, cases, or crates, at owner's risk. Butter in casks, firkins, baskets, flats, and hampers, with lids; or boxes, or in tubs or cools with wooden lids. Fruit and vegetables (not hothouse) as under:—Cherries, Raspberries, and Strawberries in tubs, for jam-making; Blackberries, Cranberries, Currants, Damsons, Gooseberries, Green Gages, Medlars, Plums, Walnuts, Wortleberries, and Tomatos (except in baskets without lids). These rates are applicable to Artichokes, Beans, Beetroot, Broccoli, Brussels Sprouts, Cauliflowers, Celery, Cucumbers, Endive, Horse-radish, Lettuce, Peas, Radishes, Rhubarb, Seakale, Spinach, Turnip-tops, Vegetable Marrows, and Watercress, where lower rates are not specially provided. Inclusive of delivery within the Company's ordinary Free-cartage boundary:—

Miles.	10 cwt lots.	1 ton lots.	2 ton lots.	3 ton lots.	Miles.	10 cwt lots.	1 ton lots.	2 ton lots.	3 ton lots.
	Ton. s. d.	Ton. s. d.	Ton. s. d.	Ton. s. d.		Ton. s. d.	Ton. s. d.	Ton. s. d.	Ton. s. d.
30	10 10	10 0	9 7	9 2	140	26 8	25 0	23 4	21 8
35	11 8	10 10	10 5	10 0	150	27 6	25 10	24 2	22 6
40	12 6	11 8	11 3	10 10	160	28 4	26 8	25 0	23 4
45	13 4	12 6	12 1	11 8	170	29 2	27 6	25 10	24 2
50	14 2	13 4	12 11	12 6	180	30 0	28 4	26 8	25 0
55	15 0	14 2	13 4	12 11	190	30 10	29 2	27 6	25 10
60	15 10	15 0	14 2	13 4	200	31 8	30 0	28 4	26 8
65	16 8	15 10	15 0	14 2	210	32 6	30 10	29 2	27 6
70	17 0	16 8	15 10	15 0	220	33 4	31 8	30 0	28 4
75	18 4	17 1	16 3	15 5	230	34 2	32 6	30 10	29 0
80	19 2	17 11	16 8	15 10	240	35 0	33 4	31 8	30 2
85	20 0	18 9	17 6	16 8	250	35 10	34 2	32 6	30 10
90	20 10	19 7	18 4	17 6	260	36 8	35 0	33 4	31 8
95	21 8	20 5	19 2	18 4	270	37 6	35 10	34 2	32 6
100	22 6	21 3	20 0	18 9	280	38 4	36 8	35 0	33 4
110	23 9	22 1	20 10	19 7	290	39 2	37 6	35 10	34 2
120	25 0	23 4	21 8	20 5	300	40 0	38 4	36 8	35 0
130	25 10	24 2	22 6	20 10					

CONVEYANCE BY GOODS TRAIN.

Scale of Rates for Apples and Pears. (These rates are applicable to Cabbages, Carrots, Onions, Parsnips, Turnips, and Potatos in bulk or in sacks, *where lower rates are not specially provided.*) Inclusive of Delivery within the Company's ordinary Free-cartage boundary.

Miles.	10 cwt lots.	1 ton lots.	2 ton lots.	3 ton lots.	Miles.	10 cwt lots.	1 ton lots.	2 ton lots.	3 ton lots.
	Ton. s. d.	Ton. s. d.	Ton. s. d.	Ton. s. d.		Ton. s. d.	Ton. s. d.	Ton. s. d.	Ton. s. d.
30	9 2	8 9	8 4	7 11	140	20 0	18 9	17 6	16 8
35	10 0	9 7	9 2	8 9	150	20 10	19 7	18 4	17 1
40	10 10	10 5	10 0	9 7	160	21 8	20 0	18 9	17 6
45	11 8	11 3	10 10	10 5	170	22 1	20 10	19 7	18 4
50	12 6	11 8	11 3	10 10	180	22 6	21 3	20 0	18 9
55	12 11	12 1	11 8	11 3	190	23 4	22 1	20 10	19 7
60	13 4	12 6	12 1	11 8	200	23 9	22 6	21 3	20 0
65	13 9	12 11	12 6	12 1	210	24 7	23 4	22 1	20 10
70	14 2	13 4	12 11	12 6	220	25 0	23 9	22 6	21 3
75	14 7	13 9	13 4	12 11	230	25 10	24 7	23 4	22 1
80	15 0	14 2	13 9	13 4	240	26 3	25 0	23 9	22 6
85	15 5	14 7	14 2	13 9	250	27 1	25 10	24 7	23 4
90	15 10	15 0	14 7	14 2	260	27 6	26 3	25 0	23 9
95	16 3	15 5	15 0	14 7	270	28 4	27 1	25 10	24 7
100	16 8	15 10	15 5	15 0	280	28 9	27 6	26 3	25 0
110	17 6	16 8	15 10	15 5	290	29 7	28 4	27 1	25 10
120	18 4	17 6	16 8	15 10	300	30 0	28 9	27 6	26 3
130	19 2	17 11	17 1	16 3					

The New Agricultural Rates Act. Important Decision.

WE have great satisfaction in giving prominence to the following decision upholding the results arrived at in the Worthing Case:—"At a Special Petty Session held under the Act at Edgeware, on Tuesday last, the Surveyor of Taxes for the Hendon Union appealed against the decision of the Overseers and Assessment Committee, that "glasshouses" were to be included in the term

"agricultural land," as defined by the Act, and were therefore entitled to the relief from rates afforded by the Act.

The Market Gardeners, Nurserymen, and Farmers' Association, as representing the trade, had taken up the case on behalf of the occupiers affected, and Mr. A. GLEN appeared for them. The Overseers and Assessment Committee were represented by Mr. PAGE. The Surveyor of Taxes appeared in person. After argument, the Bench unanimously decided against the surveyor, on the authority of Purser *v.* the Worthing Local Board, a well-known case on which, it will be remembered, the Association obtained the judgment of the Court of Appeal in favour of the trade. The decision in the first case governed twenty-two others which were down for hearing, and in all the cases the surveyor was ordered to pay the costs."

OUR ALMANACK.—Secretaries of Horticultural Societies and others, are earnestly requested to forward *immediately*, the dates of Show Fixtures and of Meetings of Botanical and Horticultural Societies of any kind for 1897, for insertion in the Almanack, to be published in our issue for January 2.



FIG. 121.—SENECIO FOSTERI: AS GROWN AT CASTLEWELLAN. (SEE P. 681.)

LINNEAN SOCIETY OF LONDON: *November* 19.—Mr. A. D. MICHAEL, Vice-President, in the Chair. Dr. D. MORRIS, C.M.G., exhibited from the Royal Gardens, Kew, the inflorescence of Pterisanthes polita, a singular species of the Vine order (Ampelideæ), received in 1894 from Mr. H. N. RIDLEY, F.L.S., of Singapore, and now in flower for the first time in Europe. It is a slender plant, climbing 15 to 20 feet over trees, native of the Malay Peninsula, Sumatra, and North Borneo. The cordate leaves are entire and toothed; the tendrils bifurcated, with the lower branch bearing a pendulous, flat, fleshy receptacle, irregular in outline, reddish-brown in colour, and varying from 4 to 6 inches in length, and ½ to 1½ inch in breadth. The flowers, embedded on both sides of the receptacle, are mostly hermaphrodite, while on its margins are ranged several uni-sexual or sterile flowers on slender pedicels ½ to 1 inch long. The fruits, when produced, are small flask-shaped berries with one to four seeds. Pterisanthes is closely allied to Vitis, but shows in a more interesting manner the true nature of the tendrils, and a special modification of the receptacle suggested only in Vitis macrostachya.—Some supplementary remarks were made by Mr. C. B. CLARKE, F.R.S., and Sir HUGH LOW, G.C.M.G. Dr. MORRIS also exhibited dried flower-stems of the Australasian twin-leaved Sundew (Drosera binata, Labill.), received at Kew from the Sheffield Botanic Garden. In this instance, the stems were 3 feet 6 inches high, bearing about thirty to fifty large pure white flowers, nearly 1 inch across. The plant as usually grown in gardens in this country is seldom more than 9 inches to a foot high. Mr. W. G. RIDEWOOD, B.Sc., F.L.S., read a paper on the "Structure and Development of the Hyobranchial Skeleton and Larynx in Xenopus and Pipa." A paper was then read by the Rev. T. R. STEBBING, F.R.S., F.L.S., "On the Collection of Amphipoda in the Copenhagen Museum."

SACRED TREES.—On Wednesday, the 25th ult., the opening lecture of the session of the Royal Society of Literature was delivered by Dr. PHENÉ (Vice-President). Mr. JAMES CURTIS, F.S.A., presided, in the unavoidable absence of the President (the Lord Chancellor). The subject was the transportation of their sacred trees by the Greek and Asiatic colonists in their migration to Western Europe. The daphnephoria was, of course, a local ceremony along the sacred way from Delphi to Tempe. The importation and the planting of the sacred Olive by Athená in the Erectheum was also apparently local; but the colonists carried the Vine and other trees with them to their places of settlement, and instituted the Dionysia in Greece, known as the Bacchanalia in Italy, &c. Certain tribes mentioned by Herodotus, Strabo, &c., were traced as carrying fruit trees, which were found to accompany the Bacchic ceremonies, and reasons were given for assuming that the ceremonies of the Ambrosia, one of the festivals of the Dionysia, were those which accompanied the life-giving food of the fruit trees. The growing trees were conveyed in pots, shown by Indian sculptures and the name of the third day of the Dionysia, χύτρος (a pot), from the trees in pots and vases then offered. The fruits of certain trees, described as Apples, were mythologically the food of the gods of Olympus and of Scandinavia, &c. These fruit-bearing trees and ceremonies were traced to Western Europe, and the councils of the church down to the eleventh century were occupied in suppressing the worship of these trees. The author had found from personal travel the fruits of these trees and the people mentioned by Herodotus from Britain to India, by a course *viâ* Italy, Greece, &c.; the names of the fruits in some of the settlements being still those mentioned by the ancient writers.

THE ROYAL GARDENERS' ORPHAN FUND.—The monthly meeting of the committee took place at the Horticultural Club on the 27th ult., Mr. WILLIAM MARSHALL presiding, when the following special receipts were announced:—Rugby Chrysanthemum Society, per Mr. W. Bryant, £6 4*s.*; Bradford Paxton Society, per Mr. R. Scott, £3 10*s.*; Mr. J. T. Powell, Park Place, Henley, box, £2 6*s.*; Mr. R. Scott, Moorfield, Bradford, box, £2 6*s.*; Mr. W. Bates, Cross Deep, Twickenham, £1 13*s.*; Penshurst Gardeners' Association, per Mr. E. Baker, £1 11*s.* 6*d.*; Mr. J. McKerchar, Holloway, £1 1*s.*; Croydon Chrysanthemum Society, per Mr. E. Beckett, £1 1*s.*; Mr. H. B. May, Edmonton, £1 1*s.*; Mr. J. Crook, Tarde Chards, sale of flowers, £1; and small sums under one pound, £1 7*s.* 7*d.*

NATIONAL AMATEUR GARDENERS' ASSOCIATION.—A lecture was given at the meeting of this association on Tuesday last, by Mr. E. T. COOK, on "Some Ways of Making Gardens Beautiful," illustrated by oxy-hydrogen lantern views. The chair was taken by Mr. T. W. SANDERS, and there was a large company present. The views were of hardy plants growing in various parts of the British Isles, and the series of English cottage-gardens created much interest. This association has grown to large proportions, and holds its meetings monthly from henceforth at Winchester House, City.

THE EDINBURGH FIELD NATURALISTS' AND MICROSCOPICAL SOCIETY.—The fourth and fifth Parts of the *Transactions* of this Society are now before us, and we are pleased to find that the Annual Report is satisfactory. The papers included in these Parts are so many testimonies to the skill of their

(mostly) well-known writers. Among the more interesting and botanical subjects treated of are: Notes on Japan by Dr. WATSON; Mr. G. DON'S Specimen of Holy Grass, A. B. Steele (is the scien tific name of Holy Grass mentioned?); Poisonous Plants by M. KING; and Popular Delusions in Natural History by Dr. Traquair. There is an In Memoriam notice of the late Dr. ROBERT BROWN by A. E. DAVIES, Ph. D., illustrated with a good and pleasing portrait. Dr. BROWN was, it may be remembered, the first President of this Society, and died in October, 1895.

ISLE OF WIGHT HORTICULTURAL IMPROVEMENT ASSOCIATION.—We are informed by Mr. S. HEATON, Hon. Sec., that the monthly meeting of the above association will be held at Warburton's Hotel, Newport, on Saturday, Dec. 5, 1896, when the Rev. H. EWBANK, Ryde, will read a paper on "A Garden in the Isle of Wight." The chair will be taken at 6.30 P.M. by Dr. J. GROVES, B.A., J.P.

PRESENTATION TO MR. G. BUNYARD.—On Wednesday evening, November 25, an interesting ceremony took place at the residence of Mr. GEORGE BUNYARD, of the Royal Nurseries, Maidstone, when a representative committee of the employés, composed of the heads of the various departments, assembled to present their employer with a testimonial to celebrate the centenary of the firm's existence. In the presence of Mr. and Mrs. BUNYARD and family, Mr. BUSS, as chairman of the committee, made the presentation, accompanied by a few suitable remarks, followed by some supplementary explanations by Mr. WELLS, secretary. The testimonial took the form of a handsomely illuminated address on vellum, comprising a sketch of the Maidstone offices and heraldic and other designs, and set in a massive carved Oak frame of conventional Oak leaves. The address having been inspected and admired by all present, Mr. BUNYARD expressed his appreciation of the gift in a few well-chosen words.

THE SEASON IN SOUTH AFRICA.—Writing from Grahamstown, an old correspondent says:—"We are having a very bad season for gardening and farming, for the drought, the locusts, and the rinderpest, have played sad havoc. All the corn has to be imported, and soon the meat will have to be imported as well. It is now three years since we had sufficient rain to reach to the roots of the fruit trees. The bad state of things is not general, i.e., does not affect the whole of South Africa alike; but over most parts of the country even Indian-corn, that thrives so well here in ordinary seasons, has failed, and the supplies have to be imported from America.

DEVON AND EXETER GARDENERS' ASSOCIATION.—On Wednesday, November 18, a meeting of the Devon and Exeter Gardeners' Association was held, when Mr. GEORGE FOSTER, gardener to Mr. H. HAMMOND SPENCER, Glendarragh, Teignmouth, read a paper on "The Culture of the Chrysanthemum." The chair was occupied by Mr. F. HANNAFORD, Teignmouth, there being a very numerous attendance. Mr. FOSTER is one of the best cultivators of the flower in Devonshire, and his lecture was listened to with much attention by the audience, among whom were many of the gardeners of Exeter and the environs. His lecture was divided into ten headings, including growing for exhibition, striking cuttings, treatment of the same, potting-off, stopping the shoots, composts, affording water, taking the buds, housing, &c. The discussion which followed the reading of the paper brought out many important details, amongst others that Mr. FOSTER waters in the dry summer months—July, August, and September—with soot-water, about 1 qt. of soot to 4 galls. of water, thoroughly well mixed. To a question of Mr. POWELL'S, he replied that he had sometimes grafted a fine variety of incurved with a weak habit on the stem of an inferior variety with a strong habit, and with considerable success. Mr. HOPE produced a list of fifty Chrysanthemums grown in the Topsham Road Nurseries of Mr. VEITCH'S grandfather in 1851 and 1852, some of which were still cultivated. A question was asked as to whether the lecturer had ever grown Chrysanthemums in Jadoo fibre. He said he had done so, and with much success. The great point to be observed when growing plants in Jadoo was to see that they were not afforded too much water, for that material being naturally retentive of moisture, less water was required.

MESSRS. J. CARTER & CO.—Messrs. CARTER send us the following letter referring to the supply by them of 200 tons of vegetable seeds for growing in the northern districts of India threatened with scarcity.

"India Office, Whitehall, November 17, 1896.

"Gentlemen,—I am directed by the Secretary of State for India in Council to acknowledge receipt of your letter of the 6th inst., forwarding invoices for the additional seeds shipped by you, on account of the Government of India, from London and Marseilles on the 6th inst.

"Lord GEORGE HAMILTON recognises with satisfaction the facilities and assistance you have received in organising these large and unaccustomed shipments from Her Britannic Majesty's Consul at Boulogne, the Custom authorities at Folkestone, the Directors of the Peninsula and Oriental Company, and the Goods Managers of the South Eastern and Great Eastern Railway Companies.

"His Lordship also desires me to convey to you the expression of his appreciation of the promptitude and foresight shown by you in successfully carrying out so large a portion of the order of the Government of India, within the very limited time allowed for its execution.

"I am, Gentlemen,

"Your obedient servant,

"(Signed) A. GODLEY."

YORK FLORISTS' SHOW.—An exhibitor, well known in the north, writes to express the dissatisfaction felt by himself and other exhibitors of fruit at this show, at the erroneous decisions of the judges, citing an instance of a gardener showing in the class for six kinds of dessert fruits being disqualified on the ground that an Apple which he showed—Emperor Alexander—was not a dessert variety. Emperor Alexander is often used as a dessert Apple, but in the most authoritative record we have, viz., that of the National Apple Congress, held at Chiswick in 1883, and published in Mr. BARRON'S *British Apples*, 1884, the Apple in question is classed among the culinary varieties (see p. 183, n. 354); see also "Apples suited for Yorkshire," p. 116, where it is also included among the culinary Apples.

THE WORD "NATIONAL."—In this country, if a foregathering of two crock-boys choose to call themselves the National Society of Pot-crockers, there is nothing to prevent them. In France things are ordered differently, as the Society of French Chrysanthemists found when it wished to add the word National to its title. Local préfets and metropolitan ministers had to be asked, and the reply of the Minister of Agriculture was, if courteous in form, very decidedly negative in substance.

"DICTIONNAIRE PRATIQUE D'HORTICULTURE."—The article Primula, to which a large portion of the 55th fascicle is devoted, affords an illustration of the manner in which the work of NICHOLSON has been "*mis à jour*" by his French editor, M. MOTTET.

M. ED. PYNAERT was the object of an ovation recently when the pupils of the Ghent School of Horticulture celebrated the thirty-fifth anniversary of the Professor's career as a teacher. The director of the school, M. RODIGAS, in the name of the King and of the Belgian Government, presented M. PYNAERT with the Civic Cross of the first class. There are many of our readers who from personal knowledge of the Professor, and of his colleagues, will warmly sympathise with this manifestation.

A REVISION OF THE GENUS VANILLA has been published by Mr. ROLFE in the thirty-second volume of the Linnean Society. Fifty species are described, among which, for economic purposes, the Mexican V. planifolia is the most important. V. pompona, V. Gardneri (Brazil), possibly, together with some others, are used for purposes of perfumery, &c.

MR. FALCONER, who is well remembered as a press-man on this side of the Atlantic, has resigned the editorship of *Gardening*, in consequence of his acceptance of the Directorship of Schenley Park.

HEPATICAS.—In the October number of the *Wiener Illustrierte Garten Zeitung*, Dr. GÜNTHER RITTER BECK VON MANAGETTA has a monographic sketch of the genus Hepatica. There are but two species, H. nobilis, P. MILLER, 1768 (better known as H. triloba, GILIBERT, 1782), and H. transylvanica. Of the common Hepatica, Dr. BECK enumerates no fewer than twenty varieties and forms as follows:—hispanica, tricolor, plena, Barlowi, superba, vulgaris, rubra, carminea, carminea plena, alba, alba plena, calycina, steleantha, marmorata, cuprea, minor, rhœtica acutiloba and obtusa. These variations depend on minor differences in the leaves or in the flowers. Under H. transylvanica, H. angulosa is quoted as a synonym. In addition, a hybrid between the two species, H. media × is enumerated.

"A BEAUTIFUL WORLD."—The sixth number of this little pamphlet appears this month; the last was issued a year ago. It is the organ of the Society for Checking the Abuses of Public Advertising. This Society justly contends that individuals have no right to ruin natural beauties intended for the enjoyment of all by setting up objectionable and unsightly advertisements. Mr. CRACKANTHORPE, Q.C., in a speech reported in this pamphlet, suggests that, with a view towards influencing their future decisions children should be taught alliterative lines the reverse of complimentary to obtrusive advertisers and their wares. How the young idea would receive such variations of "Peter Piper" and similar old friends, remains to be proved; possibly the speaker did no mean his suggestion to be taken seriously.

"THE ENGLISH ILLUSTRATED MAGAZINE."—The Christmas number of this publication is a thick and handsome one, containing over 400 pages, and profusely illustrated. Those who like fiction will find plenty to amuse them here, as well as more serious articles upon "Impressions of Constantinople," by MELTON PRIOR; "Our Great Naval Hero," by CLARK RUSSELL; "The Maid of Orleans," by ANDREW LANG; "Campaigning in the Soudan," by H. C. SEPPINGS WRIGHT; and other subjects.

"ORCHIDS AND CYRTANDRADS OF THE MALAY PENINSULA."—Botanists and Orchid-lovers will hail with acclamation the publication in the thirty-second volume of the *Journal of the Linnean Society* of Mr. RIDLEY'S paper on this subject. It contains a classified enumeration of the species met with in the Malay Peninsula and the adjacent islands, from latitude 7° North to Singapore. Much of the country is stated still to be unknown botanically, so that important discoveries may be expected in the future. The technical details are interspersed with numerous observations on the life-history of the plants. It is unfortunate that several of Mr. RIDLEY'S new species could not have been inserted in Sir JOSEPH HOOKER'S *Flora of British India*. In the same volume is a monograph also by Mr. RIDLEY, of the Cyrtandraceæ of Malaya. The number of species in the *Flora of British India* is stated to be very small in comparison with the number since brought to light from the hill-districts of the interior formerly inaccessible; whilst the plants are so local that every hill-range may be expected to produce new kinds.

MISSOURI BOTANICAL GARDEN.—The seventh annual Report of the Missouri Botanical Garden contains, not merely a review of past work and present conditions of the institution, but important papers on the following subjects: "Juglandaceæ of the United States," by WILLIAM TRELEASE; "Study of the Agaves of the United States," by A. ISABEL MULFORD; and "The Ligulate Wolffias of the

United States," by CHARLES HENRY THOMPSON. We may mention that the Report is brought out well, printed on good paper, and illustrated with many plates, which add much to the attractions of a handsome volume, and ensure its permanent utility.

THE SURVEYORS' INSTITUTION. — The next ordinary general meeting will be held on Monday, December 7, when the adjourned discussion on the paper read by Mr. WALTER C. RYDE (Associate), at the last meeting, on "The Agricultural Rates Act, 1896," will be resumed; and (should time permit) a paper will be read by Mr. C. H. HOOPER (Fellow), entitled, "Fruit Growing as an Auxiliary to Agriculture." The chair to be taken at 8 o'clock. All inquiries with reference to the junior meetings should be addressed to Mr. A. NORMAN GARRARD, 8, Frederick's Place, Old Jewry, E.C.

MASONIC HONOURS IN THE TRADE.—On the 25th ult., Mr. J. GREEN of the Dereham Nurseries, was installed worshipful master of the Sondes Lodge, No. 996, in the Freemasons Hall, at Dereham. Subsequently a banquet was held under the presidency of the newly-installed worshipful master, who appears to be very popular among his neighbours.

SWANSEA HORTICULTURAL ASSOCIATION.—Under the auspices of the Swansea and District Horticultural and Gardeners' Association, Mr. W. W. PETTIGREW, Superintendent of the Parks and Open Spaces, Cardiff, delivered a very interesting lecture on "The Process of Fertilisation" at the Public Library on Thursday Evening, November 19. Mr. W. S. GILBERT, The Gardens, Bablan Hall, will deliver the next lecture on December 17, subject, "Chrysanthemums and their Culture."

FRUIT AT EDINBURGH.

SOME of the more choice Apples shown by Mr. Bunyard at the Edinburgh Chrysanthemum show, November 19 to 21, 1896, were:—Annie Elizabeth, Beauty of Kent, Bismarck, Blenheim Orange, Byford Wonder, Mank's Codlin, Ecklinville Seedling, Emperor Alexander, Gascoigne's Seedling, Golden Noble, Golden Spire, Hambling Seedling, Lady Henniker, Lane's Prince Albert, Lord Grosvenor, Mère de Ménage, Newton Wonder, Peasgood's Nonsuch, Mabbott's, and Hubbard's Pearmains; Pippins—Cockle, Cox's Orange, King of the Pippins, Ribston; Reinettes—Baumann's Red Winter, Du Canada, and Royal Jubilee; Egremont Russet, Sandringham, Stirling Castle, Striped Beefing, Tyler's Kernel, Warner's King, Wellington, and Williams' Favourite, shown here so well sustain the size and character of the illustrations of these new and promising varieties, and inspire the public with confidence in the new dessert Apple to be distributed next year, Lincoln Beauty. Allington Pippin is said to be a cross between Cox's Orange and King of the Pippins, and is perhaps the finest dessert Apple that has been introduced since the advent of this fine standard variety. Mr. John Watkins, of the Pomona Farm Nurseries, Withington, Hereford, is also offering his new Apple, Byford Wonder, yet another addition to the full class of good culinary Apples; and Lord Hindlip, yet another fine dessert Apple, to follow Cox's Orange Pippin.

The last-named grower also made an interesting display of perry and cider made from his own fruit-orchards. He grows a capital collection of Apples and Pears for those purposes, as well as one of the finest for garden orchards and market purposes. On this occasion Hereford rather had the lead of Kent, alike in colour and size, while the market-growers were still further ahead of the private growers, either north or south.



FIG. 122.—SOPHRO-CATTLEYA × CALYPSO.
Sepals and petals rosy-purple; lip rose-orange; front of the lip rich purple.

TREES AND SHRUBS.

CERCIS SILIQUASTRUM.

THE Judas-tree is a very ornamental subject while in bloom, the deep pinkish-red flowers clustering up the stems on the old and young wood, and this year I saw flowers produced from buds formed on the bole of the tree, the girth of which was 22 inches in circumference. The foliage also is distinct, and follows the flowering period. In the south of England it grows freely as a standard, attaining a height of 20 to 30 feet, but in colder latitudes it requires the shelter of a wall. In the south-west of England it flourishes, and this year it has produced seed-pods clustering on the stems as thickly as the leaves. A tree I saw in the gardens of Linden House, the seat of S. Fox, Esq., near Wellington, a few weeks since, was quite a feature in the grounds, by reason of the crimson-red colouring of the seed-vessels, for although most of the foliage had fallen, the tree had the appearance of being clothed with crimson leaves, and not until forming a closer acquaintance with it could one discern the fact that the rich colouring was due to the numerous seed-pods. These were so bright that it caused the tree to be a conspicuous object seen at a considerable distance. Where planting is contemplated, the present is a suitable time for carrying out this operation. Plants may be easily raised from seeds sown in spring in slight bottom-heat.

EUCALYPTUS COCCIFERA.

This species flourishes in a remarkable degree at Powderham Castle in Devonshire, and a tree there has now attained to considerable size. It is at the present time covered with seed-vessels which, when bruised, emit a strong scent. The bole of this tree measures over 12 feet in circumference at 5 feet up. In recent years the main branches have produced a profusion of laterals which give the tree a denser appearance than it formerly possessed. *C. H.*

SOPHRO-CATTLEYA × CALYPSO.

(Sophronitis grandiflora ♀, Cattleya Loddigesii var. Harrisoniæ ♂.)

AT the meeting of the Royal Horticultural Society, November 24, one of the most remarkable flowers placed before the Orchid Committee out of the group of rare Orchids exhibited by Baron Sir H. Schroder, The Dell, Egham (gr., Mr. H. Ballantine), was the remarkable Sophro-Cattleya × Calypso, which was raised by Messrs. Jas. Veitch & Sons, and first flowered in 1890. Reference to our illustration (fig. 122) will serve to give a good idea of the change brought about by this singular cross. It will be seen that the flower in form and size partakes much of Cattleya Harrisoniæ, and it is similar to that species in the firm substance of the sepals and petals, which are rose-purple in colour, with a number of very fine darker purple lines, and a slight orange-coloured tint. The labellum is rich orange colour, with a slight veining of purple running from the base to the dark crimson-purple band which runs round the front of the middle lobe. It is a remarkably pretty hybrid, and very distinct from any other Sophro-Cattleya. Unfortunately, it is a very rare plant, and likely to continue so.

HOME CORRESPONDENCE.

A HORTICULTURAL INSTITUTE.—My contribution to the *Gardeners' Chronicle* of November 21 was not intended to put forward the Royal Aquarium as the most suitable place in which to hold a flower-show; rather my desire was to give some idea of the requirements as to space of such a large exhibition as that of the Jubilee celebration of the National Chrysanthemum Society, and to compare them with the imagined size of the proposed horticultural institute or hall. Neither the policy of the National Chrysanthemum Society, nor the fitness of the Royal Aquarium (excepting in respect of the size of the latter), is now under notice, and these two matters may be safely left in the hands of the committee of that society, who can be depended on to know their own business best. The proposals to erect a horticultural Institute is intimately connected with the provision of a hall in which to hold exhibitions. Supposing a hall of the dimensions of the Drill Hall at Westminster could be provided, necessary offices would be required, especially if they are to afford the facilities suggested by Mr. Wood, and the cost would be enormous. I should estimate the provision of a freehold—for such a building should be freehold, and the erection of the necessary buildings and furnishing the same, would cost not less than £60,000. How is this sum to be obtained? In considering such a proposal, the experience of those who have had to do with large horticultural exhibitions in London is of service in correcting the easy flights of imagination of those who have not enjoyed this advantage. In my last communication I stated that 1200 plates were required to stage the fruit, &c., at the recent Jubilee exhibition. Allowing 1 foot square for each plate, they would require for staging 400 feet run of 3-feet tabling, or eight tables of 50 feet lengths. Now let anyone calculate the space they would have remaining for other exhibits after they had arranged in the Drill Hall, eight tables of 50 feet by 3 feet; saying nothing about

alleys for locomotion. It is by such a practical illustration as this that the requirements of a hall to accommodate an ordinary exhibition, can be approximately estimated; and then, if the show were well attended, such attendances, for instance, as we experienced at the Royal Aquarium, the strictest police regulations would be required to keep the company moving and always in one direction. What that means is well known to hose who have had such experiences. When we get a well-thought-out plan before us, such as that Mr. Wood appears to have in his pocket, then we shall be in a position to estimate its value and practicability. I shall be very much surprised if even the enthusiasm that the celebration of the sixtieth year of Her Majesty's reign will evoke on the part of horticulturists, and those in sympathy with its progress, will possess sufficient vitality and force to provide a Horticultural Institute. *R. Dean.*

—— I have carefully considered the suggestion advanced in the *Gardeners' Chronicle* and elsewhere of making an Institute for the Horticulture of the United Kingdom, a memorial of the Queen's reign; and also the plan of inviting the Royal Botanical and Horticultural Societies of London to make a combined effort to carry this scheme into practical effect; and would like to add here and now, that I approve of the place selected, and of the means proposed to establish it. As to the place, during last summer I paid two visits to the Botanic Gardens in the Regent's Park, and was most favourably impressed with the beauty and resources of the site, merit of the trees, shrubs, &c. The semi-private area and resources of the Botanical Society might prove ample for a Horticultural Institute worthy of its dual aspect, the lasting memorial of the benignant reign of the Queen, and of the national appreciation of horticulture. Were it even necessary in pursuit of these objects to deal with yet larger areas, part of the Regent's Park, without ceasing to be public, might be made to constitute to the beauty or resources of the Royal Memorial Home. Such a home might give forcible expression to the loyalty, as well as enhance the pleasures and comforts of all classes and conditions of men, and become a powerful instrument in the growth of culture and the advancement of science. *D. T. F.*

—— I fear where so eminent a financier as Baron Schroder failed, even the enthusiasm of Mr. Wood may not succeed. Sentiment, however desirable and pleasing, hardly enters into such a subject, which is absolutely one of ways and means. Even if the fullest wealth were at disposal, sites are so few and so costly that there would be little chance of any scheme, however humble it might be, being carried out. Any institute such as is suggested, and even needed, to serve its purpose, must be central. It is of little use to discuss sites or positions difficult of access, or that are not near the centre of London. The finest site in London now is that covered by the Royal Aquarium, and if a Horticultural Hall Company, with a capital of some £300,000, could be floated to purchase this building and site, convert it into what it was originally intended to be—a great winter garden, replace the present roof with one of glass, remove all centre obstructions and side shows, let the sides for horticultural purposes, and the galleries for similar purposes, and convert the whole of the remaining area into a grand floral promenade, with good music, we should then have such a horticultural hall and home as is needed; but no one would for one moment suppose that such a place would pay. We could not have Temple and Chrysanthemum shows, or even Rose and Dahlia shows always on, and by far the greater portion of the year the place would be unused. Any smaller place would be useless. That being so, where can be found better accommodation for the Royal Horticultural Society than it at present enjoys, and which it is singularly fortunate to possess. To erect a hall, even of the dimensions of the Drill Hall, on any central site, would be enormously costly, and when built would be useless for big exhibitions. *A. D.*

—· Will you kindly allow me space for a few remarks upon the matter of celebrating the sixtieth year of Her Majesty's reign. Mr. Wood, of Oakleigh Park, Whetstone, has hit upon a capital idea in suggesting a "home" of horticulture. It gives all lovers of flowers an opportunity of contributing towards a matter of such national importance. When we look at the magnitude of horticultural exhibitions (the National Chrysanthemum Jubilee Show for instance), cramped up in such an unsuitable building as the Aquarium, naturally one thinks it must be to the great disadvantage of flowers, judges, and exhibitors. We want a building with various halls, where exhibitions could be seen at their best. Now, in connection with such shows and exhibitions, we know that hundreds of gardeners come from long distances, who, if they want to see a two or three days' show, must put up in hotels or similar expensive quarters; and such outlay can be ill afforded by most gardeners, whose salaries, I may say, are not at all in keeping with the amount of responsibility placed upon them. I throw out the suggestion that in connection with such an institute there should be a sort of temperance hotel or boarding-house, where gardeners visiting London shows, gardens, &c., could be lodged and fed at reasonable charges. I will gladly give my help towards the matter. *J. D. Robertson, F.R.H.S.*

THE DEODAR AS A TIMBER-TREE.—According to a contemporary this week, Mr. Nicholson of Kew describes the Deodar (Cedrus Deodara) to be "a failure generally" in this country. I consider this a very extraordinary statement, from such a source, and a very incorrect one as well, because I never heard of the tree failing anywhere on a dry bottom; while I feel sure, from certain characteristics of the tree, that it would make a first-class timber-tree in this country under plantation-culture. How, moreover, does Mr. Nicholson reconcile his present statement with the description in his own *Dictionary*, where, by an asterisk, the Deodar is denoted as an "especially good or distinct" tree? Veitch places it in the highest rank, "its value," he says, "being greatly enhanced by the readiness with which it accommodates itself to almost all situations." What do your readers say? The question involved in your contemporary, and upon which Mr. Nicholson's opinion is cited, is the value of the Deodar as a timber-tree. Will Mr. Nicholson, or anyone else, state where it has failed under plantation culture, or where it has been tried? or if he knows of any timber-tree in this country that will live as an isolated specimen and not succeed as a plantation timber-tree? I do know species that will succeed inside of a plantation that will not thrive where individually exposed to the winds. Here we have some of the oldest Deodars in the country in situations ranging from about 350 feet above the sea, to nearly 900 feet, and on very exposed north-eastern positions. *J. Simpson, Wortley.*

OLEARIA HAASTII. — This is likely to prove as useful and attractive in the summer, as the Laurustinus has so long been in winter and spring. The plants so recently illustrated and well described, grown in the Botanic Gardens, Edinburgh, were amongst the most attractive features of that popular resort for culture and pleasure, and I was glad to note that the nurserymen are getting up a nice stock of this charming hardy shrub. It was therefore all the more gratifying to have "W. H. A." assure all the readers of the *Gardeners' Chronicle* lately that this is likely to prove one of the most valuable as well as bright and beautiful shrubs, for growing in crowded towns, as it seems unsuitable to the soot and the dust. Certain it is that no plants can look healthier than those seen about Edinburgh, though Leith fogs are added to the other impurities and drawbacks named. It is a good idea of "W. H. A." to associate the Olearia with such useful and striking hardy plants as the Japanese Euonymuses, the best silver and golden species and varieties, such as Silver Gem, latifolia aureo-marginata, l. a. picta, and argenteo-marginata, &c., would contrast mildly, and go well with the verdure of the foliage, and whiteness of the bloom of the Olearia Haasti. *D. T. F.*

LIQUID MANURE FOR FRUIT TREES. — In summer time manure in a liquid form applied to the roots of fruit-bearing trees, when given in sufficient quantities to thoroughly moisten the land to a good depth, is a very effective means of affording help to the trees, and the results are soon observable. But it may happen in a dry season that the soil is very dry, consequently impervious to water to any great depth, and in this case the manure-water would do little or no good. The ground should first be well moistened by repeated applications of water, the entrance of which into the soil should be helped by the use of the crowbar or pick, and when it is found that the soil has been moistened to a good depth, the manure-water may be applied. In the winter this preparation is scarcely ever needed, and manure may be afforded without it. It may also be used at that season at thrice the strength of summer waterings. If farmyard liquid-manure cannot be obtained, then use the contents of cesspools, the drainings from hot-beds, dung-heaps, as all these forms of plant-food do good. Only a few years ago I had the ground round several aged fruit trees standing in the gardens saturated in late autumn, with very great benefit to the trees, the fruits the next year being larger, and the leaves and wood considerably stronger than for some years previously. The land where trees have been recently planted absorbs water readily, and no preparation of the soil is called for. Apple, Pear, Plum, and Cherry trees should all be served alike where it is believed the soil has become exhausted, and unless the trees are afforded some stimulus to growth they fail to do much good, and the lighter the soil, the sooner the mischief becomes apparent. *H. Markham, Mereworth Castle.*

VICTORIA REGIA.—It may perhaps interest some of your readers to hear that my Victoria Regia here is still in full bloom, and with every prospect of continuing to flower (as in some favourable previous years) till the middle of December. It has now two fine buds ready to open as soon as the flower in bloom, with its bright rose-coloured centre, fades away and sinks under water. We have had an uninterrupted series of bloom since the end of May *A. Dixon, Cherkley Court, Leatherhead.*

SPORT FROM CHRYSANTHEMUM MADAME CARNOT.—I herewith beg to send you a yellow bloom from a plant of the variety Madame Carnot. About a week ago it was perfect. I notice Mr. Wells has shown one of the same colour, and I hope we may be able to fix the sport, for I should consider it one of the best in its class. Kindly tell me what you think of it. *Frank Lowe, Easthampstead Park, Wokingham.* [A large characteristic bloom of this fine variety, but the colour, instead of white, is canary-yellow. ED.]

NEW CHRYSANTHEMUMS.—The paper by Mr. C. E. Pearson on the above subject on p. 666 of the *Gardeners' Chronicle*, is interesting, if only because it goes to prove the different behaviour of certain varieties in various localities. Very high praise is bestowed on Australian Gold and Modestum. I saw the group of plants referred to at the Drill Hall of Australian Gold, and I certainly did not receive the same impression respecting it as did Mr. Pearson. Nor am I alone in this, as two leading Chrysanthemum specialists at the same moment declared "they did not care for it." From a cultural point of view, the 5-inch pot plants were satisfactory, but Australian Gold is disappointing in colour. Indeed, it is difficult at night to know whether it is yellow or dirty white. [The plants shown by Mr. Wells had been hurried by an increased temperature, and the flowers were not characteristic in colour. Instead of the pale lemon there seen, the blooms should be light golden-yellow.] Modestum is grand in colour, if not absolutely unique, though, so far as I have seen, the blooms are rather small. Then on the other side, it is curious to note, among others, that Mr. Slogrove has "disappointed most buyers." Those who have been disappointed with it, I would like to ask whether they have trusted to the "crown" bud? if so, I am not surprised, as my experience is that it, the terminal bud, is decidedly better; at any rate, this variety was exhibited in splendid condition at the end of November, 1895, and I have had splendid blooms from terminal buds this year. In respect of such new varieties, however, more experience is required, for doubtless the stock was hard-worked. Many varieties, I feel sure, are discarded before their merits have been fully tested, because they possess some requirements not readily understood by the cultivator, or it may be that one particular season is unfavourable to them. Then, of course, the ever-increasing number of novelties tends to induce a too hasty decision. One word more—Is it not time that some special classes were created by all leading societies for blooms to be shown with 18 inches of stem, without support of any kind, in order to discourage weak-necked varieties? What is wanted are flowers on a self-supporting pedestal—flowers of the Lord Brooke type, that hold their heads erect unaided. Unfortunately, the majority of the best flowers of to-day are useless without these aids. *J.*

LAPAGERIAS FRUITING.—The fruiting of the Lapageria at Straffan House, co. Kildare, so graphically described and illustrated on p. 657 of last week's *Gardeners' Chronicle* by Mr. F. W. Burbidge, is, as you there remark, "not very uncommon;" still, it is very interesting to hear that it is fruiting so freely at Straffan, and there is every probability that the seeds will prove fertile, if they were fully ripe when gathered. It is exactly forty years since that I had

the care of a large old plant of Lapageria rosea at Porter's Park, Shenley, Herts, which bore several fruits that season (1856-57), and the same plant was said to have fruited in previous years. That plant was also reputed to be the first Lapageria introduced to Britain, and had been in possession of the owner of the place, "Squire" Myers, for "many years." The account of it was this:—Mr. Myers was a Liverpool ship-owner, whose vessels traded to the west coast of South America, and being a lover of rare plants, his captains were instructed to bring home live specimens of any rare or fine plants they met with in the countries they visited. One of them brought the fine plant referred to from southern Chili to Liverpool, where it was grown for some years in Mr. Myers' garden before it was removed, early in the fifties, to Porter's Park, on Mr. Myers acquiring that estate and making a new garden. The plant grew in a tub about 20 inches in diameter, and although it had not received the best of treatment, according to our present knowledge, it flowered freely, and set the few fruit mentioned without any artificial aid. The fruits swelled to their full size, but were not ripe when I gave up charge of the plant early in 1857, and what became of the plant or its fruit is unknown to me. Somewhat fabulous sums were said to have been offered for the plant, but the "Squire" preferred to keep it. Since that time I have often seen its fruit, and have raised plants from the seeds. Some of the seedlings have better flowers than the parent, while others are worse; a result that may be looked for in a subject so ready to break into variety as the Lapageria. The white variety, Lapageria rosea alba, introduced also from Chili in 1854, fruits as freely as the type. At Valleyfield House, Midlothian, both varieties have been very successfully cultivated for many years by W. Cowan, Esq. Some years ago he raised a batch of seedlings of the white variety, which have produced as fine pure white flowers as their parent. The raising of plants from seed is, however, rather a slow process; and those who desire immediate results, should begin with strong well-rooted plants with several stout shoots. I believe it was Bill Lobb, not Tom, as stated on p. 657, who collected plants on the west coast of South America in the forties and fifties for Messrs. Veitch & Sons, and introduced the Lapagerias, as well as Philesia buxifolia, and numerous other fine things from those regions to our gardens through that eminent firm. *M. D.*

—— Referring to Mr. Burbidge's remarks in the *Gardeners' Chronicle* for Saturday last anent the fruiting of the Lapageria, I may say that between the year 1882 and Jubilee year a plant of L. rosea in the Botanic Gardens, Manchester, fruited and perfected seeds on three occasions. Some of these seeds were sown in pans of sandy peat, which was kept moist, and in due time nearly every seed germinated. It is important that the seeds be sown as soon as ripe, as I have found if kept dry for any length of time they lose their vitality. I am told that plants of Lapagerias raised from seed produce blossoms inferior to those borne on the same plant from which the seed was taken; and that the only way to perpetuate a good variety is by raising young plants from layers. Whether this is so or not, I am, from my own experience, unable to say, but it would be interesting to have the opinion of those who have raised and flowered seedlings of this excellent cool-house twiner. *T. N. R.*

—— The fruiting of this plant, as mentioned in last week's issue of *Gardeners' Chronicle* by Mr. Burbidge, is by no means uncommon where grown extensively under glass. When living at Nash Court, Faversham, some years ago, the home of the Nash Court variety of Lapageria rosea, and where I suppose the plants are grown as well as they are anywhere, I can well remember when pruning the plants finding quite a quantity of well-seeded fruits, some of which had ripened to perfection. I suppose there is no flower which bees and wasps visit more frequently than that of Lapageria rosea, which affords a reason for the fertilisation of the flower. I have quite recently raised some plants from seed, but propagation by means of seed is not so rapid as by means of layers; neither do seedlings flower so well as layers. *G. Burrows, Berwick Gardens, Shrewsbury.*

CETERACH OFFICINARUM.—As an addendum to the extraordinary vitality of this Fern, so skilfully depicted by Mr. Chas. L. Druery in your issue of last week, it may be of interest to give an instance as supplied to me by that well-known gardener of Viola fame, Mr. Baxter, Daldowie House, Broomhouse, N.B., when paying him a visit a few weeks ago. Mr. B. is now sixty-five years old, and has been gardener at Daldowie for thirty-seven years. In a cool frame was shown me a small plant of this variety, growing from the sides of the frame between the brickwork, presumably having seeded from a plant that was growing in a pot alongside some thirty-five years ago. This pot, in due course, was removed, and about ten years ago a tiny seedling was observed protruding from the interstices of the aforesaid brickwork. Mr. Baxter supplies a very feasible explanation (which in no way can discount the great vitality of the seed) in this wise:—The sides of the frame have been pointed with lime from time to time, until of late years it has been allowed to moulder away—jocularly adding: "In order that the very frames might be in keeping with its surroundings, as Daldowie House has been in existence 200 years." *Albert Upstone.*

WOLVERHAMPTON CHRYSANTHEMUM SHOW.—In your report of this show on p. 604, it is stated that a Certificate of Merit was awarded to Messrs. T. B. Dobbs & Co., nurserymen, Wolverhampton. The committee, while indebted for the otherwise good report, wish me to state that no Certificate of Merit was awarded to any exhibitor at this show. *Geo. A. Bishop, Chairman.* [Our correspondent appears to have described as a "Certificate of Merit" merely a complimentary award made to several honorary exhibitors. Ed.]

ASPARAGUS DECUMBENS.—As a plant to grow in a basket for the embellishment of a warm conservatory, Asparagus decumbens is peculiarly adapted, with its very long and gracefully drooping growths of a rich green colour. I find its long growths very useful for a variety of purposes, including bouquets. The plant thrives in light sandy loam, and a plentiful supply of moisture at the roots during the growing season. To make an effective display in a short space of time, several roots or plants should be planted if the basket is a large one. *H. May, Markree Castle Gardens, Collooney, co. Sligo.*

CEPHALOTAXUS PEDUNCULATA.—From Weston Park, Steyning, the Rev. L. Goring has forwarded to me fruiting branches from several specimens of the above, which conclusively prove that as regards shape of fruit this is a very variable species. The form, with round or spherical berries, C. pedunculata sphæralis, Masters (see *Gardeners' Chronicle*, January 26, 1884 p. 117, fig. 23), is one of the most distinct and remarkable, and is justly entitled to the name that has been bestowed upon it. In northern Ireland I have seen a tree bearing fruit in every respect similar to that of the Weston Park specimens, thus proving that the variety is constant and widely distributed. There are, however, intermediate forms, in so far as shape of fruit is concerned between the typical species, in which the berries are decidedly of oval shape, and the variety sphæralis which bears round or spherical fruit. Another very curious form has just been sent to me in which the unusually small berries are of a clear yellow when ripe, at which stage they greatly resemble the small Californian Grapes that have been sent into this country in such quantities during the past summer. *A. D. Webster.*

HOME-GROWN AND AMERICAN FRUIT.—Your correspondent, "A. D.," p. 654, does well to call attention to the rough manner in which English fruit is often sent to market, but in so doing there is no need, I think, to throw cold water upon Lord Winchilsea's scheme for giving a lift to the depression in British agriculture, for, if the movement be carried out on the lines laid down by the promoters, and is supported by producers and consumers alike in a manner worthy of a national movement, it ought to benefit the agricultural community, and through them the country generally. As it seems that the small by-products of the farm are the most neglected, such as eggs and poultry, dairy-produce, fruit, flowers, and vegetables, the creation of a good ready-money market, where goods can be sold at a fair price, is something worth striving for, and in time the farmer will find out that careful sorting and good packing pay, and that London only wants the best of everything, and will pay for it. The extract from the *Westminster Gazette* hardly reads like a communication from Winchilsea House; they have too practical a staff to despise the contributions of our American and Canadian cousins; and on the subject of patriotism, it is well to provide for our own household honestly. I think the Lincoln Board of Guardians were doing their duty in getting the best value for public money; but there is also another kind of patriotism, which teaches our own countrymen to meet their own requirements. *R. M., Newbury.*

CYCLAMENS NOT OPENING THEIR FLOWERS.—As my Cyclamens which will not expand their blooms appeared to have called out the interest of some readers, I send you herewith a sample of the plants. I have one hundred and twenty-five, of which the specimens sent are fair samples. I have also five or six smaller plants which are behindhand; they are one-year-old plants in 48-pots, as you see. Seed was sown in November last in a temperature of about 73°, and after being closely examined by mice, and finally rejected by them, it germinated, and the seedlings were potted into "thumbs," and placed in cold Tomato-houses, with plenty of shade and air. They were repotted on August 8, in the following kind of mixture, carefully mixed and sifted:—One part new yellow turfy loam, one of peat, one of decayed manure, and one soil from the rubbish-heap, which consisted of decayed vegetable refuse, old potting-soil, with Spiræa, Fern, and other sandy soil, and exhausted manure mulching materials, which formed a rich friable compost. The plants grew well after potting, but if any mistake has been made it has been through keeping them not moist enough. They had no artificial heat till October 12, when they were put into a house at about 60°. As the soil was rich and fertile, we have not supplied any further feeding. Acting on the advice received through your journal, I have removed the plants from off inverted pots to a moist ash-bed, with a temperature of 54°; and as I had no farm-yard manure handy, they were watered on Monday, November 16, with sulphate of ammonia in the proportion of 1 oz. of sulphate to 3 gallons of rain-water. This has certainly helped the plants, but the buds have not opened so fast as I expected, only one or two having expanded. Since reading the letter in the *Gardeners' Chronicle* from "J.," I have had another good look at the plants, and find that the buds of one plant are certainly deformed, but, strange to say, that plant was the first to open its flowers, and has continued to be pioneer in that respect. The others do not appear to me to be at all irregular, but are all well-shaped, and properly folded in their calyces. No doubt you will be able to remark on their condition. However that may be, I cannot consent to consider the bloom lost for this year yet. There may be some treatment which will bring the buds out. I am of opinion that whatever check they may have received through faulty watering or heating, it has not irreparably damaged them, and I await an expression of your opinion; meanwhile I shall endeavour to encourage the buds to open by stimulating periodically with weak liquid-manure, adding soot as recommended by "J." *C. B. W.* [The blooms, which are numerous on the two plants sent, and the foliage, are to all appearance normal, the former numerous, but disinclined to rise above the leaves, deformed here and there, but as a whole perfect; the latter is fleshy, robust, fully developed, and well-marbled. The compost in which they have been potted seemed abnormally light and spongy, holding water like a sponge, rich in feeding-matter, but very liable to become water-logged, or rather to hold more water amongst its particles than is good for the plants, unless afforded water with the utmost care. A plant kept in the dry air of our office for a week, and then transferred to a window in a kitchen always in use, is not as yet (ten days after it was sent from nursery) in need of water, although the weight of the pot and its contents has got sensibly lighter. Ed.]

CATTLEYA LABIATA VENOSA.—In reference to the note on this variety, in *Gardeners' Chronicle* of the 14th ult., I beg to say that I have a Cattleya labiata which has bloomed three seasons, and it has always had the striping all over it. The plant is now in bud, and when it comes into bloom, I will let you know whether the striping has become constant. *Hans Brochner, Hessle, East Yorkshire.*

CHRYSANTHEMUM BEAUTY OF TEIGNMOUTH AND C. PRIDE OF MADFORD.—On p. 632 of *Gardeners' Chronicle* Mr. Wells makes an attempt to set us right in respect to these varieties, but I fail to find that he has thrown much light on the subject. Mr. Wells says he would like to give the history of Pride of Madford and James Lynch, and then informs us these two varieties were sent to Mr. Salter "both named Pride of Madford, but were found to be dead on arrival." This does not take us very far; but how does Mr. Wells know that both were Pride of Madford, though one was named J. Lynch, if both were dead? Mr. Wells then says of Beauty of Teignmouth, "I know its history. I introduced it, and was awarded the First-class Certificate on Oct. 21 for

Pride of Madford syn. Beauty of Teignmouth." Now this is hardly correct. Mr. Wells did not introduce it, for it was exhibited several times in the year 1894, and certificated by the Royal Horticultural Society in October, 1895, the same variety having been certificated by this Society a fortnight previously as Pride of Madford. Mr. Wells informs us that he can tell us the history of Beauty of Teignmouth, also that this and Pride of Madford are the same; yet in his Catalogue of last year only the former is mentioned, and in that of this season's it is described as "rich purple, lilac reverse;" whilst Pride of Madford is described as "crimson-cerise, white reverse," quite a different colour, all must admit. Messrs. Hannaford now inform me that when they first received the plants, the writing on the labels was not legible. They therefore called the best of the batch Beauty of Teignmouth, which should have been Pride of Madford, and for Pride of Madford sent out the variety now grown as Jas. Lynch. Mr. Wells says Messrs. Hannaford must be credited with Oceana and Australie. These were introduced by Messrs. Cannell. Whilst I have the pen in my hand, I would like to ask the readers of the *Gardeners' Chronicle* what is their opinion of Wm. Slogrove? It was certificated by the National Chrysanthemum Society last season as a new variety; with myself and many others, it is identical with Thos. Sellwood, an improved Lincoln. *W. J. Godfrey, Exmouth.*

TRAPS IN GARDEN WALKS, ETC.—No one who has used the pot-trap or gully would go to the expense of building brick ones, which are now obsolete, as all the principal road contractors use the pot-gully, which has several advantages: it is easily fixed, easily cleaned, and cheaper, and they are to be obtained in suitable sizes. In laying drains near large trees, and especially Elms, it is always advisable to use socket-pipes with cement joints, in order to prevent the roots getting into the pipes and blocking them. It is much better to incur a little extra expense when doing the work than to put down ordinary pipes near trees, which are sure to be always a source of trouble; a good system of draining roads and paths is very essential, whereas a deficient one causes frequent trouble and annoyance, as nothing spoils the appearance of a place more than to be continually pulling up the drains. *W. B. G.*

THE AGRICULTURAL RATES ACT, 1896.—I have read with much interest your notes on this Act. In the Worthing Case (18 Q. B. D. 818) it was held that land occupied by a market gardener, and covered by glasshouses built on brick foundations, came within the words "market gardens," as used in section 211 of the Public Health Act, 1875, and that the glasshouses were to be assessed under the section in one-fourth only of the net annual value. The Agricultural Rates Act, 1896, defines agricultural land having the benefit of the Act as meaning, amongst other things, "market gardens." The Queen's Bench has said glasshouses for trade are "market gardens" under the Act of 1875. When the legislature, in the Act of 1896, exempted "market gardens" from half the rates, it had knowledge that "glasshouses" had been judicially interpreted as "market gardens," and, therefore, the presumption is that Parliament intended that glasshouses for trade purposes should come within the scope of the Act. Surveyors of taxes are contending that these glasshouses are buildings within the meaning of the Act, and should therefore be treated as buildings on farms, and liable to full rates. But is there not this distinction? Glass-houses are for the purpose of producing or growing the crops, farm buildings for the purpose of storing, &c., after production. Stables, potting-houses, packing-sheds, and chambers for storing fruit in market-gardens are more of this nature, and no doubt liable to full rates; but not so the glass-houses. It seems that a grave responsibility lies on overseers of the poor. No one can appeal against the decision of the Assessment Committee except the surveyor of taxes and the overseers (sec. 6). Now, in districts where the Assessment Committees hold that "glass-houses" are not market-gardens within the Act, and overseers do not appeal, will not this be the possible result? Under sec. 4 of the Act, the Local Government Board shall ascertain at once the amount of the annual grant. If the Assessment Committee's list sent to the Local Government Board excludes glass-houses from the Act, the Treasury will not make any grant in respect of them. In April next, when the first rate is made, the overseers will demand from the occupier of glass-houses the full rate. He will refuse to pay, on the ground that they are market-gardens. The Court may (probably will) decide in his favour. The overseers will only receive half the rates from the occupier. They will be too late to obtain the grant in respect of them from the treasury. What will be the result? The parish will lose it. Does it not seem that overseers will do well to consider this position? *A Fruit Grower and Member of an Assessment Committee.* [See p. 692.]

ODONTOGLOSSUM × HALLI ♀ CRISPUM COOKSONIANUM ♂.—Long though it is, that is the name of the plant whose whole spike is before me, through the kindness of Norman C. Cookson, Esq., the lucky owner of the first "crispum" hybrid. He and his energetic gardener, Wm. Murray, have beaten all competitors and bloomed their plant. The plant has but two bulbs, and bore a three-flowered raceme, and, as already announced, it was awarded a First-class Certificate at the Royal Horticultural Society on Nov. 24, 1896. With a dried (1896) bloom of its father, and another of a good Od. Halli leucoglossum before me, it is easy to see how very intermediate is the "child," except that its lip is not white. The ground colour is white, slightly yellowish in the petals, more so in the sepals, and the yellow of Od. Halli has run into the lip, the deep crimson-brown blotches and spots have a shading of the dull blackish shade that characterises Od. Halli. The arrangement of the blotches agrees to it also, especially in the lip, which is oblong, $1\frac{1}{4} \times \frac{7}{8}$, a very massive feature, and less fimbriate than Halli, having larger rich rows of spots than a "crispum" usually has. The crest is that of a true Halli, except that the two large "teeth" are less fimbriated than in that species. The anther, cup, and rings are brown, here also inclining to the "mother" parent. Size at present is that of a good Od. Halli, broader in all its parts. Size and length of cornu will be much improved. The plant in all ways was an elongated crispum, plainly showing that "sheeny" and alternated shape of Halli. In fine, Mr. Cookson is to be heartily congratulated. No doubt his success will greatly stimulate others. *de B. Crawshay.*



FIG. 123.—ECHEVERIA PURPUSI: LEAVES SNOW WHITE, MEALY; FLOWERS ORANGE. (*Much reduced.*)

EUCHARIS BULBS PLANTED OUT.—I sent you by post a short time ago a few Eucharis leaves for your inspection, the bulbs of which were planted out three years ago all round the sides of the paths against the back wall of the stove at Hewitt Grange, Bromsgrove. The border is 1 foot wide and the same depth, with plenty of drainage, and the two ends and front under the stage where they grow in only 3 inches of soil on the surface of the brick bottom, and they seem as happy as those growing in the foot of soil in the border. When Mr. Pettigrew planted those bulbs out three years ago they were leafless. They were washed thoroughly to kill the Eucharis-mite, and after starting into growth they very soon sent up a quantity of flowers, between seventy and eighty strong spikes being in flower at once, and they flower several times a year. Last March they had some mealy-bug on the foliage, and to clear it out all the foliage was cut off; and the leaves sent are those produced since then. *D.*

CONTINENTAL NOVELTIES.

ECHEVERIA PURPUSI, SCHUMANN.

THIS fine new succulent was discovered by the botanist, Mr. Purpus, whose name it bears, at a height of 7500 to 8000 feet on Mount Whitney, in the Sierra Nevada of California. The plant suggests at first sight E. pulverulenta. It produces handsome white-powdered foliage, surmounted by deep red orange-tipped flowers. There is no doubt this is a valuable introduction, the more so as its habitat being at a considerable elevation, will enable the plant to be grown here in the open. The plant has been introduced into commerce by Mr. Ernst Benary, of Erfurt, to whom we are indebted for the illustration (fig. 123).

THE WINTER SHOW OF THE ROYAL HORTICULTURAL SOCIETY OF IRELAND, 1896.

I LEFT London by the 6.30 P.M. Irish mail from Euston, after having previously had a look in at the splendid exhibition of Chrysanthemums in the Royal Aquarium, Westminster, where, what with the crowd of people and the dense, dusty atmosphere, the wonder is that the writer escaped suffocation. However, a punctual start was made.

North Wall, and that part of the river Liffey on which it is situated, are not calculated by appearance or associations to impress the visitor favourably, especially in the early grey of a cold winter's morning. However, we went on our way to our destination, the Fruit and Chrysanthemum Show of the Royal Horticultural Society of Ireland, held in the splendid grounds of the Royal Society of Ireland, at Ball's Bridge, a distance of about 2 miles from North Wall, and to reach which place we had to traverse nearly the whole length of Sackville Street, a street of historic interest, and still worthy of its history. On the way we passed the premises where the huge castings were made for the far-famed and magnificent Palm-house at Kew. In those days Ireland evidently competed successfully with England in matters of this kind, and the name of one of the citizens of Dublin will for ever be associated with the erection of one of the finest horticultural buildings in this or any other country. Close by on the same side of the road, we pass the gates of Trinity College Gardens, and as I had afterwards the pleasure of paying a visit to this interesting garden accompanied by its courteous and well-known Curator, I hope to revert to it again by-and-by. A very short distance beyond Trinity Gardens my jaunting car "jarvey" put me down at Ball's Bridge grounds, and when asked how much he wanted for doing so, he very cheerily answered, "Tin pund, noble sir, and as much more as yer honour likes to give!"

The grounds and buildings at Ball's Bridge, where the great annual Irish horse show is held, are said to be the finest and most complete of their kind in existence, and I can easily believe the statement, as anything finer in the way of buildings and grounds for the purpose of holding large exhibitions and sports in, it would be impossible to conceive. It was in one of the large halls in the grounds kindly lent by the Royal Dublin Society, that the Fruit and Chrysanthemum Show of the Royal Horticultural Society of Ireland was to be held, and when this was pointed out to me, I could not help exclaiming that if the society could fill this hall, its exhibition would be worth coming a long way to see, so that my curiosity in entering the show hall again some hours later—when all the exhibits had been placed, and the show complete, may be imagined. To give a candid opinion, I must say I was somewhat disappointed at the cold and generally unfurnished appearance of the hall. Familiarity with the large London and provincial exhibitions being to some extent accountable, no doubt, for this feeling. Indeed, so large is this hall that it would tax the resources of our best English exhibitions to furnish and fill it effectively. Having said this much, I must now give my meed of praise to the show. The Chrysanthemum classes are the first to claim attention. The Japanese, in the cut-bloom section, by their variety, extent, and quality, easily led the way, and of these, I can say without qualification, that the best of them would have held their own on any show-boards that I have seen in England, and I can only hope that next year some of our friends from Ireland may be tempted to cross the water in order to cross swords with the best of our growers. They would be heartily welcomed, and it would surprise me if they returned home empty-handed, or without honour. The incurved section of the Chrysanthemum was not so well represented, and was much weaker proportionately, both in size and quality, than were the Japanese. The groups of Chrysanthemums arranged for effect made a brave show, but I should like the exhibitors to see some of the groups put up at the Drill Hall, Westminster, or at the Royal Aquarium, when I should be much surprised if an immense improvement of the shows would not soon follow. Of specimen plants there were a fair number, some of them of immense size, but lacking the superb finish one is accustomed to see in the Liverpool, Birmingham, and London specimens.

Concluding my remarks on this section of the show, I should say there are as great, if not greater, possibilities as regards the future growth of this plant in Ireland than in

England, and once this conviction is driven home and acted upon by our Irish *confrères*, Ireland will become as famous for its Chrysanthemums as it now is for its horses and its whiskey.

The groups of miscellaneous plants arranged for effect were excellent. There were three of these which were beyond praise, both in the quality of the plants and in their artistic arrangement. Many smaller groups dotted about the show were much admired, but the arrangement which seemed to be admired the most was an exhibition of autumn-tinted foliage, fruit, berries, &c., and beautiful cones of choice coniferous trees from Powerscourt. The table on which they were arranged was furnished chiefly with berries, fruit, and cones, and out of this rose tall majestic vases, filled with large branches of coloured foliage in rich variety, and most beautifully arranged, reminding one somewhat of the charming table of a similar description put up by the Messrs. Veitch at the late Crystal Palace show, and which, in the opinion of many, was one of the prettiest features there.

FRUIT.

Coming now to that important part of the exhibition in which hardy and other Irish fruit were represented, I have the pleasing duty to record an equal success in this, as in the Chrysanthemums. One has been so long accustomed to hear of the monster bunches of Grapes exhibited by the late Mr. Roberts, of "Charleville," that one may be excused for having a slight feeling of disappointment at the quality of the Irish Grapes—but altogether the exhibits of these was creditable. There were splendid and numerous collections of Apples, as well as single and other dishes; and certainly, for size, many of the samples were quite equal to the largest seen in England; but in colour and good quality appearance they cannot be compared to the best samples grown in Kent, Sussex, Herefordshire, or Worcestershire, owing, no doubt, to the moister and less sunny atmosphere of Ireland. The same remarks apply equally to Pears; many of the samples were quite as large and fine-looking as those hailing from Jersey or France—pointing out in a forcible way that the soil and climate of Ireland are well adapted to the growth of this important fruit.

One of the chief attractions of the show on this occasion was a collection of nearly 200 dishes of distinct varieties of fruit sent by Her Majesty the Queen from the Royal Gardens, Windsor, arranged as a trophy with Chrysanthemums and autumn foliage, and to which exhibit was awarded the Gold Medal of the Society.

Among the many miscellaneous exhibits, one of the most interesting was an exhibition of winter garden and house furniture (such as chairs, tables, plant-stands, blinds, &c.), made out of Gorse wood, in the same way that such articles are made of Bamboo. This is an industry that Mr. Parnell, M.P., brother to the late M.P. of the same name, is trying to establish in Ireland. The samples exhibited were beautifully wrought and more artistic in appearance, in my opinion, than the same made from Bamboo; and as the supply of Gorse wood is practically unlimited in Ireland, I hope much success will attend Mr. Parnell's efforts to establish a new industry for his countrymen.

I was disappointed to find that the show was not better patronised and supported by the public of Dublin, a city with upwards of 300,000 inhabitants. It may be that the show grounds are too far from the city, although there are electric tram-cars running by the gates every few minutes; or it may be that the public of the city are indifferent to such exhibitions. One thing I noticed particularly with much regret, and that was the almost entire absence of the labouring classes from the show. This, I think, is much to be deplored, and it is to be hoped that the Royal Horticultural Society of Ireland, in conjunction with other educational agencies may be able in time to come to enlist the sympathy and the co-operation of the working-classes in multiplying flower-shows to a very large extent in the villages and parishes of Ireland, with, I am sure, the most happy results.

I must conclude this note by gratefully acknowledging the courtesy and kindness of some members of the council, and also of the excellent secretary, Mr. Ross, during a hurried but pleasant visit to an Irish Horticultural Exhibition.

O. T. F.

SOCIETIES.

THE CHESTER PAXTON.

November 17, 18.—The seventh annual show of this Society was held in the Town Hall, Chester, on the above dates, and was in every way one of the best the Society has yet held. The competition in the various classes for Apples and Pears was keen throughout; and though the size among the kitchen varieties was not equal to that of last year, the quality was uniformly good.

For a collection of dessert Apples: 1st, Rev. L. Garnett; and Lord Trevor and Mr. E. Severn equal 2nd.

For a collection of kitchen Apples: Mr. E. Severn 1st, Rev. L. Garnett 2nd.

For a collection of dessert Pears: Mr. Logan, Upton Lawn, 1st; 2nd, Mr. E. Severn.

In both classes for Black and White Grapes, Mr. Gray, gr. to Sir G. A. Meyrick, Bart., was 1st, having fine clusters of Muscat and black Barbarossa.

There were five exhibitors in the class for the best-arranged group of Chrysanthemums. J. Wynn Froulke, Esq., was 1st with a well-grown and fresh-looking group; and Mr. Taylor, Hoole Hall, 2nd. All of the groups consisted of well-grown plants, and formed a most creditable exhibit.

A pleasing feature consisted of boxes of single-flowered and naturally-grown Chrysanthemums, the 1st prize for single-flowered vases going to Mrs. Townsend; and the 1st for natural-grown trusses to Lord Trevor. In the large class for cut blooms, T. Brocklebank, Esq., was 1st, and C. Threlfall 2nd.

Among the non-competitive classes there was a collection of 100 dishes of Apples and Pears from Eaton Gardens; and Messrs. Dicksons were represented by an excellent group occupying the entire end of the hall, and consisting of trained Chrysanthemums, various foliage plants, and dishes of fruit, all set up most tastefully.

ABERDEEN.

November 20, 21.—After the lapse of eleven years Aberdonians were treated to a fine exhibition of Chrysanthemums on the above dates. The promoters feeling that the jubilee of the National Society should not be allowed to pass unnoticed, some time ago approached the directors of the Royal Horticultural Society of Aberdeen, and asked them to start such an exhibition, but want of funds stood in the way. Nothing daunted, however, the promoters set to work independently, with the result that they got together a display which proved highly successful. The prizes were, of course, few, but horticulturists came forward in good numbers, and were content to compete for places in order that the show might have a chance of becoming an established institution. The show was held in the Art Gallery, the flowers being laid out among the works of art, which added not a little to the effect of the whole. The great feature was the cut blooms, while those in pots being scarcely so attractive.

The Hon. Mrs Pirie presented the special prizes as follows:—For twenty-four Japanese Chrysanthemums, Mr. James Grant, gr. to Lady Carnegie, Crimonmogate. Chrysanthemum (any variety), Mr. E. Norman, Stoneywood. Decorative Chrysanthemums, Mr. A. Gregor, gr., Fairfield.

LEEDS PAXTON.

November 24.—The seventh annual Chrysanthemum show was opened on the above date in the Town Hall. The display was one of the best yet held in Leeds. There were nearly 500 entries, and comparatively few defauters. On entering the large hall the effect was charming, and great credit is due to the curators for the very effective manner in which they arranged the large specimens, Palms, and other stove and greenhouse plants. The groups of Chrysanthemums were arranged on one side, and the groups of miscellaneous plants on the other side of the hall, while the cut blooms and table plants were upon tables running across the centre. The vegetables were staged in an adjoining room.

Groups.—In the open class for a miscellaneous group of plants, E. B. Faber, Esq., J.P., Belvedere, Harrogate (gr., Mr. Townsend), showed a well-arranged group. In the centre of this square group, raised on a piece of rustic cork-work, was a well grown Palm surrounded by Crotons and Orchids. Mr. Taylor, nurseryman, Potternewton, near Leeds, was awarded the 2nd prize.

There was a much keener competition in the local class for miscellaneous groups of plants. These were arranged to form a semicircle. L. Clayton, Esq., Oak Hill, Moortown (gr., Mr. Fleet), gained the 1st prize with a neat group lightly put up.

In the Chrysanthemum groups, the quality of the blooms was superior to that of former years, but it is hoped that in future the exhibitors may break away from the stiff wall-like groups, and that the committee will allow foliage-plants to be interspersed with the Chrysanthemums. Mrs. Tetley, Fox Hill, Weetwood, was 1st; and Mr. Pettinger, nurseryman, Harrogate, 2nd.

Cut Blooms.—In most of these there was keen competition, the Right Hon. the Earl of Harrington, Elvaston Castle, Derby (gr., Mr. Goodacre), was the most successful competitor, having gained the Challenge Cup in the class for eighteen Japanese; and also in the class for eighteen incurveds. In the former class there were nine entries, and all the blooms staged were of excellent quality. The Earl of Harrington staged magnificent blooms of the following varieties:—Mrs. W. H. Lees, two blooms of Madame Carnot, one of which gained the prize as being the best Japanese in the show; Mutual Friend, John Seward, Golden Gate, Duke of York, Mrs. H. Weeks, Etoile de Lyon, Jules Chrétien, Mrs. C. H. Payne, International, Niveum, Rose Wynne, Silver King, and Miss Rita Schroeter. This being the second time in succession the Earl of Harrington has won this cup, it now becomes his property. C. H. Wright, Esq., J.P., Halston Hall, Oswestry (gr., Mr. Roberts), was a good 2nd, with excellent blooms.

In the class for eighteen incurveds, the Earl of Harrington again took 1st place with two blooms of C. H. Curtis, one of which was the best incurved in the show; two of J. Agate, J. Fulford, W. Tunnington, Empress of India, Golden Empress; two of Princess Teck, Hero of Stoke Newington, Charles Gibson, Mrs. J. Gardener, Mrs. S. Colman, Miss Haggas, Major Bonnaffon, Lord Alcester, and Mrs. W. Carpenter; Messrs. Pearson & Sons of Chilwell, Notts, were 2nd.

In the class for twelve incurved, distinct, the winner of the two former classes was again 1st; and the Marquis of Ripon, Studley Royal, Ripon (gr., Mr. Kneller), 2nd. The class for twelve Japanese, distinct, was also won by the Earl of Harrington.

Local Classes.—In the local classes for cut blooms, the marked improvement in the quality, and also in the number of exhibits, was a great encouragement to the committee. The principal prize-winners in these classes were—Mrs. Bowering, Allerton Hall, Gledhow (gr., Mr. Moore), who gains the Challenge Cup for twelve incurveds, distinct; Mrs. Tetley, Fox Hill, Weetwood, who wins the Challenge Cup for twelve Japanese, distinct; Sir James Kitson, Bart. (gr., Mr. Grix); and A. T. Walker, Esq., The Elms, Weetwood (gr., Mr. Norman).

Miscellaneous Plants.—In the classes for foliage and table plants, E. B. Faber, Esq., J.P.; Mrs. Bowering, Sir James Kitson, Bart.; and A. T. Walker, Esq., were the principal prize-winners.

Fruit.—Grapes, Apples, and Pears were well shown. In the open class for Black Grapes, two bunches, the Earl of Harewood, Harewood House, Leeds (gr., Mr. Jeffrey), was 1st; the Earl of Faversham, Duncombe Park (gr., Mr. Willi ms), 2nd. For two bunches of White Grapes, 1st, the Earl of Harrington, and Sir James Kitson 2nd.

In both six baking and six dessert Apples and stewing Pears, the Earl of Harrington was 1st. There were also local classes for fruits.

Vegetable Classes.—The only exhibit worthy of special note was a splendid tray of eight varieties, exhibited by Mrs. Bowering.

Messrs. Cannell & Sons offered a Championship Sash for a collection of fruit, vegetables, and a stand of Chrysanthemums, open to all gardening societies of Yorkshire. Having been won at Bingley last year by the Leeds Paxton Society, it was competed for this year at this show. The result was that it had to be handed over to the Horsforth Society.

Honorary Exhibits.—Messrs. Cannell & Sons had a table of sprays of Pelargoniums.

Messrs. Clibran & Sons had a fine display of Chrysanthemums, and miscellaneous plants and fruits.

J. W. Oxley, Esq., J.P., of Spenfield, Headingly, en a Sago Palm in flower, and by attaching the common name to it, the plant drew a number of people to the show. [But what was it? Ed.]

Mrs. Hodgkins, of Manchester, had a splendid exhibit of her skeleton leaves and Ferns.

SOUTH SHIELDS.

November 25, 26. The annual show of the South Shields and Northern Counties Chrysanthemum Society was held in the Royal Assembly Room on the above dates. In comparison with the exhibition held last year, the display was rather less in extent, but the quality of the exhibits was higher than then.

Cut blooms.—There were six competitors in the class for twenty-four Japanese, and the premier award was won by Mr. J. Corbett, gr. to the Marquis of Normanby, Mulgrave Castle, Whitby, who had a very creditable collection. The best blooms were Mrs. W. H. Lees, C. Davis, Mons. Panloucke, Mutual Friend, Etoile de Lyon, Madame Carnot; 2nd, Mr. G. Shotton, gr. to H. Andrews, Esq., Swarland Hall, Felton, Northumberland. The 3rd collection was not very far behind, but the flowers were a little coarse in the florets.

The contest for the best eighteen Japanese was also won by Mr. Corbett, and Mr. G. Shotton was almost equal.

The class for twenty-four incurveds was won by Mr. G. Shotton with a good collection; the blooms were of good shape and size. C. H. Curtis, Empress of India, Violet Tomlin, J. Fieldford, Lord Alcester, Princess of Wales, Golden Empress, Robert Petfield, Lady Dorothy, Queen of England, Princess of Teck, J. Lambert, Baron Hirsch, and Mrs. Coleman were the principal blooms. Mr. J. McKenzie, gr. to the Rev. R. Burdon, Heddon Hall, Heddon-on-the-Wall, was 2nd, and showed well.

For eighteen incurveds, Mr. G. Shotton was 1st, and Mr. J. McIntyre, gr. to Mrs. Gurney Pease, Woodside, 2nd.

The best twelve Japanese came from Mr. Thomas Wheeler, gr. to Mrs. Mitchell, Jesmond Towers, Newcastle-on-Tyne; 2nd, Mr. R. Pettifore, gr. to Jno. White, Esq., The Cedars, Low Fell.

Mr. G. Shotton was 1st for twelve incurved blooms; and Mr. J. Coultas, gr. to Alderman Harding, Darlington, 2nd, who had very fine blooms.

The classes for twelve Anemone-flowered and twelve reflexed varieties were won by Mr. G. Shotton and Mr. J. Wheeler respectively.

Floral Decorations were quite a feature, Mr. J. Sullivan of Sunderland being very successful in these classes.

The epergnes, sprays, and button-holes were of exceptional merit, Mr. G. Webster of Sunderland obtained two or three prizes in these classes.

Groups and Plants.—The contest in the class for a group of miscellaneous plants and Chrysanthemums was won by Mr. McIntyre, gardener at Woodside. Primulas were of high merit, and table-plants were good. The bush-plants shown by residents of South Shields were very good. Mr. Wm. Partridge, gr. to Henry Frason, Esq., Cleadon Meadows, was 1st for three plants of Japanese varieties. The other bush plants, such as Pompons, incurved, reflexed, and

Anemones, were of poorer quality than the Japanese, and fewer in number.

Miscellaneous.—A very fine stand of Apples was shown by Messrs. CRANSTON & Co., Limited, King's Acre Nurseries, Hereford. The platform was decorated by Messrs. FELL & Co., Hexham, with some very fine plants.

There was much attention shown to an Orange tree exhibited by Ald. MALAM, of South Shields, the President of the Society, which had some two dozen fruits upon it, well coloured.

DARLINGTON GARDENERS.

NOVEMBER 27.—Encouraged by the success of last year's exhibition, the committee of the Darlington Gardeners' Institute held another exhibition of fruit and Chrysanthemum blooms in the Mechanics Institute on the above date. There was a very fine collection of fruit shown, but only three exhibits of Chrysanthemums were staged. A special medal was awarded to Lord BARNARD for five magnificent bunches of Grapes. Sir JOSEPH PEASE was awarded a prize for a collection of fruit, specially noticeable among which were Marie Louise Pears and Emperor Alexander and Elizabeth Apples. The 1st prize for a dish of Pears went to Lord DERRAMORE of Heslington Hall, York, for a dish of Beurre Diel, and for dessert Apples to Sir JOSEPH PEASE, who had Cox's Orange Pippin. Lady COWELL of Clifton Castle was 1st for culinary Apples, with a dish of Blenheim Orange Pippin. An extensive collection of fruit from Messrs. JAS. BACKHOUSE SONS, The Nurseries, York, and some fine specimens of Primula obconica and double Primulas from Mr. J. B. HODGSKIN of Elm Ridge, were much admired. Apples and Potatos, &c. were shown by Messrs. KENT & BRYDON. The 1st prize for Japanese Chrysanthemum blooms was awarded to MRS. BARCLAY of Richmond; and a prize for amateurs was won by Mr. PERCIVAL ANDREWS. A very fine collection of twelve incurved Chrysanthemum blooms was shown by Alderman HARDING.

ELGIN.

NOVEMBER 28.—As the outcome of a movement inaugurated some time ago by Mr. JOHN THOMPSON, Bishopmill, to establish a Chrysanthemum show in Elgin, a very successful show was held on the above date, of Chrysanthemums, fruit, and vegetables in the Corn Market Hall. Much greater competition might have been looked for, however, for in many of the classes there were only one, two, or three entries, so that the resources of the district were not nearly made available. This discrepancy, however, was partly compensated for by the fine quality of the exhibits, many of which, especially in the Chrysanthemum department, excited the admiration of all who saw them. The show was well patronised during the day, and the promoters have reason to feel gratified at the success which has attended their first effort. The walls of the whole interior were nicely decorated with evergreens. The arrangements were carried out by Mr. Thompson, who acts as secretary and treasurer, assisted by the members of the committee.

The principal competition was that for the best eighteen Japanese blooms, and the prize was won by Mr. SMITH, Maryhill, with a very creditable collection. His best blooms were the famous Mons. Bernard, Amos Perry, and Hairy Wonder. From the Maryhill Gardens also came the best single Japanese bloom. There was not a great display of pot plants, but such as were forward were very creditable for the season. Fruit and vegetables were a large and excellent display. In this section, Mr. DELGARNO, Pitgaveny, carried almost everything before him; while Mr. SMITH, Innes House, was 1st for a magnificent basket of vegetables of six varieties.

NATIONAL CHRYSANTHEMUM.

NOVEMBER 26. -THE DINNER. - There was a numerous gathering of the members and supporters of this Society on the occasion of the annual dinner at Anderton's Hotel, Fleet Street, on the above date, under the chairmanship of W. FOWLER, Esq.

In proposing the toast of the evening, "The National Chrysanthemum Society," the Chairman bore testimony to the efficient and admirable manner in which the Floral Committee have classified the new varieties of Chrysanthemums, a work of much difficulty, which was deserving of the best thanks of the Society, and of cultivators of the flower in general. He said that at one time the term "National" was scarcely suitable or deserved, but this was not the case now, for the Society makes steady progress. Since January 1 this year it had received an accession of 182 new members, and twenty six provincial societies had become affiliated, making eighty in all, and the members numbered 800.

The financial condition of the society, he said, was most flourishing; but he and many others would like their shows to be held in some building which is better suited for exhibitions than the Royal Aquarium; at the same time he acknowledged that the managing body of that place of public entertainment had met the society in a liberal manner. He then gave the toast of the evening, which was enthusiastically received.

The toast of the 136 affiliated societies was given by Mr. P. WATERER, who, in the course of his remarks, alluded to the advantages, reciprocal in their nature, which accrued from the affiliation of provincial societies one with another and with the National Chrysanthemum Society. The head society, he said, was much indebted to them, and to none more so than the Bromley Society. In illustration of the strides made by some of the Chrysanthemum societies in this country, it was mentioned that the show this year of the Scottish Horticultural Society, held in Edinburgh, was visited by 30,000 persons, and a very large sum of money was taken at the doors. Mr. W. WEEKS, in returning thanks for this toast, spoke in terms of eulogy of Mr. Harman Payne and his unwearied efforts in forwarding the interests and welfare of the parent society; of Messrs. Molyneux, Mease, Lees, and others who have been instrumental in spreading a love of the Chrysanthemum in the country, and in indicating improved methods of culture. He said that he would prefer Japanese and incurved varieties being shown on different days, for as now shown together the interest taken in the Japanese was so overwhelming, that the incurved section became undeservedly neglected; and what the public looked askance at, cultivators very soon neglected altogether.

At this part of the proceedings the various trophies, cups, medals, &c., were distributed by the Chairman to the rather numerous recipients, including the Portsmouth Society, whose delegate, Mr. BARRY, took the Challenge Trophy. He said that the Society intended to "come up to the Aquarium, and walk the Trophy (a shield) home again." Among the recipients of honours was Mr. Donald of Leyton Green, one of the fathers of the Society, and who received two awards, including the Gold Jubilee Medal; Mr. H. J. JONES, who took a Gold Jubilee Medal for one of the best groups of Chrysanthemums ever shown; Mr. MEASE of Leatherhead, who also was awarded a Gold Medal for his stand of sixty incurved, and the same number of Japanese varieties.

Amongst the gentlemen present was M. Martinet, as representing the National Chrysanthemum Society of France, and editor of *Le Jardin*, who in good English, gave a brief account of the Chrysanthemum in France as an object for exhibition. In regard to this matter his countrymen are not quite on a level with the English growers, having only been engaged in it for a period of ten years, but they hoped shortly to compete on terms of equality. Mr. Harman Payne, he said, was very well known in France, where they were very glad of the co-operation of any one who could advance the aims of the French societies; and he had been appointed a Knight of Le Merite Agricole.

A rather large toast-list was duly got through, the proceedings being enlivened with instrumental and vocal music.

DECEMBER 1, 2, 3.—The last of the series of exhibitions by the National Chrysanthemum Society, for the present year, was opened on Tuesday last in the Royal Aquarium, Westminster. It was undoubtedly a very fine show, and a capital close to the Jubilee season. As will be seen from the report which follows, the number of exhibits was unusually high in many of the classes, and the quality of the Japanese and incurved flowers alike was satisfactory. The entire show was held in the galleries, this arrangement being necessary on account of the whole of the floor space being devoted to the ladies' bicycle races! At this late exhibition there are no classes for groups of Chrysanthemum plants or for specimen trained plants.

CUT BLOOMS (OPEN CLASSES).

Japanese.—When it is stated that there were eighteen competitors in the principal class, viz., that for twenty-four Japanese blooms, in not fewer than eighteen varieties, it will be expected that the flowers in the first prize collection were of more than ordinary merit. Such was the case, and the winner was Mr. W. Messenger, gr. to C. H. BERNERS, Esq., Woolverstone Park, Ipswich. The varieties were:—*Back Row*, Madame Carnot (especially good), International, Golden Gate, Waban, Mdlle. C. Molin, Elmer D. Smith, Etoile de Lyon; *Centre*, Mons. Chenon de Leché (very fine colour), Rose Wynne, Graphic, Duchess of York, Niveum, Etoile de Lyon, Mdlle. M. A. de Galbert, Elmer D. Smith; *Front*, Golden Gate, Silver King, Rose Wynne, Beauty of Castlewood, Violetta, Le Prince du Bois, Miss M. Blenkiron, and Silver Cloud. The exhibitor who was awarded 2nd place was Mr. W. Slogrove, gr. to Mrs. CRAWFORD, Gatton, Reigate. The most noticeable of the blooms in this stand were Madame Carnot, Madame A. Chatin, Primrose League, Golden Gate, and Madame E. Capitant. 3rd, Mr. G. Hunt, gr. to PANTIA RALLI, Esq., Ashstead Park, Epsom. An extra prize was awarded to Mr. JAMES STREDWICK, Silverhill, St. Leonards-on-Sea.

The second class was one for twenty-four bunches of any varieties of Chrysanthemums. Six competed, and there were scarcely two exhibitors who had similar ideas of the kind of arrangement most desired. The 1st prize was well taken by Mr. NORMAN DAVIS, The Vineries, Framfield, Sussex, who had good bold bunches of fine blooms, exhibited with considerable stem and foliage, in glass and earthenware bottles. 2nd, Mr. R. C. NORCUT, Broughton Road Nursery, Ipswich. In the case of one exhibit, the blooms were huddled upon the tops of the bottles, and in such manner that many of them might have been mistaken for single blooms.

The best twelve Japanese blooms were exhibited by Mr. H. Perkins, gr. to the Hon. W. F. D. SMITH, Greenlands, Henley-the Thames.

Of the seventeen other collections, the best was that from Mr. W. MESSENGER, who had a good lot indeed; 2nd, Mr. J. Sandford, gr. to G. W. WRIGHT INGLE, Esq., Wood House, North Finchley.

Mr. HENRY PERKINS won for the best six Japanese (distinct). There were sixteen collections.

The best twelve bunches of Japanese flowers came from Mr. R. C. NORCUT, who was followed by Mr. NORMAN DAVIS and Mr. W. Howe, gr. to H. TATE, Esq. Park Hill, Streatham.

The 1st prize for six bunches of Japanese blooms was awarded to Mr. W. Slogrove, gr. to Mrs. CRAWFORD, Gatton Park, Reigate. Mr. N. DAVIS who was placed 2nd, exhibited to good advantage.

Incurved.—The best collection of twelve incurved in six varieties, was one from Mr. W. NEVILLE, whose blooms were of good quality and even. The varieties were R. C. Kingston, Major Bonnaffon, J. Agate, C. Curtis, W. Tunnington, Bonnie Dundee, and King of Orange. 2nd, Mr. H. Butcher, gr. to C. J. BASS, Esq., Lodge House, Smeeth, Ashford. Mr. JAS. AGATE was a fairly good 3rd, and there were nine other exhibitors.

The best six blooms (distinct) were from Mr. W. Neville, gr. to F. W. FLIGHT, Esq., Cornstiles, Twyford, Winchester.

Single Flowered Varieties.—The best nine bunches of large-flowered varieties were shown by Mr. G. W. Forbes, gr. to D. NICOLS, Esq. This class made a very fine display, and Mr. W. C. Pagram, gr. to J. COURTENAY, Esq., The Whim, Weybridge, and Mr. A. FELGATE, jr., The Nurseries, Hersham, Walton-on-Thames, who were 2nd and 3rd respectively, had creditable collections.

Mr. G. W. FORBES was again 1st in a competition for the best twelve bunches of small-flowered varieties, followed by Mr. W. C. PAGRAM, and Mr. A. FELGATE. The last named exhibitor was successful for six bunches of large-flowered varieties, followed by Mr. JAS. AGATE, Havant Nurseries, who, however, won on the class for six bunches of small-flowered varieties.

AMATEURS.

The best six Japanese blooms in not fewer than three varieties were from H. A. NEEDS, Esq., Heath View, Woking. The varieties were Mutual Friend, very large, Phœbus, and Niveum. 2nd, Mr. F. DURRANT, 4, New Road, Ware, Herts.

The vases of Chrysanthemums arranged with coloured foliage, &c., were upon the whole tasteful and pretty. The 1st prize was taken by Mr. D. B. CRANE, Woodview Terrace, Archway Road, Highgate; 2nd, Mrs. W. GREEN, jr., Harold Wood, Essex.

MISCELLANEOUS PLANTS.

There were excellent exhibits of Cyclamens and Primulas. The best collection of Primulas (open) was shown by Mr. J. Gibson, gr. to E. H. WATTS, Esq., The Avenue, Chiswick. These were tastefully exhibited upon a table and interspersed with small Palms, Codiæums, Ferns, and other plants for effect. 2nd, Mr. T. P. McGregor, gr. to the Dowager LADY HAY, North House, Putney Hill.

Mr. GIBSON was also the best exhibitor of twelve plants in flower of Primula sinensis, being followed by Mr. R. Bassil, gr. to P. H. EVANS, Esq., Shooter's Hill House, Pangbourne, Berks.

The best dozen plants of double-flowering Primulas was from Mr. J. Sandford, gr. to G. WRIGHT INGLE, Esq., Wood House, North Finchley.

Cyclamens as a collection were best shown by Mr. W. ORPWOOD, Cowley Mill Road, Uxbridge, who filled one of the tables with extremely satisfactory plants in several varieties. No miscellaneous plants were used by this exhibitor, but in the collection from the CHURCH ROAD NURSERY COMPANY, Hanwell, which was awarded 2nd prize, a few were included to advantage.

Mr. W. Frost, gr. to G. ASHLEY DODD, Esq., Godington, Ashford, Kent, exhibited capitally in the class for 12 plants of Cyclamens (nurserymen excluded), but there was no competition.

There were two exhibits of a collection of berried foliage and flowering plants, and the one that obtained for Sir ED. SAUNDERS, Fairlawn, Wimbledon (gr., Mr. Newell) the 1st prize was a highly creditable one. Poinsettias, Crotons, Ferns, Primulas, Cyclamens, Bouvardias, Roman Hyacinths, &c., were arranged in excellent taste, and if there was fault at all it was in the plants being placed a little too thickly. 2nd, Mr. W. HOWE, whose plants were too large for the size of the table upon which they were arranged.

The best basket of berries and foliage was shown by Mrs. W. GREEN, jr., Harold Wood

HONORARY EXHIBITS.

These were made by most of the Chrysanthemum specialists, and there were some fruits and vegetables shown. Mr. NORMAN DAVIS had a few blooms of varieties useful for decorative purposes, of which Framfield Pink may be mentioned as the most promising.

Mr. W. J. GODFREY, Exmouth, showed a good number of cut blooms, including several novelties.

Messrs. DOBBIE & Co., Rothesay, had a collection of about eight dozen large blooms, and at the back were pretty bunches of single-flowering, pompon, and decorative varieties.

From Mr. ROBT. OWEN came two dozen very fine incurved blooms, in a few varieties, and a similar number of Japanese blooms.

Vases and glasses of Chrysanthemums were shown by Miss EASTERBROOKE, and Mr. T. Tullett, gr. to G. ALEXANDER, Esq., Brentwood.

From the Earlswood Nurseries, Mr. WELLS contributed about four dozen fine blooms, principally Japanese varieties, and also a display of decorative and single flowers.

Messrs. H. CANNELL & SONS, Swanley, made their usual exhibit of exceedingly bright Pelargonium flowers in sprays, and likewise exhibited some Chrysanthemum blooms.

A pretty table of fruits in dishes, relieved by very well berried plants of Solanums, and other decorative plants, was shown by Messrs. JNO. LAING & SON, Forest Hill Nurseries, London, S.E.

Mr. H. J. JONES, of the Ryecroft Nursery, Hither Green, Lewisham, had a very large group of Chrysanthemum plants, about 35 feet long and 12 feet wide. The side of the building to which these abutted was draped in shades of green. Foliage plants were used to increase the effect, which was most satisfactory.

Mr. J. WILLIAMS, Oxford Road, Ealing, had a stand of "Rustic" table-decorative appliances, and the AGRICULTURAL AND HORTICULTURAL ASSOCIATION, LTD., were represented.

Mr. C. J. Waites, gr. to the Hon. W. P. TALBOT, Glenhurst, Esher, exhibited a collection of first class vegetables.

Messrs. J. PEED & SONS, Roupell Park Nurseries, Norwood Road, London, S.E., showed Pears and Apples.

FLORAL COMMITTEE.

A meeting of the Floral Committee was held, but there were few subjects submitted for consideration. Two First-class Certificates of Merit were awarded, one to Mr. Wright, a large deep Japanese variety, with petals of medium breadth, drooping, full substance, and highly promising, a seedling raised by Mr. H. J. JONES, Ryecroft Nursery, Lewisham; and to Japanese Commodore, blush tinted with lilac, a large broad-petalled variety, and like many others incurving first and reflexing afterwards, from Mr. H. FEATHERBY, Gillingham. The question of doubtful incurved varieties was warmly debated, and Egyptian, a variety shown numerously in Mr. H. J. JONES' group of plants, where some of the blooms were as perfectly incurved as Prince Alfred; the committee again decided to place it among the incurved Japanese. Duchess of Fife was sent by Mr. C. BELLIS, Ludlow, with the request that the committee would pronounce whether it was an incurved or not; but there was much difference of opinion among the committee on this point. The matter is to be threshed out by a special sub-committee, shortly to be appointed. Miss Louise D. Black, an incurved, was shown by Mr. GODFREY, but the committee declined to acknowledge it as such. Mr. H. J. JONES had a yellow sport from Madame Carnot, which he proposed to call Mrs. F. A. Bevan. It was thought to be darker than the sport shown by Mr. WELLS, and the committee wished to see it again. Mr. W. HARVEY, Chislehurst, had Mrs. R. B. Martin, which will probably be seen in better condition on a future day.

THE ORIGIN OF GARDEN GLADIOLI.

THE praise given to Gladiolus Nanceianus by your London correspondent in *Garden and Forest* for October 7, is well deserved, and I think it may interest your readers to hear something more about the origin of this and other remarkable garden races of this noble genus.

The Gladioli of gardens may be distinguished in an early-flowering and an autumn-flowering group. The large group of early Gladioli embraces innumerable forms of species and hybrids, where, among the most common types, are the Cape species Gladiolus blandus, G. cardinalis, and G. tristis; and the hybrids G. ramosus (cardinalis × oppositiflorus), G. Colvillei (tristis × cardinalis), &c. I cannot treat this section in detail now, and will only say that one of the most useful new additions to it is the soft rosy-pink cardinalis variety, Queen Wilhelmina, which has been highly spoken of in various gardening papers.

The late-flowering Gladioli have so improved of late, that the original species have become very insignificant, compared with the garden hybrids of their progeny. Five distinct races of autumn-flowering hybrid Gladioli have been sent out up to the present, an abbreviated description of which may follow here:—

1. *Gladiolus hybr. Gandavensis.*—This section is well known, although there is still some doubt as to its exact origin. The first announcement of the original hybrid appeared in Van Houtte's *Catalogue*, No. 6, which was published on August 31, 1841. There are two opinions as regards the origin of this hybrid. In the *Flore des Serres*, published by Van Houtte himself, it is stated to be the result of a cross between G. cardinalis and G. psittacinus. On the other hand, we have Dean Herbert's opinion, who found that the indicated cross, "if not absolutely impossible, is so difficult, that repeated attempts made during successive years (by himself and others) have all proved abortive." On the contrary, the Natal species, G. psittacinus and the Caffrarian G. oppositiflorus, have been freely crossed by Herbert and several others, and the result was exactly the same Gladiolus figured in the *Flore des Serres* as Gandavensis. The hybrid created a sensation, but was, of course, soon surpassed. The most successful raiser of new varieties was Mons. Souchet of Fontainebleau; and after his death, in 1872, his successors, Messrs. Souillard and Brunelet.

2. *Gladiolus hybr. Lemoinei.*—Some twenty-five years ago a new species of Gladiolus was introduced from the Cape, which proved to be hardy, or, at least, more hardy than the Gandavensis varieties. It was crossed by the skilful hybridiser, Mons. Lemoine, with the best Gandavensis varieties, and so he obtained the first hybrids of a new race which he called Lemoinei, and which made its appearance at the Paris International Exhibition of 1878. Being pretty well known at present, it does not need description. Every year the colours of the new varieties become more brilliant and effective. It is a pity, however, that the more beautiful the varieties become, the more they lose their hardy qualities, a natural consequence of the little purpureo-auratus blood remaining in the progeny.

3. *Gladiolus hybr. Turicensis and Childsi.* Both of these sections originated in the same manner—namely, by crossing Gladiolus Saundersi, another Cape species, introduced some twenty years ago, with Gandavensis varieties. G. Turicensis originated in Mr. Froebel's nursery at Zurich; it is probably lost to cultivation now. The history of G. Childsi is rather confused. Many years ago Herr Max Leichtlin made a similar cross as Mr. Froebel, and sold the hybrids obtained to a French nurseryman, from whom they were purchased by an American firm, the stock of which went afterwards to Mr. Childs of Floral Park, who gave them his name and pushed them successfully.

4. *Gladiolus hybr. Nanceianus.*—This race, referred to by Mr. Watson, is of quite different origin from Gladiolus Childsi, and the two races must not be confounded. G. Nanceianus was the first hybrid of a series now comprising some fifty varieties, raised by Mons. Lemoine, and first presented to the horticultural public at the Paris Exhibition of 1889. It originated from a cross between G. Saundersi and Lemoinei varieties, and this origin at once shows that the Nanceianus race is an advance on Turicensis and Childsi, as one of the parents, namely, Lemoinei hybrid, was an advance on one of the parents in the other case (Gandavensis hybrids). A few varieties of the Nanceianus race are not so vigorous as could be desired, but the newer ones especially are strong growers, throwing up spikes 6 feet tall, carrying large-sized flowers, often measuring more than 7 inches across between the tips of the two lateral segments of the corolla, which are developed in the form of two large triangular, fully-expanded wings, and the colours are simply marvellous. All the trade varieties hitherto introduced were obtained by Mons. Lemoine, and we have not seen any hybrids from other origins surpassing them.

5. *Gladiolus hybr. Massiliensis.*—Although this is one of the newest races offered, it is in no way an advance, which is not surprising when we remember that one of the parents is the very old and ugly Gladiolus psittacinus, which has been improved by hybridising for fifty years already. We only refer to it here for completeness.

Concluding, I beg to give a little pedigree showing the affinity and origin of the principal races of Gladiolus hybrids referred to above:—

psittacinus × oppositiflorus
|
purpureo-auratus × Gandavensis × Saundersi
| |
Saundersi × Lemoinei Turicensis (Childsi)
|
Nanceianus.

Ernst H. Krelage, Haarlem, Holland, in "Garden and Forest."

VARIORUM.

PROPOSED VINE CULTIVATION IN SOUTH IRELAND.—An Italian, Signor Egidio Vitali, who is concerned with Vine-growing in northern Italy, having been recently through those portions of southern Kerry and Cork, the climate of which is so largely modified by the influence of the Gulf Stream has written to the Earl of Kenmare suggesting th a trial should be given to the culture of the Vine in those districts. He has pointed out to his lordship that several trees and shrubs which grow in mild climates thrive in Killarney and other places in the south, which, in this respect, have the advantage of northern Italy, where the Vine flourishes; and he has offered to provide hardy Vines for those regions for experimental planting in Kerry. It is worthy of note that the Marquis of Bute has tried a similar experiment in the neighbourhood of Cardiff, where the climatic conditions are not as favourable to its success as those found in South Kerry. *Western Morning News.*



[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Accumulated. Above (+) or below (−) the Mean for the week ending November 28	Above 42° for the Week.	Below 42° for the Week.	Above 42°, difference from Mean since December 29, 1895	Below 42°, difference from Mean since December 29, 1895	Rainfall. More (+) or less (−) than Mean for the Week.	No. of Rainy Days since Dec. 29, 1895	Total Fall since Jan. 1, 1896	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Dec. 29, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.		
0	6 +	27	0	+ 176	− 283	6 −	225	51·0	5	23
1	+	10	4	+ 98	− 189	6 −	187	25·1	3	29
2	3 +	16	7	+ 151	− 170	5 −	172	21·4	6	29
3	2 −	3	21	+ 90	− 140	5 −	161	22·1	18	35
4	0 Aver.	1	14	+ 79	− 106	6	160	21·[illegible]	[illegible]	32
5	4 −	[illegible]	25	+ 186	− 180	7 −	150	22·0	19	37
6	+	20	2	+ 181	− 175	12 −	193	39·6	12	31
7	0 Aver.	15	6	+ 249	− 192	8 −	176	30·7	5	32
8	3	7	14	+ 248	− 104	10 −	159	26·6	17	40
9	3 +	22	1	+ 186	− 176	8 −	203	35·0	11	28
10	0 Aver.	21	2	+ 242	− 131	8 −	175	30·7	18	33
*	−	16	7	+ 345	− 106	9 −	178	25·0	18	45

The districts indicated by number in the first column are the following:—

0, Scotland N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending November 28, is furnished from the Meteorological Office:—

"The *weather* was cloudy or dull during the greater part of the week, but mostly very dry. Much fog prevailed over England during the earlier days of the period, but towards its close both the cloud and fog dispersed, and Saturday was very fine and bright.

"The *temperature* was considerably in excess of the mean in Scotland, 'England, N.E.' and 'Ireland, N.,' and just equal to it in the 'Midland Counties,' 'England, N.W.,' and 'Ireland, S.;' in the other districts there was again a deficit. The highest of the maxima, which were recorded on the 22nd, ranged from 59° in 'Scotland, N.,' and 56° in 'Scotland, E.' and 'Ireland, S.,' to 49° in 'England, S.' and the 'Midland Counties.' The lowest of the minima were registered either on the 27th or 28th, and ranged from 25° in 'Scotland, W.,' and 27° in 'England, S.,' to 31° in 'Scotland, E.,' and 37° in 'England, N.E.'

"The *rainfall* was much less than the mean in all districts, but heavy, locally, at Stornoway.

"The *bright sunshine* was very deficient generally, but just equalled the normal in 'England, S.;' and slightly exceeded it in the 'Channel Islands.' The percentage of the possible amount of duration ranged from 19 in 'England, S.,' and 18 in the 'Channel Islands' and 'Ireland, S.,' to 5 in 'Scotland, N.,' 'England, N.W.,' and to 3 in 'Scotland, E.'"

MARKETS.

COVENT GARDEN, DECEMBER 3.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Adiantum, per doz.	4 0	12 0	Ericas, hyemalis, per doz.	12 0	15 0
Aspidistras, per doz.	12 0	30 0	Ferns, small, doz. ...	1 0	2 0
— specimen, each	5 0	15 0	— various, doz.	5 0	12 0
Chrysanthemums, per doz. ...	6 0	12 0	Ficus elastica, each	1 0	7 6
— specimen plants, each	1 6	2 6	Foliage plants, per doz.	12 0	36 0
Cinerarios, per doz	9 0	12 0	Marguerites, p. doz.	8 0	12 0
Cyclamens, per doz.	12 0	18 0	Palms, various, ea.	2 0	10 0
Dracænas, each ...	1 0	7 6	— specimens, ea.	10 6	84 0
— various, p. doz.	12 0	24 0	Pelargoniums, Scarlets, p. doz. ...	6 0	8 0
Evergreen Shrubs, in variety, doz....	6 0	24 0	Poinsettia, per doz.	12 0	18 0
Ericas, p. doz. ...	10 0	12 0	Solanums, p. doz....	12 0	15 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Anemone, doz. bun.	1 6	2 6	Orchids:—		
Arums, p. 12 blooms	4 0	6 0	Cattleya, 12 blms.	6 0	12 0
Bouvardias, per bn.	0 6	0 9	Odontoglossum crispum, 12 bm.	2 0	6 0
Carnations, pr. doz. blooms	1 0	2 6	Pelargoniums, scarlet, per 12 bun.	4 0	8 0
Chrysanthemums, doz. bun.	3 0	6 0	— per 12 sprays...	0 6	0 9
— doz. blooms	1 0	4 0	Poinsettia, per doz. blooms	12 0	15 0
Eucharis, per dozen	2 6	4 0	Pyrethrums, 12 bn.	2 0	4 0
Hyacinths (Roman), doz. sprays ...	0 6	1 0	Roses (French), per doz. blooms ...	1 0	2 0
Lilac, wh. (French), per bunch ...	3 6	5 0	— Tea, per doz. ...	0 9	1 6
Lilium Harrisi, per doz. blooms ...	4 0	6 0	— yellow (Maréchal), per doz.	6 0	9 0
— lancifolium, doz. blooms ...	2 0	3 0	— red, per dozen	1 0	2 0
Lily of the Valley, dozen sprays ...	1 6	2 6	— pink, per doz.	3 0	4 0
Maidenhair Fern, per 12 bunches ...	4 0	8 0	— Safrano, p. doz.	1 0	2 0
Marguerites, per 12 bunches	2 0	4 0	Tuberoses, 12 blms.	0 3	0 6
Mignonette, per doz. bunches ...	4 0	6 0	Tulips, per doz. ...	0 9	1 0
Mimosa (French), per bunch ...	1 0	1 6	Violets (Fr.) Parme, per bunch	2 6	4 0
			— — Czar, per bunch	2 0	3 0
			— — doz. bun.	1 6	2 0
			— (Eng.), per doz. bun.	1 6	2 6

ORCHID-BLOOM in variety.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d.	s. d.
Apples, Blenheims, per ½-sieve ...	2 0	2 6	Grapes, Gros Colmar, per lb. ...	1 3	1 6
— Cox's Orange, per ½-sieve ...	5 0	6 0	— Muscat, 2nd qual., p lb. ...	2 0	2 6
— Wellingtons, per sieve ...	5 0	6 0	— Gros Colmar, 2nd qual., per lb.	1 0	—
— Ordinary kinds, per sieve... ...	2 0	3 0	— Muscats, English, 1st quality per lb.	3 6	4 6
Grapes, Alicante, 1st quality, per lb.	1 3	1 6	Medlars, per ½-sieve	2 6	3 0
— Alicante, 2nd quality, per lb.	0 10	1 0	Nuts, Cob, per 100 lb. ...	30 0	35 0
— Gros Colmar, selected, p. lb.	1 9	0 2	Pine-apples, St. Michael, each ...	1 6	3 6

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.		s. d	s. d.
Artichokes, Globe, per doz. ...	2 6	3 0	Mushrooms (Fnch.), p. lb.	0 6	—
— Chinese (Stachys tuberifera), per lb.	0 4	—	Sea Kale, per punnet, ¾ to 1 lb. weight	1 0	1 6
Beans, French, Channel Is., per lb. ..	1 3	1 4	Tomatos, home-grown, smooth, per doz. lb. ..	3 0	3 6
Cauliflowers, p. tally of 5 doz.	5 0	7 6	selected ...	4 0	5 0
Cucumbers, home-grown, per dz.	6 0	8 0	— ordinary kinds, do.	1 6	2 0
Mushrooms, (Indoor) per lb.	0	10	— Canary Islands, per case, about 12 lb.	3 0	5 0

POTATOS.

Arrivals have considerably increased during the week, and less money is being taken to clear, especially for middle-class stuff. Present prices:—Dunbar Main Crops, 95*s.* to 100*s.*; Lincoln do., 75*s.* to 85*s.*; other varieties, 50*s.* to 65*s.*; Blacklands, 40*s.* *J. B. Thomas.*

SEEDS.

LONDON: *Dec.* 2.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., describe to-day's market as poorly attended, with but few transactions passing. Indeed, as regards Clover-seeds, business seems tacitly postponed until the New Year, meantime value generally keeps steady. For Canary and Hemp-seed the sale is slow. Niger seed appears almost unobtainable. There is no change in either Mustard or Rape-seed. The recently arrived Californian Butter Beans being cheap and good, have proved an acceptable novelty. The severe weather tends to harden values for Peas and Haricots. Freights for Wisconsins owing to the closing of the American lakes have advanced.

FRUIT AND VEGETABLES.

GLASGOW: *December* 2.—The following are the averages of the prices current at market during the past week:—Fruit: Pears, 6*d.* per lb.; Apples, 1*s.* to 2*s.* 6*d.* per stone; Tomatos, Guernsey, 5*d.* per lb.; do., Scotch, 6½*d.* do.; Grapes, home, 1*s.* to 2*s.* do.; do., foreign, 4*d.* to 6*d.* do. Vegetables: Turnips, white, 2*s.* to 2*s.* 6*d.* per dozen bunches; Swedes, 1*s.* to 1*s.* 2*d.* per cwt.; Savoys, 1*s.* to 1*s.* 3*d.* per dozen; Cabbages, 8*d.* to 9*d.* do.; do, late, 1*s.* to 1*s.* 6*d.* do; do., Red, 2*s.* 6*d.* to 3*s.* do.; Cauliflowers, Dublin, 2*s.* to 2*s.* 6*d.* per dozen; Parsnips, 4*s.* 6*d.* per cwt.; Herbs, assorted, 1*d.* to 2*d.* per bunch; Leeks, 1*s.* 3*d.* to 2*s.* 6*d.* per dozen bunches; Mint, 6*d.* per bunch; Onions, Dutch, 3*s.* per bag; do., Portugal, 1*s.* per stone; do., Globe, 3*s.* to 3*s.* 6*d.* per cwt.: Parsley, 5*s.* to 6*s.* do.; Greens, 4*d.* per bunch; Celery, table, 2*s.* per bundle; do., common, 9*d.* to 1*s.* do.; Potatos, best, 8*d.* per stone; Carrots, 2*s.* 6*d.* to 3*s.* 6*d.* per cwt.; Artichokes, 10*s.* to 14*s.* do.; Cucumbers, 4*s.* to 4*s.* 6*d.* per dozen; Lettuces, 6*d.* to 9*d.* per dozen; do., French, 9*d.* to 1*s.* do.; do., Cos, 9*d.* do.; Radishes, 9*d.* to 1*s.* per doz. bunches; Horseradish, 2*s.* to 3*s.* per bundle; Mushrooms, 1*s.* to 1*s.* 3*d.* per lb.; Beetroot, 6*d.* per doz.; Cress, 3*d.* per basket; Brussels Sprouts, 1*s.* 6*d.* to 1*s.* 9*d.* per stone.

LIVERPOOL: *December* 2.—The following are the averages of the prices current at the undermentioned markets:—St. John's: Potatos, 8*d.* to 10*d.* per peck; Grapes, English, 2*s.* to 3*s.* per pound; do., foreign, 6*d.* to 8*d.* do.; Pines, English, 4*s.* to 8*s.* each. Birkenhead:—Potatos, 6*d.* to 8*d.* per peck; Grapes, English, 2*s.* 6*d.* to 3*s.* 6*d.* per pound; do., foreign, 6*d.* to 8*d.* do.; Pines, English, 4*s.* to 8*s.* each.; North Hay: Turnips, 18*s.* to 18*s.* 6*d.* per ton; Potatos, Giants, 1*s.* 9*d.* to 2*s.* per cwt.; Main Crop, 2*s.* to 3*s.* 3*d.* do.; Champions, 1*s.* 10*d.* to 2*s.* 4*d.* do.; Sutton's Abundance, 1*s.* do.; Bruces, 1*s.* 10*d.* to 2*s.* 4*d.* do.; Carter's, 1*s.* 9*d.* to 2*s.* 2*d.* do.; Turnips, 6*d.* to 9*d.* dozen bunches; Swedes, 1*s.* 3*d.* to 1*s.* 6*d.* per cwt.; Carrots, 6*d.* to 8*d.* per dozen bunches; do., 2*s.* 9*d.* to 3*s.* 3*d.* cwt.; Onions, English, 3*s.* 6*d.* to 4*s.* 6*d.* do.; do., foreign, 2*s.* 9*d.* to 3*s.* do.; Parsley, 6*d.* to 8*d.* per dozen bunches; Cauliflowers, 1*s.* to 2*s.* per dozen; Cabbages, 8*d.* to 1*s.* 6*d.* do.; Celery, 8*d.* to 1*s.* do.

CORN.

AVERAGE PRICES of British Corn (per imperial qr.), for the week ending November 28, and for the corresponding period in 1895, together with the difference in the quotations. These figures are based on the Official Weekly Return:—

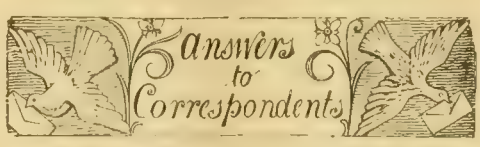
Description.	1895.	1896.	Difference.
	s. d.	s. d.	s. d.
Wheat	25 2	33 4	+ 8 2
Barley	24 7	26 9	+ 2 2
Oats	14 3	17 7	+ 3 4

ENQUIRIES.

"He that questioneth much shall learn much."—BACON.

LANDLORD AND TENANT.—Can any of your readers inform me where the fullest details can be obtained as to the relative position of landlord and tenant with respect to the market gardening and nursery business, details giving also an outline of a fair agreement in a lease of not less than twenty-five years, especially with regard to greenhouses, packing-sheds, boilers, tanks, and other necessary buildings for the carrying on a business as market nurseryman? and greatly oblige *A Subscriber.*

COUCH-GRASS.—E. CADMAN would be glad if any of our readers who have had experience in ridding farm-land of Couch-grass, would inform him if it will pay him best to have 90 acres of heavy top and bottom land cleared by day-work or piece-work.



BOOK ON FRUIT TREES: *P. C. P.* It is not clear from your note whether a Manual on market fruit culture is required, or one descriptive of methods of pruning and training garden fruit trees. If the first, you should obtain *Fruit Farming for Profit*, by G. Bunyard, published at Maidstone, 29, Week Street, by Frederick Bunyard; or, *Fruit Culture for Small Holdings*, by J. Cranston, published by Jakeman & Carver, Hereford. If the second is required, *The Scientific and Profitable Culture of Fruit Trees*, from the French of M. Du Breuil, published by Lockwood & Co., 7, Stationers' Hall Court, will be found a very useful book.

CATTLEYA-FLY: *A. B.* You might try the effect of fumigation with Richards' XL All on the fly, but the surest way is to cut off and burn all pseudo-bulbs which have been pierced by the grubs.

CHRYSANTHEMUM SPORTS: *T. L.* From the specimens sent, we should be very rash did we estimate the value of your sports, but is not that from Golden Empress of India, merely a reversion?

CHRYSANTHEMUMS: *A. B.* We cannot undertake to name varieties of florists' flowers. Send it to some specialist.

CRICKET BATS: *C. R.* Salix caprea, common Sallow or Willow, one of the earliest Willows to flower.

CYPRIPEDIUMS. *G. K., Cheshire.* It is not an uncommon occurrence for Cypripediums to produce twin-flowered inflorescences. Some growers think that some varieties do so more readily than others, and consequently yours may again produce two flowers on a spike, if such be the case. It is, however, more likely that the strength of the plant is the reason for the extra flower.

MARKET GARDEN ACT OF 1896: *P. & S.* If you mean the Rating Act passed by the present Government. Yes. Certainly, it applies to Market Gardens and Holdings, but it is being variously construed by the rating authorities, and test cases will have to be taken before the Courts for a judicial interpretation of these confused Rating Acts. See also present issue, pp 692, 698.

MELONS IN THE MIDDLE OF APRIL, AND CUCUMBERS IN MARCH: *S. G. K.* By sowing two seeds of a small quick-ripening variety, or singly in 60's, say one of Davenham Early, Beauty of Sion, or Hero of Lockinge, about the end of the present month in a well-prepared hotbed, having top-heat of 70°, and bottom-heat of 80°, nice strong plants may be obtained fit for planting out at the end of January. They must be once or twice repotted during that time, and always low down in the pots. Use as soil—loam three-quarters, leaf-mould one-quarter, and a small quantity of sand if the loam be very stiff. Cucumber plants may be raised similarly, and if they can be placed in a slightly lower temperature after the first pair of true leaves have grown to 3 inches in diameter, it will improve them. You ought to obtain a manual on the subject, and one may be purchased at the *Bazaar* office, 170, Strand, W.C., entitled "Cucumber Culture for Amateurs," by W. J. May; price 1*s.*

NAMES OF FRUITS: *J. W.* Apples: 1, Besspool; 2, Cox's Orange Pippin; 3, Braddick's Nonpareil; 4, Dumelow's Seedling. Pears: 2, Hacon's Incomparable; 3, Easter Beurré; 4, Not recognised.—*A. L. T.* 72, Cox's Orange Pippin; 89, Minshall Crab; 99, King of the Pippins; 70, Bedfordshire Foundling; 13, Braddick's Nonpareil; one other without a number, Golden Reinette.—*A. L. T.* Lot 3: 19, Tom Putt; 37, King of the Pippins; 64, Coe's Golden Drop; 63, Fearn's Pippin; 58, Northern Spy?; 62, Not known.—*Drummond & Sons.* Pear: Gilogil.—*Captain H. Rogers.* The Apple you send as Cornish Gilliflower is not that variety at all. We do not know what it is. That named London Pippin is more probably Baumann's Red Winter. Gansell's Bergamot is Beurré Sterckmans. The large Pear is unknown.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to be so good as to consult the following number.—J. S., Bohemia.* 1, Pteris longifolia; 2, not found under number, but a piece of Stenotaphrum americanum unnumbered; 3, Lastrea (Pycnopteris) Sieboldii; 4, Pteris hastata macrophylla; 5, Nephrolepis pectinata; 6, Polypodium incanum; 7, Scolopendrium vulgare variety; 8, Nephrolepis exaltata; 9, Cyrtomium falcatum; 10, Aspidium (Nephrodium) molle; 11, probably an immature frond of Adiantum trapeziforme; 12, Pteris serrulata. The above are the popular names of the Ferns sent.—*S. L.* 1, Dendrobium Phalænopsis delicatum; 2, Cypripedium × vernixium (villosum × Argus).—*T. B.* 1, Nephrodium molle 2, Nephrolepis tuberosa; 3, Polypodium subauriculatum; 4. Davallia (Microlepia) platyphylla.—*Constant Reader.* Pancratium illyricum, a tolerably common half-hardy bulb.—*Osborne.* 1, Quercus glabra; 2,

Cryptomeria japonica ; 3, Cryptomeria elegans.—*E. C. F.* The bloom is not sufficiently good to indicate its true character. We prefer not to attempt to name florists' varieties.

OLD PASSION-FLOWER IN A COLD VINERY: *T. F.* Having selected the main shoots which are to remain, spur in the laterals closely on these, and remove all other shoots. The operation will require to be severely carried out, and if plants in pots or borders are grown beneath the plant, the main shoots of the latter should not be nearer together than 2 feet. The plant does not flower because the tangle of shoots do not get ripened for lack of air and sunlight. The border in which the plant is growing may need partial renewing, and the present is a suitable time to do this.

SOFT TENNIS LAWN: *A.* Put in a few cross drains—say three at 3 feet in depth ; take away the surface soil to a depth of 5 or 6 inches, then put on a layer of coal-ashes 3 inches thick, and above this another of loamy soil, make all firm and level, and relay with the best of the old turf, completing the turfing with new turf free from weeds ; beat and roll it well, and leave it to settle, not using it for play before the spring.

PARIS SHOW: *Duval et Fils.* We thank you for your letter calling attention to our report of the Paris Chrysanthemum show. At this season of the year there is an enormous pressure on our space, and we are compelled to limit the number and the length of our reports. You will see by the last paragraph in the report complained of that we shall refer to the Paris show again shortly, but we can in no case undertake to name all the sucessful exhibitors.

VINES: *T. F.* The Vines may be pruned at any time whilst they are at rest, and then no styptic will be required, there being no "bleeding" to fear. If the Vines are to be grown without fire-heat, they must be allowed to break in April, keeping the house as cool as you can till then. On purpose to push on the growth at that season, you may, after the lapse of a fortnight, use enough fire-heat to keep the house at 55° by day, 45° by night ; or you may obtain as good results and a sufficiently high degree of warmth by building up a heap of fermenting stable-dung and tree-leaves on a platform of boards placed on the border, being careful not to have too much of the pungent ammoniacal fumes from the same confined in the vinery, but afford a few small openings for its escape day and night. If fire-heat is employed, the syringe may be employed twice a day, and if dung and leaves, once on bright days will suffice for two or three weeks, or till the Vines are well broken. Pay attention to our calendarial articles. If the border should need to be partially or wholly renewed, now is a good time to attend to this matter, although entire renewal is better done in September. Get *Vines and Vine Culture*, a useful manual, by Mr. A. F. Barron.

WHITE FLOCCOSE SUBSTANCE ON BARK OF BEECH *Tree-Lover.* See answer to "Mrs. B." in our issue of November 21, p. 639.

COMMUNICATIONS RECEIVED.—Dr. H. Boz.—W. G. S.—J. B.—C. L.—Chéron fils.—Canon E.—D. T. F.—W. W. H. W.—J. B.—G. M. H. M., Paris—W. T. T.—C. H. P.—J. D.—J. T.—R. M.—E. J. L.—F. H. W.—Geo. C.—P. R. & Co. W. P.—T. H. S.—J. F.—W. J.—G. Stanton.—H. W.—H. J. J.—E. J. Powell.—F. C.—S. H.—T. D.—W. J. B.—J. M.—W. Nield.—A. P.—A. D. W.—H. W. W.—M. T.—G. W.—T. B. J. McI.—Rev. H. H. D'Ombrain.—A. D.—J. C.

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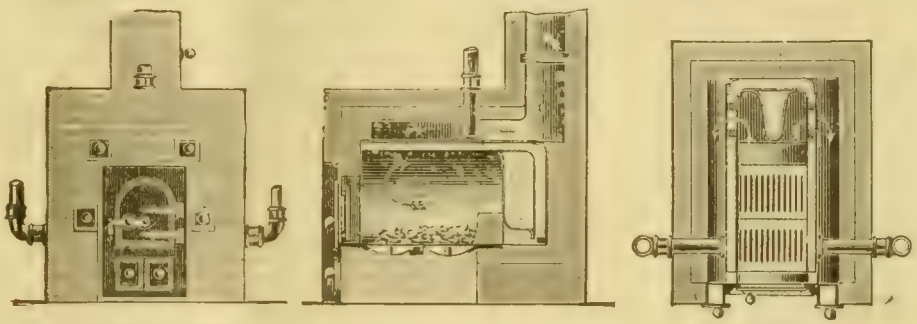
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(ESTABLISHED 1841)

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HERBACEOUS PLANTS:—
BARR, P., Covent Garden.
CLARK, W. A., York.
CREWE, Rev. H. Harpur, the late.
DEWAR, D., Bot. Gardens, Glasgow.
DOD, Rev. C. W., Malpas.
ELLACOMBE, Rev. Canon.
ELWES, H. J., Cirencester.
EWBANK, Rev. H., Ryde.
FOSTER, Prof., Cambridge.
HARTLAND, Baylor, Cork.
JENKINS, E., Hampton.
POTTER, R., York.
WILSON, G. F., F.R.S., Weybridge.

INDIA AND THE COLONIES:—
BANCROFT, G., M.D., the late, Queensland.
BENNETT, G., M.D., Sydney, the late.
BOLUS, H., Capetown.
BROADWAY, W. E., Royal Botanical Gardens, Trinidad.
CRADWICK, W. Hope, Botanic Garden, Kingston, W.I.
DUTHIE, J. F., Saharunpore.
FAWCETT, W., Superintendent Botanical Department, Jamaica
FORD, C., Hong Kong.
HART, J. H., Superintendent, Botanical Department, Trinidad.
IM THURN, Everard, British Guiana.
JENMAN, J. S., British Guiana.
KING, Dr., F.R.S., Director, Royal Botanic Gardens, Calcutta.
KIRK, J., Wellington, N.Z.
LAWSON, Prof., the late, Nova Scotia.
MACOWAN, Prof., Cape Town.
MACOUN, Prof., Ottawa.
MOORE, C., Sydney.
MUELLER, Baron Sir Ferd. von, Melbourne.
MURTON, H. J., Siam.
RIDLEY, H. N., Superintendent Botanical Department, Singapore.
SAUNDERS, Prof., Ottawa.
SMITH, T., Timaru, New Zealand.
STOREY, H. Oodeypore.
TRIMEN, H., F.R.S., Director Royal Gardens, Ceylon.
TUTCHER, Hong-Kong.
WOOD, Medley, Botanic Garden, Durban. And many others.

LANDSCAPE GARDENING:—
ANDRE, E., Paris.
BAINES, T., the late, South gate.
BURVENICH, F., Ghent.
CHEAL, J., Crawley.
GOLDRING, F., Kew.
JACKMAN, J., Woking.
JOHNSON, T. P., New York.
MAWSON, Windermere.

ORCHIDS:—
ANDERSON, J., Manchester.
BULL, W., Chelsea.
COOKSON, N., Wylam-on-Tyne.
DE B. CRAWSHAY, Sevenoaks.
KRANZLIN, Dr., Berlin.
LAWRENCE, Sir Trevor, Bart., M.P., President, Royal Horticultural Soc.
LINDEN, Lucien, Brussels.
LOTHIAN, the Marquis of.
O'BRIEN, James.
OUTRAM, A.
PFITZER, Prof., Heidelberg.
REICHENBACH, Prof., the late.
RENDLE, A. B., Brit. Mus.
ROLFE, R. A., Kew.
ROSS, Comm., Florence.
SANDER, F., St. Albans.
SMEE, A. H., Wallington.
SWAN, W., Bystock Gardens.
VEITCH, H. J., F.L.S., Chelsea.
WHITE, R. B., Arddarroch.
WHITE, W. H., gr., Sir T. Lawrence.

PRACTICAL GARDENING:—
ATKINS, J.
BLAIR, T., Shrubland Gardens.
CLAYTON, H. J., Grimston Park.
COLEMAN, W., Eastnor Castle Gardens.
COOMBER, J., The Hendre, Monmouth.
CROMBIE, D., Powerscourt.
CULVERWELL, W., Thorpe Perrow.
CUMMINS, G. W., Carshalton.
DEAN, A.
DIVERS, W. H., Belvoir.
DOUGLAS, J., Great Gearies, Ilford.
DUNN, M., Dalkeith.
EARLEY, W., Morden.
FINDLAY, B., the late, Manchester.
FISH D. T., County Council, Suffolk.
GILBERT, R., the late, Burghley Gardens
HARROW, W., Sheffield Botanical Gardens.
HEMSLEY, A.
HERRIN, C., Dropmore.
HUDSON, J., Gunnersbury House.
LAMBERT, J., Powis Castle.
LEACH, W. C., Albury.
LINDSAY, R., Edinburgh.
LYNCH, R. J., Botanic Gardens, Cambridge.
McINTYRE, J., Woodside Gardens.
McLEOD, J. F., Dover House, Roehampton.
MELVILLE, D., Dunrobin Gardens.
MILES, G. T., Wycombe Abbey Gardens. (Fruit.)
MILLER, W., Coombe Abbey.
MOORE, F. W., Royal Botanic Garden Glasnevin.
PARKER, R., Goodwood Gardens.
POPE, W., Highclere Gardens.
POWELL, D. C., Powderham Castle.
PRINSEP, H. C., Uckfield.
SIMPSON, J., Wortley.
SMITH, J., Mentmore Gardens.
SMITH, W. H., West Dean Park Gardens.
SMYTHE, W., Basing Park.
TEMPLE, M., Carron House, N.B.
THOMAS, O., Frogmore.
THOMSON, W., the late, Clovenfords (Vines).
WADDS, B., Birdsall, York.
WALLIS, J., Keele Gardens.
WARD, H. W., Longford Castle Gardens.
WARREN, H., Aston Clinton Gardens.
WATSON, W., Royal Gardens, Kew.
WEBSTER, C., Gordon Castle Gardens.
WILDSMITH, the late W.
WILSON, D.
WOODGATE, G., Rolleston Hall Gardens.
WYTHES, G., Sion House Gardens.
And many others.

ROSES:—
BENNETT, H., the late, Shepperton.
BOSCAWEN, Hon. and Rev. J. T., the late.
D'OMBRAIN, Rev. H. H., Westwell, Kent.
FISH, D. T., Edinburgh.
FISHER, Rev. O.
GIRDLESTON, T. W., Sunningdale.
MAWLEY, E., Berkhamsted.
PAUL, G., Cheshunt.
PAUL, W., Waltham Cross.
PIPER, A.
VIVIAND MOREL, Lyons.

VEGETABLE PHYSIOLOGY, &c.:—
BENNETT, A. W.
BONAVIA, Dr. E.
BOULGER, Prof.
DARWIN, the late Charles.
DE VRIES, Hugo.
FOSTER, Prof. Michael, Cambridge.
GARDINER, W., Cambridge.
GLAISHER, James (Meteorology).
GOEBEL, Prof., Munich.
GOODALE, Dr., Boston, U.S.A.
GRAVIS, Prof., Liège.
HENSLOW, Rev. G., Ealing.
MACLEOD, Prof., Ghent.
OLIVER, Prof. F. W.
WALLACE, Alfred.
SOLMS, Count, Strasburg.

GARDEN REQUISITES.

COCOA-NUT FIBRE REFUSE.

6*d.* per bushel; 100 for 30*s.*; truck, loose (about 2 tons), 60*s.* Bags, 4*d.* each.

SPECIALLY SELECTED ORCHID PEAT.

LIGHT-BROWN FIBROUS PEAT, 5*s.* 6*d.* per sack; 5 sacks, 25*s.*; sacks, 4*d.* each.

BLACK FIBROUS PEAT, 5*s.* per sack; 5 sacks, 22*s.*; sacks, 4*d.* each.

COARSE SILVER SAND, 1*s.* 9*d.* per bushel; 15*s.* per half-ton; 26*s.* per ton, in 2-bushel bags, 4*d.* each.

YELLOW FIBROUS LOAM, PEAT-MOULD, and LEAF-MOULD, 1*s.* per bushel.

SPHAGNUM MOSS, 8*s.* 6*d.* per sack.

MANURES, GARDEN STICKS, TOBACCO CLOTH, RUSSIA MATS, &c. Write for Price LIST.

H. G. SMYTH, 21, Goldsmith Street, Drury Lane, W.C.

CATAPULTS! — CATAPULTS! — CATAPULTS!—Extraordinarily powerful, accurate, durable, Entirely new system. Shooting made easy. Birds, rabbits, easily killed; garden-pests destroyed without noise, trouble, or expense. Every Gardener should possess one. Sent post-free for 1*s.*, 1*s.* 6*d.*, 2*s.* 6*d.*, according to strength required. Catapults carefully made by skilled workmen of the best materials only. Satisfaction and accuracy guaranteed, or cash returned. Hundreds of testimonials. If more than one Catapult ordered at a time, 2*d.* discount allowed on each one bought. E. GAYE, The Elms, Carlton, Lowestoft.

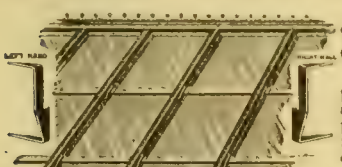


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W. JONES' Treatise, "Heating by Hot-water," Second Edition, 216 pages and 98 Engravings, 2*s.* 6*d.* nett; per post, 2*s.* 10*d.*

JONES & ATTWOOD STOURBRIDGE

WINTER APPROACHING.



USE **Thorpe's Patent Glazing Staples.**

Broken panes replaced instantly and without top putty. Will not rust. Practically everlasting. Sample gross assorted right and left hand, sent post-free, 1/9.

The Marriott Cycle Co., Ltd., 71, Queen Street, E.C.,

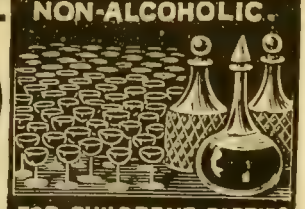
Manufacturers of the High Grade "Marriott" Bicycles and Tricycles. CATALOGUE on application.

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6 PENCE



WILL BUY A BOTTLE WHICH IN



FOR CHILDRENS PARTIES

6 MINUTES WILL MAKE 60 GLASSES OF DELICIOUS WINE

Sample Bottle, Post Free for 9 stamps.

IN ALL FRUIT FLAVOURS.

Try the Ginger or Lime Cherry, these are Special Favourites.

MASON'S EXTRACT OF HERBS for making Delicious Non-Intoxicating Beer. A 6*d.* Bottle makes 8 Gallons. **Sample Bottle, 9 stamps, or a Sample of both Post Free for 15 stamps.**

NEWBALL AND MASON, NOTTINGHAM.

Agents Wanted.

THOMSON'S VINE AND PLANT MANURE.

The very best for all purposes.

The result of many years' experience. Largely used both at home and abroad.

Agent for London:—J. GEORGE, 14, Redgrave Road, Putney, S.W.

Agent for Channel Islands:—J. H. PARSONS, Market Place, Guernsey.

Sole Makers:—WM. THOMSON AND SONS, LTD., Tweed Vineyard, Clovenfords, N.B.

Price Lists and Testimonials on application.

Analysis sent with orders of ½-cwt. and upwards.

SOLD BY ALL SEEDSMEN.

KIRK'S VINE and PLANT FOOD.

The production of Mr. Kirk, F.R.H.S., Alloa, N.B.

460 HIGHEST AWARDS have been obtained by its use, including Challenge Silver Tea and Coffee Service; 9 Cups; 8 Medals; Dr. Neil's Bequest of £30 in 1893; 1st at Crystal Palace in 1894; 1st, Dublin, 1895; 1st, Newcastle, 1896; and 1st, Edinburgh, September, 1896.

Sold by all Nurserymen and Seedsmen. Per ton, £15; ½-cwt., 13*s.* Carriage paid. Edinburgh Agent—TILLIE AND TURNER, 12, Melbourne Place; or J. D. KIRK, 74, Wigmore Street, London.

BENTLEY'S COMPOUND LIQUID QUASSIA EXTRACT.

½ gallon, 2/6. 1 gallon, 4/3; 5 gallons, 19/2; 10 gallons, 37/6 40 gallons, 3/6 per gallon.

CHEMICAL WORKS, BARROW-ON-HUMBER, HULL.

GISHURST COMPOUND, used since 1859, for Red Spider, Mildew, Thrips, Greenfly, and other blight; 2 ounces to the gallon of soft water; 4 to 16 ounces as a winter dressing for Vines and Orchard-house trees, in lather from cake, for American blight, and as an emulsion when paraffin is used. Has outlived many preparations intended to supersede it. Boxes 1*s.*, 3*s.*, and 10*s.* 6*d.*

GISHURSTINE keeps Boots dry and soft on wet ground. Boxes 6*d.* and 1*s.*, from the Trade. Wholesale from PRICE'S PATENT CANDLE COMPANY (Limited), London.

RICHARDS' NOTED PEAT.

(Trade supplied on best terms).

A large stock of the finest quality ORCHID PEAT. Also for Stove and Greenhouse Plants, Ferns, Rhododendrons, &c. By the sack, cubic yard, ton, or truck load. Can be seen in bulk at London Wharf. Immediate despatch either from London or Grounds. By Rail or Steamer. Prompt and Special Quotations for delivery to any Station or Port.

G. H. RICHARDS, Old Shot Tower Wharf, Lambeth, London, S.E.; Peat Grounds and Depôts, Ringwood, Hamworthy, and Wareham. Address all letters to London Wharf.

EPPS'S A1 PEAT

(SELECTED specially for ORCHIDS),

Also for Stove & Greenhouse Plants, Hardwood Ferns and Rhododendron do. (Trade supplied).

LOAM, SAND, LEAF MOULD, C. N. FIBRE, CHARCOAL, SPHAGNUM MOSS, &c. PEAT sent to all parts of the world at Special Through Rates. Large or small quantities.

EPPS & CO., F.R.H.S., Peat Depôt, Ringwood

HORTICULTURAL G. SHEET F. GLASS.

STOCK SIZES—in inches.

12×10 14×12 18×12 16×14 20×14 20×16 24×16 22·18
4×10 16×12 20×12 18×14 20×15 22×16 20×18 24×18

21-oz. Foreign, of above sizes, in 200-feet boxes, 3rds and 4ths qualities.

English Glass, cut to buyer's sizes at lowest prices, *delivered free and sound* in the country in quantity.

PUTTY, WHITE LEAD, PAINTS, OILS, BRUSHES, &c.

GEORGE FARMILOE & SONS,
34, St. John Street, West Smithfield, London, E.C.

Stock Lists and Prices on application. Please quote *Gard. Chron.*

W. COOPER.

ILLUSTRATED LIST

POST-FREE ON APPLICATION.



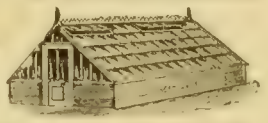
AMATEUR SPAN-ROOF GREENHOUSE.

Everything complete, ready for erecting, From £2 16*s.*

See LIST, post-free on application.

AMATEUR FORCING HOUSE.

For Cucumbers, Tomatos, Melons, &c. Everything complete, from 50*s.*





SPAN-ROOF CONSERVATORY.

Substantially and handsomely built.

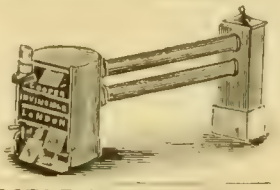
See No. 19 in List, post-free.

"INVINCIBLE" HOT-WATER APPARATUS.

MOST EFFICIENT AND CHEAPEST IN EXISTENCE.

Cost of Complete Apparatus for Greenhouse with 4-inch flow and return pipes along one side:

7 ft. by 5 ft.	£2 15*s.*
9 ft. by 6 ft.	£3 0*s.*
12 ft. by 8 ft.	£3 5*s.*
15 ft. by 10 ft.	£4 5*s.*
20 ft. by 10 ft.	£5 5*s.*
25 ft. by 10 ft.	£6 5*s.*





COOPER'S HYGIENIC HEATER

(Without Smoke or Smell).

18 by 25 by 10, will heat house 7 feet by 5 feet. Consumes three-quarter pint of oil in ten hours.

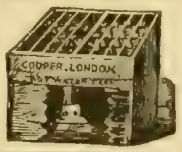
Price, 16*s.* Ext a for gas, 2*s.*

See No. 247 in List for other sizes.

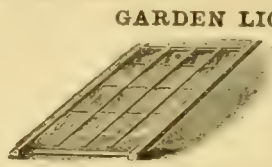
RAPID PROPAGATORS FOR RAISING PLANTS

From Seeds, Slips, or Cuttings.

1 ft. 8 in. by 1 ft. 8 in.	... 16*s.*
2 ft. 6 in. by 1 ft. 10 in.	... 20*s.*
4 ft. by 2 ft.	... 40*s.*



GARDEN LIGHTS.



Painted and glazed with 21-oz.

3 ft. by 2 ft.	5*s.* each.
4 ft. by 3 ft.	8*s.* 6*d.* ,,
6 ft. by 4 ft.	9*s.* ,,

Unglazed, 6ft by 4ft 3/6

Special quotations for large quantities.

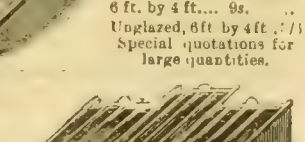
CUCUMBER FRAMES.

One Light.

4 ft. by 3 ft.	... 17*s.*
6 ft. by 4 ft.	... 28*s.*

Two Lights.

6 ft. by 4 ft.	... 30*s.*
8 ft. by 6 ft.	... 50*s.*



HORTICULTURAL GLASS.

These sizes are always in stock.

9 × 7	10 × 8	12 × 9	12 × 10	12 × 11
12 × 12	13 × 9	13 × 10	13 × 11	14 × 9
14 × 10	14 × 11	16 × 14	18 × 14	20 × 14
24 × 14	18 × 16	20 × 16	24 × 15	20 × 18
		24 × 18		

	15 oz.		21 oz.	
	100 feet.	200 feet.	100 feet	200 feet.
4ths ...	8*s.*	... 15*s.* 6*d.*	11*s.*	... 21*s.* 6*d.*
3rds ...	8*s.* 6*d.*	... 16*s.* 6*d.*	12*s*	... 22*s.* 6*d.*

IRON BUILDINGS

of every description.

Churches. Temporary Hospitals, Bungalows.

Packed on rail, or erected in any part of the Kingdom.

See Section IV. in List.

Plans and Estimates free.

Illustrated LIST post-free on application.



W. COOPER, Ltd.,

HORTICULTURAL PROVIDERS,

755, OLD KENT ROAD, LONDON, S.E.

THE GARDENERS' CHRONICLE

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GARDENERS' CHRONICLE TELEGRAMS.—*The Registered Address for Foreign and Inland Telegrams is "Gardchron, London."*

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HEAD LINE CHARGED AS TWO.

4	Lines	..	£0	3	0	15	Lines	..	£0	8	6
5	,,	..	0	3	6	16	,,	..	0	9	0
6	,,	..	0	4	0	17	,,	..	0	9	6
7	,,	..	0	4	6	18	,,	..	0	10	0
8	,,	..	0	5	0	19	,,	..	0	10	6
9	,,	..	0	5	6	20	,,	..	0	11	0
10	,,	..	0	6	0	21	,,	..	0	11	6
11	,,	..	0	6	6	22	,,	..	0	12	0
12	,,	..	0	7	0	23	,,	..	0	12	6
13	,,	..	0	7	6	24	,,	..	0	13	0
14	,,	..	0	8	0	25	,,	..	0	13	6

AND SIXPENCE FOR EVERY ADDITIONAL LINE.

If set across two Columns, the lowest charge will be 20*s.*

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Page, £8; Half Page, £4 10*s.*; Column, £3.

Advertisements guaranteed to appear on the front page are charged at the rate of 1*s.* per line, head line counting as two lines. No display is allowed.

GARDENERS AND OTHERS WANTING SITUATIONS. 26 *words, including name and address,* 1*s.* 6*d.*, *and* 6*d. for every additional line (about nine words) or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, which are charged at the ordinary scale.*

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Births, Deaths, and Marriages, 5*s. each insertion.*

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Advertisements for the current week MUST *reach the Office by first post, Thursday morning.*

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements,
41, WELLINGTON STREET, STRAND, W.C.

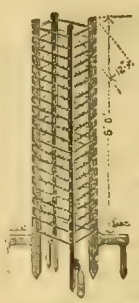
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All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months. Post-office Orders to be made payable at the Post-office, Great Queen Street, London, W.C., to H. G. COVE.

Subscribers who experience any difficulty in obtaining their copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint.)

HILL & SMITH, BRIERLEY HILL, near DUDLEY;

And at LONDON & DUBLIN.



PORCUPINE TREE GUARD.

The Maximum of Utility with the Minimum of Cost. Is a perfect protection against SHEEP, HORSES, or STOCK. It is made 6 feet high, by 12 inches square (in halves, which bolt together), of Barb Wire, attached to an Iron Frame.

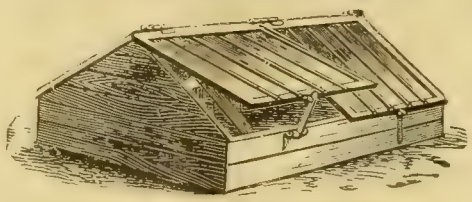


Price, 9s. and 10s. each.

Catalogues free on application, naming this advertisement.

GREAT REDUCTION IN FRAMES

OUR WELL-KNOWN MAKE.



PORTABLE PLANT FRAMES.

These Frames are made of the Best Materials, and can be put together and taken apart in a few minutes by any one.

Sizes and Prices, Glazed and Painted.		£	s.	d.
6 feet long, 3 feet wide	CASH PRICES, CARRIAGE PAID.	2	0	0
6 feet ,, 4 feet ,,		2	5	0
12 feet ,, 4 feet ,,		4	0	0
6 feet ,, 5 feet ,,		2	15	0
12 feet ,, 5 feet ,,		4	15	0
12 feet ,, 6 feet ,,		5	12	6

Larger sizes at proportionate prices.

R. HALLIDAY & CO.,
ROYAL HORTICULTURAL WORKS,
MIDDLETON, MANCHESTER.
London Agent, Mr. H. SKELTON, Seedsman, &c., 2, Holloway Rd., N.

GOOD GLASS! CHEAP GLASS!

Good Quality, 15-oz. in 50-ft. Boxes.

Sizes 10×8 12×8 12×9 13×9 14×9 12×10 14×10 at 4*s.* per box.

4ths, 15-oz. in 100-ft and 200-ft. Boxes.

Sizes { 12×10 12×12 12×14 14×16 12×18 12×20 / 12×24 14×16 14×18 14×20 14×24 16×18 / 16×20 16×24 18×20 18×24 ... ... } 100 ft. 200-ft. at 7/6 14/- per box.

20-oz., in 100-ft. and 200-ft Boxes.

4ths, 21-oz. { 12×8 ... ... at 8*s.* per 100-ft. box. / 12×10 14×10 12×12 ... at 9*s.* ,, ,,

9×7 10×8 12×8 12×10 14×10 in 200-ft boxes { 4ths, 16*s.* per box / 3rds, 18*s.* ,,

4ths, 21-oz. { 12×14 12×16 12×18 12×20 12×24 / 14×16 14×18 14×20 14×24 16×18 / 16×20 16×22 16×24 17×13 20×13 / 18×20 18×22 18×24 20×15 ... } 100-ft. 200-ft. at 10*s.* 6*d.* at 20*s.* per box.

3rds, 21-oz., 100-ft. Boxes.

12×10 12×12 14×12 16×12 18×12 20×12 16×14 / 18×14 20×14 18×16 20×16 20×18 24×18 ... } at 11*s.* 6*d.* per box.

3rds, 21-oz., 200-ft. Boxes.

20×14 18×16 20×16 24×16 20×18 22×18 24×18 at 22*s.* per box

NOTE.—No box can be divided, and one size only is contained in each box.

HORTICULTURAL TIMBER of ALL KINDS.
1½×3 sashbar, at 5*s.* 9*d.* per 100 feet.
CATALOGUES of PAINT, &c., post-free.

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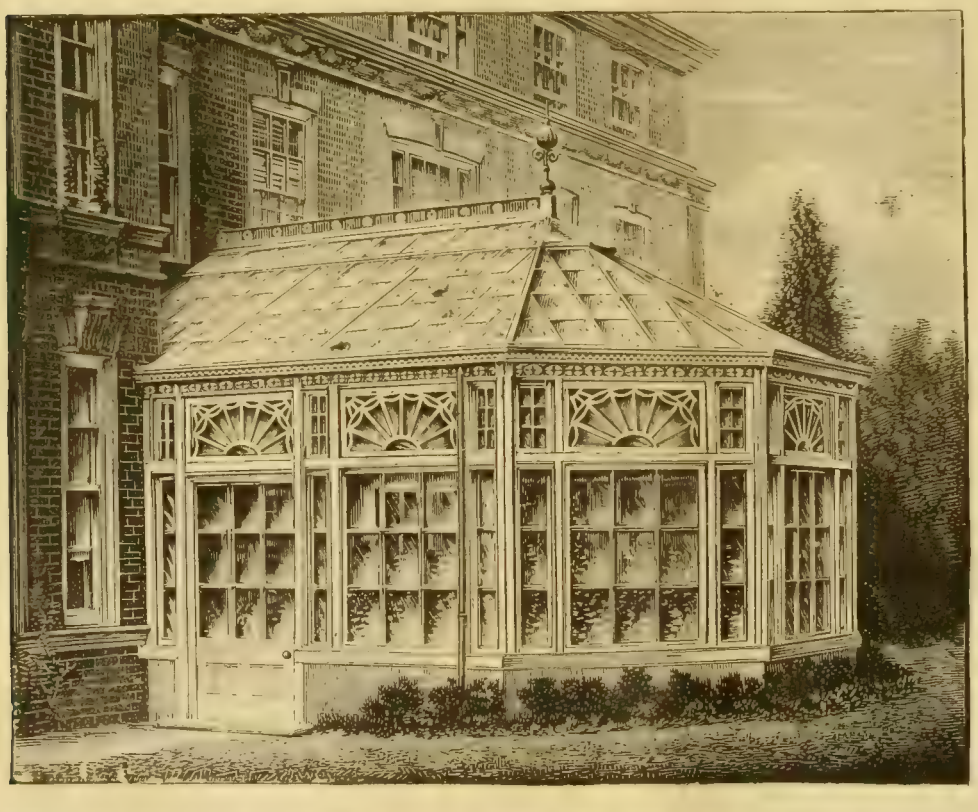
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Editorial communications should be addressed to the "Editor;" Advertisements and Business Letters to "The Publisher," at the Office, 41, Wellington Street, Covent Garden, London, W.C.
Printed for the Proprietors by Messrs. BRADBURY, AGNEW, & Co. (Limited), Lombard Street, Precinct of Whitefriars, City of London, in the County of Middlesex, and published by HARRY GILLARD COVE, at the Office, 41, Wellington Street, Parish of St. Paul's, Covent Garden, in the said County.—SATURDAY, December 5, 1896. Agent for Manchester—JOHN HEYWOOD.

The Gardeners' Chronicle

ESTABLISHED 1841. No. 2920.

No. 520.—Vol. XX. {Third Series.} SATURDAY, DECEMBER 12, 1896. [Regt. as a Newspaper. {PRICE 3d. Post-free, 3½d.

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NOTICE TO ADVERTISERS.

In consequence of the alteration of the hour of going to Press, consequent on the large increase in the circulation, it is imperative that all Copy for Advertisements should be received BY FIRST POST THURSDAY MORNING at the latest.

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WANTED, Standard RIBES, LARCH 2 feet to 3 feet, Seedling Thorns. To OFFER, Standard Ash, Standard English Oak, Hazel, Privet Oval and Common, Manetti Stocks, Box Green 1½ feet to 3 feet, cheap; also a Box Hedge 3 feet by 3 feet, tr. three years since.
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WANTED, several crates of CUT BERRIED HOLLY, MISLETO, LAUREL, BERBERIS, AUCUBA, CUPRESSUS, BROWN IVY, &c. State quantities to offer, and price, to—
MORLE AND CO., Conservatories, Finchley Road, N.W.

WANTED, CHRISTMAS TREES, well furnished, and good colour, with roots; height, 3 to 4½ feet. EVERGREEN OAKS, 2½ to 3 feet, good stuff, established in pots preferred. Particulars to—
CLIBRAN'S, Nurserymen, Altrincham.

BARR'S CLEARANCE SALE of FLOWERING BULBS, in first-class condition for present planting:
HYACINTHS, mixed, from named sorts, all colours, per 100, 12s. 6d.; per dozen, 2s.
DAFFODILS, in choice mixture, from many kinds, per 1000, 25s.; per 100, 3s.
DAFFODILS, fine named varieties at reduced rates. See list on application.
SPANISH IRISES, the most gorgeous-coloured flower of summer, a splendid mixture, per 1000, 12s. 6d. per 100, 1s 6d
BARR'S OLD ENGLISH TULIPS, the most interesting of May flowers, a fine mixture from a grand collection, per 100, 10s 6d; per dozen, 1s 6d
EARLY SINGLE, or DOUBLE DUTCH TULIPS, in mixture, per 1000, 30s.; per 100, 3s.
CLEARANCE LISTS on application.
BARR & SONS, 12, King Street, Covent Garden, London.

NOW is the TIME to PLANT PÆONIES and DELPHINIUMS.
Catalogue of KELWAY AND SON, Langport, Somerset.

LANDSCAPE GARDENING.—W. INNES STUCKEY, Landscape Gardener, 46, Dyne Road, Brondesbury, N.W. Thirteen years with Mr. H. E. Milner.

TREE TOPPING.—Dangerous Trees Lopped, Topped, and Taken Down by experienced men; distance no object. Apply to—
J. CARNE, Steam Saw Mills, Tooting, Surrey.

"HOW to GROW EXHIBITION ONIONS, 2 lb., 3 lb., and 4 lb. each." "How to Grow Big Onions in Allotments." "To Destroy Onion-maggot" Treatise gratis and post-free.
CREWS AND CO., Onionists, Banbury.

CHOICE NEW CHRYSANTHEMUMS.—Modestum, Australian Gold, Mrs. H. Weeks, Edith Tabor, and more than 100 other Novelties of 1898, including many of sterling merit, at moderate prices. Catalogue of 600 vars. free.
J. W. COLE, Midland Road Nurseries, Peterborough.

FOR FORCING.—Lily of the Valley, strong Berlin Crowns and Imported Clumps. Spiræa japonica, compacta, multiflora, astilboides, palmata; Dielytra spectabilis, &c., &c. All thoroughly well ripened, and in excellent condition for forcing purposes.
DICKSONS, Royal Seed Warehouse, CHESTER.

TREE FERNS.—The Advertiser wishes to Correspond with Plant Collectors or Growers in America, Asia, Africa, and Australia, with a view to Purchase Specimens of Tree Ferns grown in their native habitat, other than the few kinds offered by Fern Growers in Europe.
Address, CHARLES O. L. POWER, Island of Madeira.

RASPBERRY CANES.—Northumberland Filbasket, Carter's Prolific, Norwich Wonder, Falstolf. Well-rooted planting canes. Price and sample on application.
JAMES W. TODMAN, Platt, near Wrotham, Kent

BOX'S BEGONIAS.—Quality and Quantity. Highest Honours, R.H.S., Temple, and Crystal Palace Shows, 1896. Seed of Singles, 1s, 2s 6d., and 5s; of Doubles, 1s. 6d., 2s. 6d., and 5s. per pkt.; sow now. Tubers also ready. Price List and Pamphlet Gratis.
JOHN R. BOX, Begonia Grower, Croydon.

PEACHES and NECTARINES.—Dwarf-trained young fruiting trees, which have kept up a continuous supply of fruit since middle of July to present date in cold orchard house. Names and price from—
FREDERICK PERKINS, Regent Street, Leamington Spa.

OHLENDORFF'S GUANO GARDEN MANURE and CHINCHAS PERUVIAN GUANO, the Best for all Horticultural Purposes. Produce good results without exhausting the soil. Unrivalled for Tomatos, Cucumbers, and other Vegetables. A boon to Gardeners and Prize-takers. Supplied by Seedsmen and Nurserymen.

J. WEEKS & CO., Horticultural Builders to Her Majesty, H.R.H. the Prince of Wales, H.M. Government, Admiralty Dept., War Dept., Royal Hort. Soc., Royal Botanic Soc., Parks and Public Buildings. Patentees of the Duplex Upright Tubular Boilers.—King's Road, Chelsea, S.W. Telegraph Address "Hortulanus, London." Telephone No. 8[illegible].

SALES BY AUCTION.

MONDAY AND THURSDAY NEXT.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., as follows:—

MONDAY NEXT, DECEMBER 14.

400 lots of DUTCH BULBS, 300 Dwarf ROSES, Hardy BORDER PLANTS and BULBS, CARNATIONS, &c., at 12 o'Clock.

THURSDAY NEXT, DECEMBER 17.

150 lots of Standard, Half-standard, and Dwarf ROSES; DUTCH BULBS, Hardy PERENNIALS, in variety, &c., at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next, December 18.

CYPRIPEDIUMS, CATTLEYAS, &c.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. F. Sander & Co., St. Albans, to SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on the above date, at half-past 12 o'Clock, the following and other choice and beautiful ORCHIDS—

CYPRIPEDIUM SPECTABILE, the MOCASSIN FLOWER, fine clumps of this superbly beautiful, perfectly hardy Cypripede, the exquisitely tinted flowers of which rival the most lovely exotic kinds,

CYPRIPEDIUM CILIOLARE, now most difficult to procure, of great beauty, and invaluable for cutting, decorative purposes, hybridising, &c.

CYPRIPEDIUM CALLOSUM. The whole of the consignment received is offered. The noble Slipper Orchid ranks, in beauty and usefulness, with the finest in the genus. The incomparable C. c. Sanderæ was flowered from an importation, and these plants are evidently very varied in character, varieties cannot fail to be among them.

CATTLEYA AUREA CHRYSOTOXA and GIGAS SANDERIANA (mixed), from our Sale of Dec. 4, guaranteed the finest types of Aurea and Gigas.

CATTLEYA SPECIES, very distinct-looking, either a quite new species, or a geographical form of C. Sanderiana.

CYPRIPEDIUM VENUSTUM, C. exul.

ANGULOA RUCKERI, and Varieties. Collector believes them to consist largely of A. Ruckeri sanguinea, all were found growing together, and probably are that species and allied sorts.

CATTLEYA VELUTINA, LÆLIA DORMANIANA, DENDROBIUM STATTERIANUM, and other Curious, Interesting, Beautiful, Rare, and Charming ORCHIDS.

On view morning of Sale, and Catalogues had.

Tuesday Next, December 15.

IMPORTANT SALE OF

JAPANESE LILIES, ROSES,

CONTINENTAL PLANTS, PALM SEEDS, &c.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on TUESDAY NEXT, December 15, at 12 o'Clock.

7,200	Lilium longiflorum	300	Lilium olorum
750	,, Krameri	250	,, auratum rubro vittatum
200	,, Harsoni		
2,150	,, Thunbergianum	100	,, cordifolium
80	,, elegans atropurpureum	1,500	,, tigrinum Fortunei
		12	,, callosum
12	,, ,, Alice Wilson	50	,, Leichtlinii
200	,, concolor	200	,, coridion

And many other LILIES.

A CONSIGNMENT from the CONTINENT.

200 Azalea mollis	400 Azalea indica
50 Rhododendrons	50 Camellias

Together with choice assorted PALMS, including Kentias, Cycas, Arecas, Latanias, Phœnix, Cocos, and Chamærops, in splendid health, and specially adapted for Christmas decoration.

40,000 CHINESE SACRED LILIES.

30,000 LILY of the VALLEY CROWNS.

200 Double sweet-scented CHINESE PÆONIES, all to name.
150 Lots Choice STOVE and GREENHOUSE FERNS and ORNAMENTAL PLANTS, ROSES IN POTS &c.
1,000 Standard, Half-standard, and Dwarf ROSES, HARDY CLIMBERS, &c., together with—

100,000 COCOS WEDDELLIANA SEEDS,

Probably the finest Importation ever offered in this country, in the grandest possible condition.

On view morning of Sale, and Catalogues had.

Southgate N.

PLANTS, ORCHIDS, COW, HORSE, CARTS GARDEN TOOLS and EFFECTS.

CLEARANCE SALE, by order of P. C. Brachi, Esq., who is leaving the neighbourhood, the property having been Let.

MESSRS. PROTHEROE AND MORRIS will SELL by AUCTION, on the Premises, Brook House, Southgate, on MONDAY, December 21, at 12 o'Clock, the whole of the STOVE and GREENHOUSE PLANTS, Camellias, Azaleas, Ferns, Palms, Decorative Plants in variety; several Specimen ORCHIDS, 200 STRAWBERRIES in pots, GARDEN TOOLS, LAWN-MOWERS and GARDEN-ENGINES, ROLLERS, GARDEN LIGHTS and FRAMES, SEAKALE and FLOWER POTS, COW IN-CALF, HORSE, DONKEY, PIGEONS, FOWLS, and BEES; PRIVATE OMNIBUS and DOG-CART, both by Fullar of Bath; STABLE UTENSILS, and other items.

On view Saturday prior and morning of Sale.

Catalogues may be had at the Lodge on the Premises, and of the Auctioneers, 67 and 68, Cheapside, E.C.

150,000 FRUIT TREES

Are included in Mr. W. HORNE'S last great CLEARANCE SALE for this season, on the Premises, Perry Hill, Cliffe, near Rochester, on—

WEDNESDAY, DECEMBER 16,

consisting of—

40,000 Standard, Half-Standard, and Maiden APPLES, CHERRIES, PEARS, and PLUMS.
30,000 2-yr. GOOSEBERRIES, four varieties.
50,000 RASPBERRIES, five varieties.
30,000 BLACK CURRANTS, four varieties.
50,000 STRAWBERRIES.
20,000 2-yr. ASPARAGUS.

A few lots of EARLY RIVERS NECTARINE; New PEARS, LECTIER and CONFERENCE; SUPERLATIVE RASPBERRIES, BARR'S MAMMOTH ASPARAGUS, &c.

Mr. Horne will put all lots on Rail free of charge.

Catalogues of the Auctioneers,

MESSRS. PROTHEROE AND MORRIS, 67 and 68, Cheapside, London, E.C.; or Mr. HORNE.

EULOPHIELLA ELISABETHÆ.

400 MAGNIFICENT SPECIMENS.

MESSRS. F. SANDER AND CO. are glad to be able to announce that they have received a magnificent importation of EULOPHIELLA ELISABETHÆ, which will be SOLD shortly by Messrs. PROTHEROE AND MORRIS, at their Great Sale Rooms, 67 and 68, Cheapside, London, E.C.

Full particulars will appear at an early date.

WEDNESDAY NEXT.

THE GREAT PLANT SALE.

20 Cases of Araucaria excelsa, as received direct, without Reserve.

An Importation of Lilium auratum, L. speciosum ALBUM and RUBRUM, L. MELPOMENE, L. KRÆTZERI, L. LONGIFLORUM EXIMIUM, L. BROWNII(?), and others from Japan.

A Further Portion of a Surplus Stock of Ornamental SHRUBS and TREES from an English Nursery. Also—

Choice named English-grown Standard, Half-Standard, Dwarf, Moss, Pot, and Climbing ROSES, in all the best sorts.

Pyramid, Standard, and Dwarf trained Apples, PEARS, PEACHES, PLUMS, CHERRIES, NECTARINES, and other FRUIT TREES, CURRANTS, GOOSEBERRIES, STRAWBERRIES, RASPBERRIES, &c.

Carnations, Pinks, Picotees, and a great variety of other BORDER PLANTS.

Tiny of the Valley Crowns Spiræas, Pæonies, GLADIOLI, TRITOMAS, AMARYLLIS, FREESIAS, &c.

And a Consignment of—

Hyacinths, Tulips, Crocuses, Narcissus, and other DUTCH BULBS, in fine order for present planting.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on WEDNESDAY, December 16, at half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

GREAT SALE OF TEA ROSES,

FERNS, PALMS,

AND OTHER

ORNAMENTAL PLANTS GRAPE-VINES, ORCHIDS, &c.

ON THE PREMISES,

THE VINEYARD and NURSERIES, GARSTON, near LIVERPOOL.

On THURSDAY, DECEMBER 17, at 11.30 o'Clock, prompt.

MR. JOHN COWAN will SELL by AUCTION, as above, without the least reserve, a large and splendid lot, everything being in really fine condition, the object of the Sale being to reduce the Company's Stock prior to their removal to their New Nurseries at Gateacre.

On view any day prior to the Sale; and Catalogues may be had from the Company, The Vineyard and Nurseries, Garston.

WANTED, TO RENT, with view to Purchase, 500 to 1000 feet run of GLASS, LAND, and COTTAGE.—N. S., 41, Wellington Street, Strand, W.C.

WANTED, a genuine and moderately-priced FLORIST'S and FRUITERER'S BUSINESS, with Shop, Dwelling-house, and small piece of LAND attached. Midlands preferred. Must be doing a good class trade, and bear strict investigation. Full particulars.—A., 4, Eastbournia Terrace, Down Road, Lower Edmonton, London, N.

FOR SALE, a MARKET GARDEN, in Pembrokeshire; nine Greenhouses, well stocked and heated.—Particulars from C. HOPEFIELD, Saundersfoot, South Wales.

MESSRS. PROTHEROE AND MORRIS are instructed to SELL by Private Treaty twenty-nine large CAMELLIAS, various colours; also one CORYPHA PALM, one CHAMÆROPS, large ASPLINIUM, five CACTI, and five AGAPANTHUS. Plants may be seen on application to GARDENER, North End House, Twickenham Road, St. Margaret's Station, L. & S. W. R., and must be cleared before Tuesday morning next. Offers should reach Messrs. Protheroe and Morris, 67 and 68, Cheapside, E.C., not later than noon, Monday, Dec. 14.

MIDDLESEX.—Absolute Sale, 10 miles from Covent Garden. A modern MARKET NURSERY of 4 Acres, with 6000 super. feet of Glass, 100 feet run of Pits, all efficiently Heated. Useful Outbuildings. Long Lease. Rent £40. Price £300. Folio 8904.—Apply to Messrs. PROTHEROE AND MORRIS, 67 and 68, Cheapside, E.C.

SMALL NURSERY for SALE, on South Coast.—Principally Glass; Stock optional. Part can remain at 5 per cent.

Apply, FLORIST, 1, Brunswick Road, Shoreham, Sussex.

TO LET, 5 years' Unexpired Lease, about 200 feet run of Glass, with Ground well stocked with Fruit Trees and Strawberries. Stock at valuation.

Apply to W. BIRMINGHAM, The Nursery, Finchampstead Road, Wokingham.

NURSERY, HERTS.—Forty minutes from London, few minutes' from station. About 300 feet of GLASS. Rent, £25 per annum, on Lease. Stock, Glass, and Fittings by valuation.—HENRY GIBSON, 22, King Street, St. James's, and St. Albans and Harpenden.

Lower Tooting.

TO BE LET, or FREEHOLD to be SOLD, Large HOUSE, with GARDEN and LAND, suitable for Nurseryman, with room to erect Greenhouses. &c.—Apply to Mr. FISHER, Auctioneer, Defoe Road, Lower Tooting.

MIDDLESEX.—TO BE LET, now or later, charming COUNTRY RESIDENCE, half an hour from Paddington, G. W. R., 2½ acres, well matured Flower and Fruit Garden, Vinery, Fernery, Tennis Lawn, Greenhouses, two-stalled Stable, Coach-house, Fowl-runs. Rent, £70; rates, £14. Gardener clears £50. Particulars on application. Ten acres more Garden can be had.

HOUSE, 41, Wellington Street, Strand, W.C.

Freehold Nursery, &c., for Sale.

TO BE SOLD, as a Going Concern, the BUSINESS of Messrs. JOHNSON AND WHEELER, Stonegravels Nurseries, and New Square, Chesterfield.

The Nursery, which is freehold, contains 1300 square yards, or thereabouts, and comprises good substantial Dwelling-house, large Stables, Rhubarb Sheds, and the following Houses:—Showhouse, 135 feet by 20 feet; two houses, 88 feet by 10½ ft.; one house, 96 feet by 9 feet; one house, 36 feet by 9½ feet; Stove, 20 feet by 9½ feet; Propagating-house, 19 feet by 9½ ft.; and Rosehouse, 15 feet by 12 feet.

The whole are heated with two boilers, Trentham and Excelsior, and piped throughout. Also lean-to frames, 96 feet by 6 feet and 88 feet by 3½ feet. Stock at valuation.

The Shop, where a good retail business is carried on, is in the very best position, two windows, and well fitted. Stock and fixtures at valuation.

For particulars apply to WM. BRINING, Chartered Accountant, 17, Saltergate, Chesterfield.

HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.C. Prompt cash.

PTERIS CRISTATA.—Good stuff, in 2½-inch pots, 8s. 6d. per 100, £4 per 1000.

GROWER, 41, Wellington Street, Strand, W.C.

POTATOS.—Myatt's Ashleaf, grown on high land, 65s. per ton.

G. F. YOUNG, Swineshead Abbey, near Boston.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free.

P. McARTHUR, The London Nursery, 4, Maida Vale, London, W.

30,000 CHRYSANTHEMUMS.

Calvat's Set and New Varieties of 1896, 1s. 3d. each.

List free.

HEAD GARDENER, Perly Cross, Teignmouth, Devon.

Herbaceous and Alpine Plants.

CUTHBERTSON'S Illustrated and Descriptive CATALOGUE of over 1000 species and varieties post-free.

MICHAEL CUTHBERTSON, The Great Scotch Herbaceous Grower, Rothesay.

STANDARD ROSES.—Splendid, straight, well-grown large heads, leading varieties. Catalogues on application.—FREDERICK PERKINS, Nurseryman, Regent Street, Leamington Spa.

20,000 CLEMATIS, IVIES, and other Climbers, in pots. All the best kinds of above and many other rare Climbers are described in our New Catalogue, post free.—CLIBRAN'S Nursery, Altrincham; also at Manchester, Bangor, and Llandudno Junction.

CHRYSANTHEMUM CUTTINGS.—W. H. Lincoln, Lady Canning, Lady Lawrence, 3s. per 100; Elaine, Edward Beckett, Admiral Symon, 2s. per 100. Cash with Order.—PENN, St. Clare Nursery, Hampton Hill.

ALLINGTON PIPPIN.—The finest new Dessert sent out for thirty years.

Maidens, 5s.; 2-yr., 7s. 6d. each; larger to 21s. each.

GEORGE BUNYARD AND CO., Maidstone.

Distributed in November.

FRUITING PEARS.

Extra size, Horizontal Trained, with 4 to 6 tiers of branches, of the following good sorts: –

JARGONELLE	GANSELL'S BERGAMOT
MARIE LOUISE	BEURRE RANCE
BEURRE DIEL	BEURRE D'AREMBERG
EASTER BEURRE	WINTER NELIS
BERGAMOTTE D'ESPEREN	BEURRE DE CAPIAUMONT

And a few others.

The above are offered at the low price of 3*s.* 6*d.* each, or 36*s.* per dozen. They are suited either for Espaliers or Walls, are full of fruit-buds, and very healthy.

JOHN FRASER, The Nurseries, South Woodford.

SUPERLATIVE RASPBERRY

(Bunyard's true stock).

The finest Raspberry ever sent out.

Per dozen, 3*s.*, post-free, 3*s.* 9*d.*, per 100, 18*s.*; extra strong, 6*s.* per doz. Price per 1000 on application.

For description see Strawberry Catalogue.

Illustrated Fruit Catalogue, six stamps.

GEORGE BUNYARD AND CO., Royal Nurseries, Maidstone.



CUTBUSH'S MILL-TRACK MUSHROOM SPAWN.

—Everyone can readily grow Mushrooms, and by using this Spawn will ensure success. All growers speak in high praise of the quality. Numerous Testimonials. None genuine unless in sealed packages, and *printed cultural directions* enclosed with our signature attached.

Price, 6*s.* per bushel, 1*s.* extra for package; or, 1*s.* per cake, free per Parcel Post.

WM. CUTBUSH AND SON, Nurserymen and Seed Merchants, Highgate Nurseries, London, N., and Barnet, Herts.

MORLE & CO.'S LILIUMS.

Now ready, in fine condition, L. auratum, 25*s.* and 35*s.* per 100, 4*s.* and 6*s.* per dozen; L. lancifolium, roseum, and rubrum, 3*s.* per dozen, 18*s.* per 100; L. l. album, 4*s.* per dozen; L. longiflorum, 2*s.* 6*d.* per dozen, extra large, 6*s.*; L. Harrisii, immense bulbs, 12*s.* per dozen. HYACINTHS, fine named, in variety, 12*s.* per 100. TULIPS, to name, 1*s.* 6*d.* per 100; mixed, 10*s.* per 1000.—The Conservatories, Finchley Road, N.W.

Important to Mushroom Growers.

CUTHBERT'S SPECIALITE MUSHROOM SPAWN.

Always alike; most productive. Hundreds of testimonials. Per bushel, 5*s.*

R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

GARDEN SEEDS



WE have completed Harvesting our Crops of

GARDEN SEEDS, &c.,

and will be glad to make Special Offers on application.

CHARLES SHARPE & CO., Limited,

SEED GROWERS, SLEAFORD.

NURSERYMEN, SEEDSMEN, AND FLORISTS, BY

SPECIAL ROYAL WARRANT TO HER MAJESTY THE QUEEN.

FISHER, SON & SIBRAY, LIMITED,

ROYAL NURSERIES, HANDSWORTH, SHEFFIELD,

HAVE ISSUED THEIR

CATALOGUE of GENERAL NURSERY STOCK,

which may be had free on application, in which they offer the following well-grown Stocks:—

FRUIT TREES of every description.
ROSES, in all the most popular varieties.
RHODODENDRONS, of all the best varieties.
HARDY CLIMBERS, CLEMATIS, &c., extra strong.
HOLLIES and AUCUBAS, very bushy.
LAURELS, very bushy.
FOREST TREES, of every description.
FLOWERING SHRUBS.
CONIFERÆ, including Yews, Green & Golden.
ORNAMENTAL TREES, for Street and Park Planting.

Also a very large Collection of ORCHIDS, STOVE and GREENHOUSE PLANTS, &c., &c.

INSPECTION CORDIALLY INVITED.

CHRYSANTHEMUMS.

NOVELTIES FOR 1897.

W. J. GODFREY

has pleasure in calling attention to the following Select List:—

	PLANTS.
WILFRED H. GODFREY (W. J. G.)—An immense bloom, rich bronze with crimson shading. Distinct and handsome	7*s.* 6*d.*
MRS. J. P. BRYCE (W. J. G.)—Bright crimson, with a golden reverse. A charming variety	7*s.* 6*d.*
LADY NORTHCOTE (W. J. G.)—Large handsome bloom, pearly white, prettily flushed pink at base	7*s.* 6*d.*
MRS. FUNDEN (W. J. G.)—Clear and bright amaranth, pink; outer florets drooping, and showing a silvery reverse	5*s.* 0*d.*
GOLDEN TROPHY.—This is a magnificent variety from HILL AND CO., AMERICA	6*s.* 0*d.*

For full descriptions of these and other Novelties see CATALOGUE, post-free.

W. J. GODFREY, EXMOUTH, DEVON.

EXHIBITIONS.

Preliminary Announcement.

A GRAND HORTICULTURAL SHOW and FETE will be held at CHESTER, on WEDNESDAY and THURSDAY, the 28th and 29th July next.

£500 in Prizes will be awarded for the Horticultural Department.

Schedules are being prepared, and may be obtained early in January, from the Secretary,—

MAJOR WALKER-JONES, Town Hall, Chester.

COUNTY BOROUGH of HANLEY, STAFFS—Hanley Park.

A GRAND HORTICULTURAL FÊTE will be held in the Park on July 7 and 8, 1897. Schedules will be ready in January. Apply to—

J. KENT (Horticultural Secretary), Hanley Park.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

BEST WALTON HEATH LOAM supplied to Private Gentlemen, per truckload, on rail, at Banstead Station, at per ton. Also large quantities for Nurserymen, at reduced price. Also good MEADOW TURF, at per 100.

E. PENFOLD, Garden Farm, Burgh Heath, Banstead.

OWEN'S BRITISH CHRYSANTHEMUMS hold highest positions at Exhibitions and Elections of best varieties, surpassing all other firms combined. Catalogue, 1*d.* *Culture*, by W. H. Lees, W. Tunnington, E. Molyneux, and C. Orchard, 7*d*.—R. OWEN, Maidenhead.

LYCASTE SKINNERI, LÆLIA ANCEPS, &c., all strong, unflowered plants, in spike, from 3*s.* 6*d.* upwards.—The LEEDS ORCHID CO., Roundhay, Leeds. Agents for the West's Patent Plant Receptacles.

HOLLIES, Green English, from 1 to 3 feet. Well-rooted, perfect plants; will move any distance. Samples and price from—

FRED. PERKINS, Regent Street, Leamington Spa.

Young Gooseberry Trees.

N. AND F. SALMON beg to offer strong 3 yr.-old trees of their renowned WHITE LION in quantities. Price on application.

N. AND F. SALMON, The Grange, Heston, Hounslow.

FOR SALE, FIVE BLACK HAMBURGH GRAPE VINES. Ten years old. Only £5 the lot. Worth double.

ARUNDELL AND SON, Builders, Chiswick, London, W.

CYPRIPEDIUM CALCEOLUS (native Lady's Slipper Orchid), for re naturalising in woods, or for rockery, &c. Strong, selected, healthy plants, from Austria (should all bloom first year), 25*s.* per 100; 4*s.* per doz.; single sample, nine stamps, free for cash with order.—GUILDFORD HARDY PLANT NURSERY, Millmead, Guildford. General Illustrated Catalogue of Alpines, Rock Plants and Shrubs, and other Hardy Plants on application to Manager.

ONCIDIUM CRISPUM, IN SPIKE.

Fine, healthy unflowered plants, 5*s.*, 7*s.* 6*d.*, 10*s.* 6*d.*, and 15*s.* each.

W. L. LEWIS AND CO., Southgate, London, N.

2,000 MARGUERITES in 60's, good, clean, bushy, sturdy stuff, fit for 48's, warranted free from maggot, £1 per 1000.

Good well-rooted CUTTINGS of CHRYSANTHEMUMS, Source d'Or, Madame Desgranges, Madame La Croix, Peter the Great, Gloria Mundi, W. H. Lincoln, £1 per 1000.

CHIPPERFIELD, Florist, Hampton Hill.

50,000 EUONYMUS, Green and Golden, all splendid bushy plants.—GREEN: 12 in. to 15 in., at 30*s.* per 100; 15 in. to 18 in., at 40*s.* per 100; 18 in. to 21 in., at 55*s.* per 100; 21 in. to 24 in., at 75*s.* per 100; 25 in. to 40 in. at special prices.

GOLDEN: 5 in. to 12 in., at 3*s.* to 8*s.* per dozen. Cash with order. J. J. CLARK, Goldstone, Brighton.

Plants Shipped to all Parts.

WATSON AND SCULL, 90, Lower Thames Street, London, E.C., give special attention to the reception and forwarding of Plants and Botanical Specimens to and from all parts of the World. Be particular, and have them consigned to our Care, and save Expense and Delay.

Dealers in Virgin Cork, Raffia, Bamboo Canes, Garden Sticks, Palm Seeds, &c.

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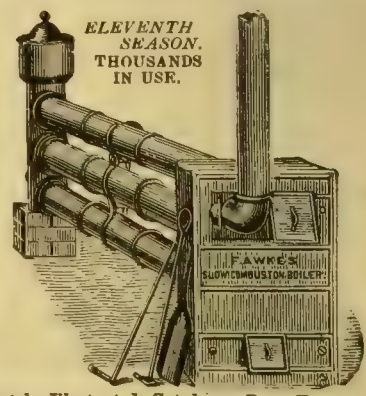
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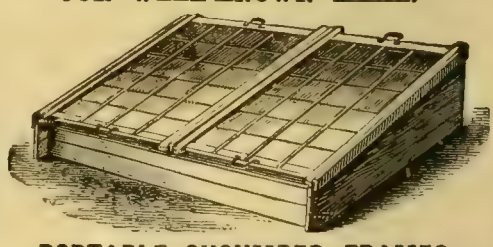
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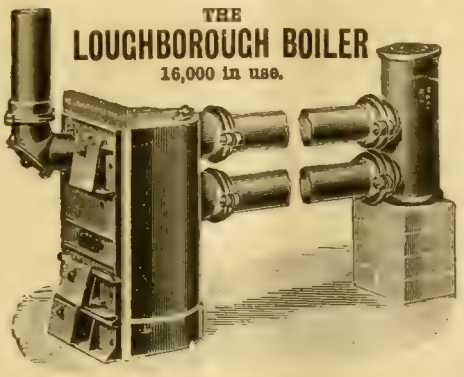
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THE
Gardeners' Chronicle.
SATURDAY, DECEMBER 12, 1896.

SCOTTISH GARDENING.

ON the evening of December 1 an interesting and instructive lecture was given before a crowded meeting of the Scottish Horticultural Association in their rooms, 5, St. Andrew Square, Edinburgh, under the presidency of Mr. R. W. E. Murray, by Mr. Robertson Monro, Langside, Glasgow, a well-known veteran in horticulture. Before the main business of the evening was entered upon, the treasurer, Mr. Alexander Mackenzie, stated that the total cash taken at the great Chrysanthemum Show amounted to £1100, which, after the payment of all expenses, and of donations to several charitable institutions, will leave a handsome balance.

Mr. Monro started with the formation of the Royal Caledonian Horticultural Society in 1809, followed by the opening of Europe to British travellers—through all the Powers making common cause against Napoleon. Deputations were sent by the Caledonian Society to the continent in search of information, and travellers such as David Douglas, Jeffery, Brown, Hooker, McNab, Fortune, and Darwin, added to our stores of material and of knowledge. Botanic Gardens were also formed in most of our British possessions, and these sent such enormous quantities of plants to the Edinburgh and Glasgow Botanic Gardens as to tax to the utmost the resources of Hooker, Graham, Balfour, McNab, and others. The plants were liberally distributed among the Edinburgh nurserymen. Many good things were, however, lost through the rapid influx of novelties.

The new plants, with their unfamiliar names, furnished new stimulants to the higher scholarship of journeymen and apprentices, and it was under such influences that not a few of those who now hold the highest rank in the profession, have rendered the name of Scottish gardeners famous throughout the world. The introduction of evergreen trees also did much to alter and abolish the topiary style of torturing and clipping Yews and other shrubs. One can hardly conceive of anything more sad than to picture a Scottish gardener who is said to imbibe metaphysics with his mother's milk, torturing plants, and especially the Yew, into gawky imaginary images of Adam and Eve, or whistling "Scots wha ha'e," &c., while slashing it into the form of Cleopatra's needle.

The annuals of Douglas and others also greatly curtailed the areas devoted to florists' flowers. For a time annuals became the rage, and forty years ago pilgrimages were make to Drummond Castle to admire the broad and brilliant massing of annuals and other bedding-plants. Had the annuals proved as

persistent as they were fresh and beautiful, Scottish as well as British horticulture might have escaped, or had a milder attack of the perhaps inevitable scarlet-fever.

J. C. LOUDON.

But Mr. Monro hastened to note the lasting service rendered to horticulture by J. C. Loudon. Before his day the knowledge of the science and practice of the gentle craft of horticulture was handed on from sire to son. Loudon gave horticulture a literature. His *Encyclopædia of Gardening* and his *Arboretum*, which is said to have cost him £10,000 to print, besides employing six artists for years on the illustrations, proclaim him the greatest of garden writers.

And then Loudon was also the father of our periodical literature. His *Gardeners' Magazine* (a monthly) was the first, and a bold and successful attempt to link together practice and science in horticulture. Andrew Knight's valuable experiments, communicated through the London Horticultural Society, would have been years in reaching the masses of horticulturists but for the existence of Loudon's *Gardeners' Magazine*, which brought them directly to bear on the progress of Scottish horticulture. Loudon was of the greatest force in collecting and distributing horticultural information in his day and since; and Mr. Monro suggests the perpetuation of his name and his influence by the awarding of a Loudon Medal to noteworthy horticultural productions.

HOT-WATER HEATING, ETC.

The introduction of hot-water heating in 1826, though it was not generally used until thirty years later, combined with the removal of the duty on glass in 1845, gave a marvellous stimulus to Scottish and to general horticulture. Duty was also paid upon coal up to 1830. Referring briefly to old and new styles of building glass-houses, the introduction of the mowing-machine was alluded to, this also was everal years coming into general use.

DR. LINDLEY.

Mr. Monro noted, as one of the most notable events of his early days in Aberdeenshire, the advent of Dr. Lindley and the appearance of the *Gardeners' Chronicle*. If Loudon gave gardening a literature, Lindley gave it a philosophy, as illustrated in every page of his *Theory and Practice of Horticulture*, and his incisive leaders in the *Gardeners' Chronicle*. The *Scottish Gardener*, then, had a rather short, though useful, career. Mr. Monro consoled his audience for the absence at present of special Scotch organs, by recalling the fact that Dr. Hogg, the editor and proprietor of the *Journal of Horticulture*, is a Scotsman and a true gardener, having served his apprenticeship with the Messrs. Lawson, George IV. Bridge; and that Mr. Fraser, of the *Gardening World*, is also a Scotsman.

CHANGES OF TASTE.

Mr. Monro proceeded to describe the bedding-out system mainly in connection with two of its most noted representatives, the late Mr. Donald Beaton, then of Shrubland Park, and Mr. David Thomson, still with us at Drumlanrig. Among those that did not catch the fever, nor get severely bitten with the rage for bicolor and tricolor Pelargoniums, was Mr. James McNab, of the Botanic Gardens, Edinburgh, who thus saved many valuable hardy plants from destruction in the general rush after popular fashion.

As to other changes, Heaths and New Holland plants are now seldom seen; and even Pelargoniums, once the glory of July shows, are replaced by Begonias and Fuchsias. Cinerarias and Calceolarias are now raised from seeds instead of from cuttings, as they were forty years ago; and plants such as Palms, hardly seen or known outside botanic gardens, are now generally cultivated, though none was found in any nursery in Scotland prior to 1860. Aspidistra, now so common, was then rare; Ferns also were little cultivated, and glasshouses could hardly be said to be decorated with plants until that period [?]. A few Hyacinths, a pot or two of Lily of the Valley, or a Tulip now and then, were all that were required. Edinburgh was supplied from Carstairs; fruit-shops in Castle Street, and the Warriston Nursery contained in these days about a third of the glass it does to-day.

Thirty years or so ago no bouquet was expected to exceed 6 inches across; and this, at a cost of half-a-crown, was expected to satisfy the fairest maid in modern Athens. Twenty-six years ago no flowers were imported into Scotland. The Edinburgh markets were supplied with a few Wallflowers and bunches of Snowdrops in the spring, and a few bouquets during summer, with some pot-plants of Fuchsias, Jasmines, and Musks, with one notable exception—some very fine bushy plants of Myrtle, from 12 to 18 inches high, got up in eighteen months by being grown in tan-beds, by the head of the firm of Dickson & Sons, Edinburgh. Now more cut flowers are sold by Mrs. Todd in a week than were sold in twelvemonths throughout the whole of Scotland thirty years ago.

And yet the cut flower trade in Edinburgh is small in comparison with the same trade in Glasgow, where tons of cut flowers are sold every week throughout the year in the fruit shops and bazaars; different flowers in season, Narcissus, Carnations, Gardenias, Callas, Daffodils, Roses, are piled on glass-shelves



FIG. 124. HOULLETIA LOWIANA

(Soft creamy-yellow, with minute magenta and purple-coloured spots.)

without a drop of water, until purchasers pity, purchase and give them a drink. The old florists' flowers, Dahlias Carnations, Hollyhocks, Phloxes, Pentstemons, Delphiniums, &c., hold their own, and are still improving. Pansies, Violas, have been greatly multiplied, and are much improved, and some hybrid races have been developed and established by Scotch growers; Mr. Monro himself having a hand in such work, his record being found in the pages of the *Gardeners' Chronicle* and elsewhere. The lecturer naturally expressed some indignation that a Viola Conference in the South should have wholly ignored the Scottish growers, and exclaims that a Viola Conference without Mr. James Grieve, is like attending the recital of our great national drama in the Theatre Royal, Edinburgh, without getting a glimpse of the characteristic face and red whiskers of Rob Roy himself!

Mr. Monro went on to say that the less said of landscape gardening the better. Crowded cities are getting more breathing room in larger parks. Originality of design is hardly to be expected. We may have some mute inglorious Loudon among us, but there are now no more Blair Drummonds nor Castle Kennedys to lay out; or if we did require now and then to lay out a park, or cut a star in the grass, we can copy from Loudon's drawings already to hand.

FRUITS.

With regard to fruit-culture, no drastic change can be noticed, for the obvious reason that all our cultivated fruits have been selected and improved from remote ages. It seems that fruits were cultivated in Switzerland in the Stone period; and Dr. Livingstone noticed some of the wild tribes of Africa cultivating fruits. Pliny mentions many Pears, though none equal to our present luscious fruits. The Vine is perhaps the oldest and most numerous of all fruits. Count Odart says there may be 1000 varieties throughout the world. Pallas describes twenty-four in the Crimea, and Burnes twenty in Cabul; ninety-nine varieties were cultivated in the gardens of the London Horticultural Society at Chiswick in 1842. Lindley enumerated 164 varieties of Peaches and Nectarines grown in England thirty years ago. Of Apples, 877 varieties are named in the catalogue of the London Horticultural Society published in 1842; seventeen varieties of Apricots were described by Thomson in 1835. The varieties of Plums are endless. Gooseberries are not mentioned by writers of the classical period; Parkinson, in 1629, names eight varieties. The catalogue of the London Horticultural Society in 1842 mentions 149 sorts; most of them new varieties, which can be traced to one original species. Strawberries, however, form a notable exception, at least six species being supposed to have been at work in moulding our present races of edible Strawberries, and hence, in part, the explanation of the many new ones.

As to Technical Education, the humblest member of this association does not require to be told of the necessity for acquiring specific knowledge in the science as well in the practice of horticulture. This association might also approach County Councils, and others in authority, so as to provide competent horticultural lecturers to young members who are placed beyond its direct influence, and by this means enable them to acquire sound principles without burning the midnight-oil, which too many of the older members had to do in earlier times.

NEW OR NOTEWORTHY PLANTS.

TRICHOMANES RORAIMENSE, *Jenm., n. sp.*

ROOT-STOCK repent, as thick as stout cord, densely clothed with fine subulate castaneous scales; fronds, 4 to 5 inches in length, 1 to 1¼ inch in width, pinnate, dark green, naked, most densely pellucid, dotted; petioles scattered, ⅜ to 1¼ inch long; rachis flattened, and narrowly winged above; pinnæ numerous, near, horizontal, oblong, rounded, the base cuneate, ½ to ¾ inch long, ¼ inch wide, margins bidentate and slightly incised, teeth obtuse; veins prominent, forked, striating the surface, reaching the edge; sori confined to the upper half of the frond, one or two terminal on each pinnæ, involucres large, 2-horned, gaping widely; receptacles strong, conspicuously excerted.

Guiana, Mount Roraima; a very characteristic species owing to its peculiar root-stock, large wide-gaping involucres, and long-projected filiform receptacles spread in serial order along the sides of the fronds. Gathered by Messrs. Fred. McConnell and J. J. Quelch in 1894, and purchased by me from their assistant, C. A. Lloyd. It has much the largest involucres of any species known to me. *G. S. Jenman, Demerara, Nov.* 1.

HOULLETIA LOWIANA, (*Rchb. f.*).

TWENTY-TWO years come last October (as story-tellers would say) will have elapsed since this remarkable species was described by the late Professor Reichenbach in the pages of the *Gardeners' Chronicle* (1874, p. 484), and very little has been heard of it since. Messrs. H. Low & Co. of Clapton, who apparently introduced it to cultivation, although Reichenbach believed he "obtained it first in 1870-71—it appeared with Messrs. Veitch, and in the Royal Gardens, Kew"—have retained specimens of it all these

years, and have exhibited it on two or three occasions recently at the Royal Horticultural Society's meetings in the Drill Hall, Westminster. The flowers, as will be seen from the illustration (fig. 124, p. 716), are larger than they appeared to Reichenbach, who stated that a crown-piece would cover one. The prevailing colour is a soft creamy-yellow, the inner surface being covered with minute purple dots. The petals will be noticed for the sinus on the upper edge, which looks very much as if a bite had been taken clean out of it. The lip is remarkably conspicuous, being pure ivory-white with magenta blotches on the oblong hypochile, and a few dots of similar colour on the bicornute spade-shaped epichile. Unfortunately, but one flower seems to be borne on the short scape, and this may account for the species not being so well patronised as some of its brethren. I am sorry that it has not found a place in the recent edition of Messrs. Williams' excellent *Orchid Growers' Manual*.

John Weathers, R.H.S., London.



Fig. 125. — Hassan Jack-fruit: A, dry perianth or pericarp; B, seed.

(From a drawing received from Mr. J. Cameron, F.L.S., Lal Bagh Gardens, Bangalore.)

HASSAN JACK FRUIT.

The Jack-tree of the East Indies (Artocarpus integrifolia) is a handsome evergreen tree about 60 feet high, the trunk having a diameter of 30 to 40 inches. Its dome of dark foliage, with the stem burdened with monster fruits, is perhaps one of the most characteristic features of East Indian village surroundings. The yellow timber is highly valued for carpentry and furniture, and takes a fine polish; it becomes beautifully mottled with time, and then resembles Mahogany. It also yields a yellow dye, little inferior to fustic. The fruit yields a very important article of food to the natives of the East Indies, both when green as well as when ripe. It is closely allied to the Bread-fruit of the Pacific Islands, but usually is not so palatable. Europeans seldom touch it. The oily seeds, when roasted, are eaten, and are said to resemble Chestnuts.

The leaves of the Jack-tree, as the specific name implies, are usually entire. In exceptional cases they are three-lobed; this is specially a characteristic of seedling plants. The lobing of the leaves shows the affinity of the Jack to the Bread-fruit. They both belong to the tribe Artocarpeæ of the N. O. Urticaceæ, as also do the Figs, which yield a similar milky juice. The flowers of the Jack, produced on the stem and older branches, are monœcious—that is, they appear on different parts of the same plant. They have a somewhat sweet smell. This is in marked contrast to the strong, unpleasant odour of the ripe fruit. The male flowers are densely crowded on the outside of a fleshy horn-like central receptacle, about 2 to 3 inches long. The individual flowers are very minute, and consist of a single stamen and a two-lobed yellow anther. In a section across the receptacle the male flowers are to be seen radiating in a very regular manner from the circumference of the spongy centre. The female flowers are similarly arranged, but on a much larger receptacle, and are so numerous and thickly-crowded as to form an oblong, tuberculated mass of flowers several inches long. Each female flower consists of an oblong, tubular perianth, green and contracted at the mouth. The ovary is provided at the base with a lateral white style passing through the aperture of the perianth. After the ovary is fertilised the mass (or spadix as it might be called) swells in all directions, and forms a tuberculated, compound fleshy fruit, sometimes weighing from 40 to 60 lbs., probably the largest that is known. The central part is the soft, fleshy receptacle; surrounding this, and radiating towards the circumference, are—(1) the succulent parts of the very numerous, linear, abortive florets; and (2) the enlarged perianths of the fertile florets much swollen, and appearing as brownish-yellow succulent masses, 2 or 3 inches long. These two sets of bodies constitute the eatable part of the Jack-fruit. Each seed is completely buried in pulp, and enclosed in a leathery testa. It is usually as large as a Nutmeg; it is destitute of albumen, and composed of two unequal cotyledons.

Good figures of the flowers and fruit are given in the *Botanical Magazine*, tt. 2833 and 2834, from specimens grown in the Botanic Garden at St. Vincent, in the West Indies. A plant is mentioned to have flowered in 1827 in the stove of the Edinburgh Botanic Garden.

The ordinary Jack-fruit above described is familiar in many parts of the tropics, and is widely cultivated in the East, from the Punjab to China, and from the Himalaya to the Moluccas. There are numerous varieties recognised by the natives of India and Ceylon. Although common in the latter country, it has probably been introduced at a remote period from India. It was introduced to Jamaica and St. Vincent by Admiral Rodney in 1782, and thence distributed to other countries in tropical America. The fruit is not esteemed anywhere in the New World; probably the single variety there known is an inferior one.

This year a drawing of a very remarkable Jack-fruit was sent to me by Mr. J. Cameron, F.L.S., Superintendent of the Lal Bagh Gardens, Bangalore, in Mysore. In a letter dated August 29 last he gave the following description of it:—

"About a month ago I sent you a photograph and a water-colour drawing of a remarkable Jack fruit—at least remarkable to me, as it is the first of its kind I have ever seen . . . . The fruit and photograph were sent to me from Hassan, one of our hill districts by Mr. A. Watkinson, a coffee planter. His own letters, with two of my replies enclosed, will afford all the information at my disposal. Would you do me the great favour to say what you think of this fruit? . . . . With your eastern and western experiences you are, of course, well acquainted with the usual form of this fruit, and can offer a valuable opinion."

Mr. Watkinson's account of the tree is as follows:—"There is a peculiar Jack-tree here, the shell which holds the kernel grows on the outside of the fruit . . . Both planters and natives declare it to be unknown in any other part of the district. The native idea is, it was brought hither by a cobra when young!" On March 23, 1896, Mr. Watkinson sent a specimen of the fruit to Mr. Cameron with the following note: "In October last I wrote you about a curious Jack-fruit, a specimen of which I am sending by bearer. I think you will find that the pericarp is intermixed with the tubercles or spines, and that the peculiarity is not caused by enlarged spines. I am sending a fruit weighing 9½ lb to Mr. Graham Anderson. I should have sent the larger one to you, but it is already over-ripe, and would be in a state of decomposition by the time it reached you . . . I could send you another later on, as there are five others on the tree only half-grown." Mr. Watkinson adds, "I can see no difference in the tree itself from the rest of the trees of the wild Jack." The woodcut (fig. 125) represents the Hassan Jack-fruit one-half the natural size. Its most striking characteristic is the position of the seeds on the outside, instead of being buried, as usual, in copious pulp. There is evidently no swelling either of the receptacle or of the perianth, as in the ordinary Jack-fruit. Hence the Hassan fruit is probably uneatable. The spine-like processes occupying the area between the seeds are the abortive florets.

Sir Joseph Hooker, who has recently completed his great work, *The Flora of British India*, has been good enough to examine the drawing of the Hassan-fruit, and he is of opinion that it is either an abnormal form, or a new species.

Colonel Beddome, F.L.S., who is credited with

*

having found the Jack-tree in a wild state in Southern India, expresses a similar opinion in the following words :—

"The Jack-tree is very common in a wild state in all the moist forests on the western ghâts of the Madras presidency. . . . Its fruit does not differ from that of the cultivated tree. Your drawing must, I think, represent a quite abnormal form, unless it be a new species. I can only say I never saw anything like it."

Apparently it is not an abnormal form, as the seeds (I learn from Mr. Cameron) are fully developed, and give rise to normally healthy plants. These are now growing in the Bangalore Garden. The matter cannot be carried any further at present, but material is promised of both the leaves and of flowers, the latter in different stages of development. When these arrive it may be possible to come at a more definite conclusion respecting this interesting plant. *D. Morris, Kew, December 5.*

MEXICAN ECONOMIC PLANTS.

THE reports of Her Majesty's Consuls and Diplomatic Officers abroad addressed to the Foreign Office, and published from time to time, often contain, as our columns have shown, some interesting facts connected with the vegetation or with the vegetable products of the countries in which the several officers reside, but the reports of Sir Henry Dering on the vegetable products of Mexico which have recently been issued, are the most complete and interesting that have ever appeared in these series. Previous reports have dealt with the cultivation of Cacao, Vanilla, India-rubber, Indigo, Bananas, and Coffee, but the last one is devoted to the Yuca, or Cassava, Pine-apple, Ginger, Chicle or Chewing-gum, Sarsaparilla, Jalap, Liquorice, Canaigre, and Ramie. It is on account of the importance of these plants, and the interest attached to their culture, and because the reports themselves do not come into the hands of many of our readers, that we devote a considerable space to place on record information that would not otherwise be available to our readers.

In introducing the subject of the cultivation of useful plants, Sir Henry Dering says :—"The fault generally committed by Mexican planters is the confining their attention to one kind of cultivation on their land. If several different crops were taken off alternately, as in a system of rotation, or grown in different parts of the land, where soil and climate prove suitable, the planter would find himself in even a better financial position than he generally does now. There is scarcely a spot on any estate, whether large or small, in Mexico that is not capable of giving remunerative returns from some plant or another."

Cassava.—The Yuca or Cassava plant is to the peon in the tropical section of the Republic what Potatos are to the poor and working people of Ireland. Yuca is a native of the country, and its rise dates back before the conquest by Hernan Cortes, and it has always formed a great portion of the food of the ancient and present Mexicans, especially those living in Vera Cruz, Daxaca, Tabasco, and Yucatan.

The writer says he has not found the plant growing wild throughout his travels in the Republic, but is of the opinion that if left by itself without attention it will in time entirely die out; hence, one of the reasons for tropical hacendados and peons watching and caring for the plant with so much zeal as they generally do. The people use the plant extensively in their households : the leaves are used as food for the chickens, pigs, cattle, and horses; the root tuber is cooked like the sweet Potato, and made into sweetmeats and preserves. A meal is made from the tuber, which often takes the place of corn and Wheat-flower. It is first peeled, then grated, pressed, sifted, and lastly, dried rapidly in large, shallow, flat iron pans. The heat must be moderate, so as to merely desiccate the meal. Bread can be made from it by wetting the meal, forming it into round cakes, and baking them on "comales," or flat, shallow pans, made of red clay. Moreover, a starch of a very superior nature can be made from the tuber by stirring up the grated meal with water, and then passing it through sieves. This is done several times, and the mesh of the sieves is decreased in size after each washing; the reason of this operation is to wash the starch clean, and leave it free from any foreign substance. After the last washing, the water is allowed to rest until the starch settles at the bottom of the vessel, when the clear fluid is decanted, and the starch dried in the sun. After grating and pressing the tuber in making the meal, a juice is forced out; by allowing this to settle, a considerable quantity of fine starch is deposited. The liquid is poured off, and the starch is heated on tin plates, and when the grains swell up and burst, and become agglutinated together, they must be taken off the fire. This is Tapioca, and it is used in debility, impaired digestion, and low forms of disease. It is prepared for use by boiling, wine, nutmeg, and other aromatics being added.

The plant (Manihot utilissima) is known as Yuca in Mexico, and generally as Bitter Cassava. It is of shrubby habit with knotty stems, growing to a height of from 5 to 7 feet, and the roots have large tubers, something like those of the Sweet Potato, six to ten to every plant, and each weighing from ½ lb. to 2 lb. white or of a yellowish colour. The Sweet Cassava (Manihot Aipi), is also grown, but the bitter is mostly cultivated. The best soil for its cultivation is a sandy loam or a loose friable clay, either well drained; the temperature should be not less than 55° Fahr. even in winter. The plant will thrive at elevations from sea-level to 3300 feet south of the city of Vera Cruz (19° N. latitude), and north of this place 500 feet for every degree of latitude should be deducted for the maximum height suitable for its cultivation. The plant needs no shade. If the land selected is covered with timber, it should be entirely cleared in the month of December. The whole of the rubbish is burnt in January, and immediately after the plot is sown with corn in rows. Trenches are made with mattocks or spades, if a plough cannot be used, on both sides of the corn rows. Full-grown woody stems are cut up into pieces having two or three eyes, and 4 to 6 inches long; they are strewed along 12 inches apart between the rows or trenches, and covered with about an inch of loose earth from the trenches, forming ridges between the rows of corn. This must be done before the rains. The leaves of the cuttings will come up in a fortnight, when both corn and cuttings must be weeded with a sharp hoe. When the corn is harvested in May or June the corn-stalks are cleared away, the land weeded again and turned over. In a month corn and beans are sown between the Yuca rows, to be harvested in October or November. From the months of November or December the tubers can be dug out for use. They must be carefully removed from the earth and fibrous roots, and then washed. A slip with a tuber may be left on the place for future reproduction, and the stems cut to pieces for replanting, or to be used as food for the pigs.

The returns of Yuca cultivation are immense. The yield of an acre contains more nutritive matter than six times the same area under Wheat. The yield can be estimated at 10 tons per acre; 5 tons can be utilised in the household and in food for animals around the house, the balance for manufacturing starch. Extracting the starch will cost 5 dols. for 4000 lb., the product of 5 tons of tubers; so it can be safely asserted that the Yuca starch costs from one-fifth to half a cent per lb. This is sold at the plantations at from 4 to 5 cents per lb., and at the principal cities at 1 dol. 50 cents to 2 dols. an arroba of 25 lb. As corn brings a net profit of 3 dols. to 5 dols. per carga of 300 lb., an acre gives a return of 36 dols. from the corn crop, and 140 dols. from the starch, hence, a 10-acre patch will give a cultivator an income of 1760 dols. a year.

Pine-apple.—With regard to the Pine-apple (Ananas sativa), it is well known that its culture in Mexico dates from time immemorial. Besides the actual fruit itself, a fine wine and vinegar are made from the juice, and the fine and strong fibre from the leaves is even more valuable than the fruit, as ropes, cables, twine, thread, mats, bagging, hammocks, and a remarkably fine textile, as beautiful as silk itself, are manufactured from it. It is believed that the fine cloth of various colours used by the upper classes among the Aztecs was made of the Pine-apple fibre. The modern Mexicans do not manufacture it much now, except in the Isthmus, where the Zapotic Indians still make a cloth from it and from wild silk. One cause for its disuse is the slow and wasteful manner in which it is separated. It is suggested that the introduction of proper machinery for cleaning and preparing it, would be a source of fortune both to the introducer and to the country itself. It is estimated that one ton of leaves would give from 50 to 60 lb. of good fibre. The report gives careful details on the cultivation of the plant, and the cutting and packing of the fruits, which it is not necessary to repeat here.

Ginger (*Zingiber officinale*) is described as being found wild in the Huasteca Vera Cruzana, District of Huachinango, Puebla, and in parts of the States of Guerrero and Chiapas. It is said to have been introduced into America by Francisco de Mendoza, who took it from the East Indies to New Spain about the year 1540. Still, so early as 1547, considerable quantities were sent from the West Indies to Spain. The uses of the dried rhizome, both as a spice and in medicine, are well known, as well as the fresh or green rhizomes, carefully washed, scraped, and preserved in syrup, or cut up in pieces and candied with sugar, are well known as a sweetmeat.

The plant is propagated entirely by division of the rhizomes, which are known as races or hands, each of which is carefully divided into small pieces, care being taken to leave at least one shoot-bud on the cutting; each piece is then planted in the holes at a depth of not more than 3 inches. The cultivation is similar to that of the Potato. Moreover, the holes are filled with well-rotted manure, and when possible, a thick layer of leaves should be placed over the holes to keep the cuttings cool and moist, besides which, when the leaves rot they will give extra nourishment to the young growing plant. The land must be kept weeded, and as ginger is a very exhausting crop, manure should be dug into the land if the cultivation be kept up for successive years in the same fields. The plant flowers in September and October, and afterwards the shoots will wither (in warm climates soon after), and the rhizomes will increase in vigour and size. By January, according to elevation and climate, the rhizomes will be ready to gather, the process being simply to fork the plant out of the soil, care being taken not to injure the races or hands. These, of course, vary in size according to soil, climate, and care in cultivation, but they generally average 2 to 3 oz. each in weight. The hands having been raised from the ground, are divested of the fibrous roots, and cleaned of all adhering mould and dirt. They are then plunged for some minutes in boiling water, so as to destroy their vitality, and afterwards dried in the sun, when they become the ginger of commerce.

Ginger is known in two distinct forms, termed coated and uncoated, as having or wanting the epidermis; for in the first the pieces are washed, and simply dried in the sun, when they present a brown, more or less irregularly wrinkled or striated surface, and upon being broken, show a dark-brownish fracture, hard, and sometimes horny and resinous. To produce uncoated ginger, the rhizomes are washed, scraped, and sun-dried, and are often subjected to a system of bleaching either from the fumes of burning sulphur or by immersion in chlorinated lime. The white-washed appearance that much of the commercial ginger has is due to the fact of its having been washed in whiting-and-water or even coated with sulphate of lime. This is by some considered to give the ginger a better appearance. It often, however, covers an inferior quality, and can readily be detected by the ease with which it rubs off. Good ginger when not white-washed is of a pale buff colour, somewhat rough or fibrous, breaking with a short mealy fracture, and presenting on the surface of the broken

parts, numerous short, bristly fibres. For ordinary purposes, uncoated ginger is considered the best, the largest and finest pieces of a pale buff colour both outside and inside, and cutting softly and evenly, are the most valuable.

The returns from an acre of land vary considerably, but when cultivated under favourable circumstances, the crop ought to be 4000 lb. and upwards.

(To be continued.)

Trees and Shrubs.

PINUS BALFOURIANA var. ARISTATA.

In no other Pine of my acquaintance are the needles so thickly produced, so persistent, and so closely appressed to the stem and branches, as in the present species. It is thus rendered very distinct from every other, which is still further enhanced by the open habit, long snake-like branches, and conspicuous light-brown coloured cones, which usually stand erect and near to the tips of the branches.

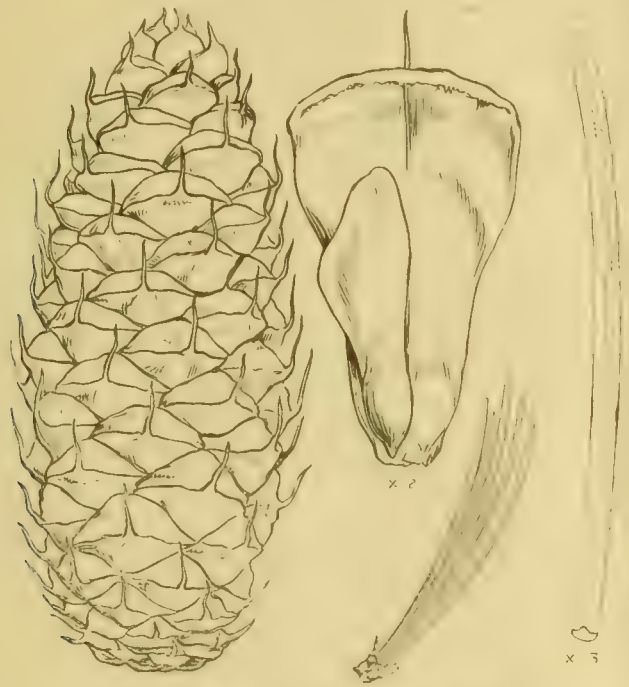


Fig. 126.—PINUS BALFOURIANA VAR. ARISTATA: CONES CREAM COLOURED.

The tree is hardy, but of rather slow growth, the annual increase in height of half-a-dozen specimens I have examined, and which were favourably situated, being rather more than 6 inches. The leaves, which number five in a sheath, greatly resemble those of P. Cembra, are more or less appressed to the branches, from 1¼ to 1½ inch long, dark green on the outer and distinctly silvery on the inner surfaces. The cones are nearly cylindrical in form, 3 inches long by fully 1 inch in diameter, and consist of obliquely diamond-shaped light-brown scales, each terminating in a stiff, upward-pointing dull purple sharp point, nearly a quarter of an inch long. The cones are invariably produced singly, are very uniform in shape and size, and give forth resin in great abundance. The seeds are small, with a wing three-eighths of an inch long. Pollen catkins are plentifully produced, they being dull purple of colour, ovate in shape, and frequently 1½ inch long.

P. Balfouriana aristata has the same sort of arrangement of the needles, but these are usually longer, and to a great extent wanting in the silvery sheen for which the inner sides of the leaves of the species are so justly remarkable. The appearance of the tree is more shaggy, less refined, if I may use the expression, owing both to the longer leaves, and to the not being so closely appressed to the stem.

The species and its variety succeed in loamy soils that are retentive, if the subsoil is porous, and the exposure to the sun is good. They suffer somewhat from blight, and the attacks of insects. Buds are frequently formed in the centre of the tufts of leaves. *A. D. Webster.*

EASTWOOD HOUSE.

Those of my readers who are acquainted with Rotherham and its neighbourhood, where the atmosphere is at this time of the year usually charged with smoke and sulphur, may well ask at any rate with regard to horticulture, and more especially floriculture, can anything good be found here? What doubts I might have on this point were effectually dispelled recently by a visit to the well-kept gardens of Alderman G. Neill, J.P., at Eastwood House. My visit was made for the purpose of viewing the fine collection of Chrysanthemums grown here: and used as I am to seeing such collections I was not a little surprised at the excellence of the plants and quality of the individual blooms, and at the admirable and effective blending of colours in the arrangement of the plants; which is a point often overlooked in setting up large collections. Here let me say that the greenhouses throughout give evidence of the skill and zeal of Mr. A. White, Alderman Neill's able gardener.

The houses at Eastwood are conveniently arranged so that the owner and his friends can pass at once from the breakfast-room and go round the whole range without once going out into the open air. On leaving the room we passed along a corridor which leads into the large show-house, at present filled with Chrysanthemums. The corridor, too, was furnished with these plants, whilst trained to the roof and down one side was a fine specimen of Lapageria rosea, with its bright campanulate flowers.

Chief amongst the Chrysanthemums I was attracted by several fine blooms of Niveum, with its ivory-white petals. This variety Mr. White tells me is very useful on account of its lasting powers, and it is not so easily affected by the fogs as most of the whites. Mutual Friend, too, was in fine form, this, I think, is a variety come to stay—it is universally good this year. That cause of dispute, Beauty of Teignmouth, was also very noticeable, as were President Borel, Mrs. Dr. Ward, Lady E. Sanders, Madame Charles Molin, very fine; and Directeur Tisserand. Also worthy of particular mention as varieties that ought to be found in every collection were Miss Rita Schroeter, Eva Knowles, and King of Chrysanthemums, besides many other well-known varieties. In addition to the Chrysanthemums grown for specimen blooms, there was a bank of the same plants naturally grown, and let me say here, I have (please excuse me, you fanciers of large blooms) still a sneaking love for the Chrysanthemums naturally grown, and think they are far prettier and more useful than the huge monstrosities so much the rage now-a-days. After leaving the large show-house, we passed into a cool-house, just now bright with one or two varieties of winter-flowering Begonias, and that always useful and bright double-flowered Pelargonium F. P. Raspail, intermixed with Ferns and foliage plants. Next we came to the stove in which is a fine lot of cleanly-grown healthy plants well arranged, consisting principally of Crotons and Dracænas, well coloured; also that fine variety of Rex Begonia, Arthur Mallett, interspersed with Eulalia, Cocos Weddelliana, and Ferns, with here and there Cattleya labiata, evidently at home in this mixed company, as shown by the strong, healthy flower-sheaths, now well advanced.

The arrangement of the fernery is very effective the walls being covered with virgin cork, from which spring fine fronds of Nephrolepis and other kindred Ferns, with here and there the varied foliage of the Rex Begonia showing up well in its green setting; whilst from the top of the house long graceful shoots of Ficus repens hang in festoons, making the house appear a real bit of Nature (such as Ruskin would delight in) under glass. Turning sharply to the right, the Peach-cases are reached. From these we pass on into the vineries, both of which ranges give the same evidence of a master-hand that is noticed throughout the whole range of glass.

Before closing this short notice, I should like to mention that Ald. Neill, who has just been for the fourth time elected Mayor of Rotherham, shows his public spirit in no mean way, and during the Chrysanthemum season threw open his greenhouses to all and everyone; and to cater for those who could not go in the daytime, he had the houses illuminated with Chinese lanterns and other lights each night. Surely there are many large establishments in our manufacturing towns where Alderman Neill's example might be followed with benefit to the public, and without in any way lowering the social standing and respect of the gentleman owning the place. *J. Cobb, Sanderson, Market Place, Rotherham.*

Florists' Flowers.

NEW CHRYSANTHEMUMS.

Now that the Chrysanthemum season is almost over, the thoughts of growers in general, and of exhibitors in particular, are turned towards making preparations for next year. Those preparations vary according to the different circumstances of the grower, but on one point all are agreed, that is, that a few new sorts are necessary. Now, the difficulty is to pick out the few amongst the many offered by nurserymen who make a specialty of Chrysanthemums. Those of us who are a distance from London, and therefore unable to see the varieties enumerated, look out for those names that are dignified by the mystic capitals F.C.C. Sometimes we pick out a variety that has gained some notoriety, such as Beauty of Exmouth, or we are dazzled by a big price, and buy a Mrs. C. E. Shea, or a Lago Maggiore. Now I think these varieties have never figured very prominently on the exhibition board, and probably they never will. Instances such as these cause the average country exhibitor to look down the long lists of new Chrysanthemums with doubtful eyes, and while admitting to the fullest extent the usefulness of the National Chrysanthemum Society, to wonder whether

something more could not be done to prove the full character of the variety before it is offered to the public.

Trials of vegetables and similar subjects at the gardens of the Royal Horticultural Society at Chiswick are always watched with a certain amount of interest, and if new varieties of Chrysanthemums were sent there to be tested before being offered for sale we might be prevented experiencing disappointment similar to those I have just stated. Besides doing this, I doubt not but that it would increase the popularity of the gardens amongst gardeners in general. In Mr. Wright, the new superintendent, we have one who can grow Chrysanthemums well, and if this suggestion were acted on, I think it would prove to be to the mutual advantage of both buyer and seller. *A Country Exhibitor.*

CHRYSANTHEMUMS.

In order to ensure success in the cultivation of these plants, preparation should be made for the next year's display forthwith; a period of at least eleven months being required to obtain the finest blooms, and the remaining month for obtaining and preparing the cuttings.

Some cultivators would have us believe that cuttings struck in April will produce good results; but I am convinced by long experience in growing these plants that success is only to be obtained when the plants have a long season of steady and uninterrupted growth. There are, however, various reasons for early propagation, and one of these is the large amount of space required by the old plants during the next three months, to say nothing of affording water, ventilation, &c., all of which entail some amount of labour. On the other hand, the space occupied by a quantity of cuttings is small, by comparison.

The present month and onwards till the middle of the next, forms the best period for the propagation of the cutting of such plants as are intended to produce large flowers. Where plants are required for purely decorative purposes in the glasshouse, or when not very large blooms are sought for, the cuttings need not be struck so soon, a quantity of bloom being usually of more consequence in such plants than very fine quality; and the end of the month of January, or early in the following month, is sufficiently early for these. It is important that each cutting be about 3 inches in length, not very succulent, nor on the other hand weak or wiry, as such seldom make fine growth; and shoots which grow out of the hard stems should not be taken, these being apt to flower prematurely, sometimes as soon as the young plants begin to grow—still, if a variety be new, scarce, or rare, such improper shoots must be taken. As soon as the flowers have passed, cuttings should be taken of any variety that produces shoots plentifully, taking them down to within a few inches of the soil. The stems of shy-growing, new, or scarce varieties, should be cut back not lower than 1 foot from the soil, more space being thus afforded for the production of lateral shoots, some of which may serve as cuttings, although stem-shoots are not so good as those which push up from the roots, or come from the collar. When a plant has done flowering, and is cut down, place it in a cool greenhouse, or other structure from which frost is excluded, standing it so that it gets plenty of direct sunlight. Some varieties throw up shoots very freely, that it becomes necessary to thin out the weaker ones to prevent drawing. A very wet soil causes a sickly appearance, and should be avoided, affording no more water at this season than a plant whose work is over for the present requires. In the case of any new or scarce variety which breaks indifferently, place them, after seeing that the drainage is right, on a gentle bottom-heat, in a house having a temperature of 60°, and syringe occasionally with tepid water. Aphides are very troublesome at times, causing the curling up of tender leaves, and, as a consequence, checking growth. The best means of ridding the plants of these pests, is to dust the affected parts with tobacco-powder, or to fumigate with tobacco on two consecutive nights.

The propagation of Chrysanthemums from cuttings is an easy matter if a few simple rules are observed; and one of the most important of them is a cool-house or pit from which frost is excluded, which has a temperature at night of 40°, and by day of 50°, and in which may be placed on one of the stages a close garden-frame. In preparing this frame, let the bottom be covered with slates, and on these place a layer of fine coal-ashes to make it air tight, and afford a cool, moist medium, on which the cutting-pots may stand. In making the cuttings, trim the leaves from the base, and cut the shoot square across below a joint. Some gardeners remove the buds from the lower part of the cuttings, thinking they thereby prevent the growth of suckers. This is, however, not advisable, as suckers can be readily removed when they appear, if thought objectionable, and they become shoots fit for cuttings. Some growers strike the cuttings in a cold-frame in the open air, but my reason for preferring a cool-house is, that much valuable time is sometimes lost if the winter be a severe one. I have seen cuttings frozen hard in the pots for a fortnight; this does not kill them, but they make no roots, and therefore time is being lost. Others strike the cuttings on a shelf in a cool-house. Here the leaves flag very much, and rooting is greatly retarded; they ought not to flag in the least degree. It is a common practice to put five or six cuttings round the edge of a 4½-inch pot, and they strike readily enough in this way, but when the plants are potted off, a check is given by disentangling the roots, which is very undesirable. If one cutting is placed in a small pot, no such check occurs in repotting. This, I consider, is good reason for putting cuttings singly into deep pots, narrow in proportion to their depth, in which the roots naturally go downwards, and a larger number of the pots can be placed in a given space than others of the same capacity, i.e., wider, but not so deep. The kind of pot indicated, measures 2½ inches inside, and they are called, in garden parlance, "thumbs." A cutting-pot should be either new or well cleaned, and one crock in each pot affords sufficient drainage, if it be covered with the rougher siftings of leaf-mould. The pots should be filled with a compost consisting of about equal parts of loam and leaf-mould, with one-eighth of the whole of coarse silver-sand, all being thoroughly mixed together. Make the holes for the cuttings with a blunt-ended dibber; now be sure that the base of the cutting rests upon the soil; afford a gentle watering with a fine-rose can to settle the soil, and place on one side in a place where there is no draught to dry the leaves somewhat before placing in the frame. Having put the pots in the frame, keep the lights close till roots are formed, with the exception of airing the frame for an hour every morning, so as to get rid of the moisture in the air. In the evening, if the glass on the inside has much moisture condensed upon it, it should be wiped dry in order to prevent loss of cuttings by damping-off. No shading should be afforded. In about one month some of the cuttings will be rooted, the varieties which grow the stronger being the earliest to form roots. A small quantity of air should then be admitted by tilting the lights slightly at first, then increasing the amount till they are removed entirely. Those which are rooted should be placed by themselves, their requirements, in the matter of ventilation, not suiting the slower-rooting varieties. To deprive a rooted cutting of air, and confine it similarly to those that are unrooted, is to cause a loss of stockiness, and induce lankiness, which no after-treatment will quite cure. But little water is required in closed frames; still, the soil in the cutting-pots must be kept sufficiently moist to prevent the flagging of the cuttings, and to induce the forming of roots. *E. Molyneux.*

CASTLEWELLAN.

Concluded from page 684).

THE CONIFERS.—These trees form the more conspicuous glories of the place, and examples of rare and commoner species are to be found of a size and symmetry not to be surpassed, and seldom equalled, excepting perhaps at Fota, see p. 363. It must suffice to note only the finest or the rarer examples under each section. Of Picea, a perfect specimen of Morinda was noted; Abies magnifica, 30 feet high, is fine in every respect. This tree stands in a bay on sloping ground, with dense shelter from trees at the back of it. Of Tsuga Mertensiana (Albertiana), a fine specimen 40 feet high was noted; also another planted years ago, which has made excellent progress; one of Abies bracteata is doing very well, which is rarely the case elsewhere. A. concolor violacea, 15 years old, is now a perfect specimen 20 feet in height; the blue-green of the needles is very striking in big plants. An Abies Hookeriana, said by the late Andrew Murray to be "an alpine tree with a spreading irregular habit," is here of a nice, fairly compact habit, the needles blue-green instead of grassy-green, as stated by some authorities; the tree is 25 feet high. Abies Webbiana was noted, a tree 25 feet high; Picea polita, planted in 1884 by Lord Annesley's eldest son, is a tree now measuring 24 feet in circumference and 15 feet in height—a good specimen. Abies Veitchii, a young tree, is making good progress; Picea pungens var. argentea is a pretty type of lawn tree, with bluish-green needles. Of the handsome Fir Abies Nordmanniana, an example 50 feet high, a perfect specimen in every point, was remarked. The Sequoia (Wellingtonia) which is the subject of our illustration (fig. 128, p. 725), was planted in 1856, and it now has a girth of 24 feet at the ground-level, and at 3 feet high, of 19 feet; the height being 69 feet.

In clearings in the woods we noted the following: Abies Lowiana, of perfect form, is 45 feet high, and like all of these Conifers, clothed to the ground; 100 feet high, than which few larger are to be found a grand example of Pinus insignis, here perfectly hardy; a Pseudotsuga Douglasii, perfect as regards shape, in the country; a good Pinus Mugho, an example of great dimensions of Araucaria imbricata in cone. Two Abies nobilis were remarked, one of which was 40 feet high, and bearing cones at the top. Thuias and Retinosporas, Juniperus and Cupressus abound, and there are numerous fine examples on the lawns. A tree of Thuia gigantea (Lobbi) is, we should imagine, almost unequalled for height, it being 40 feet, and large in proportion; T. g. atrovirens, a dark green foliaged form, makes a beautiful symmetrical specimen 35 ft. in height. A specimen of Thuia Vervaeneana was 15 ft. high—a beautiful example; one of Thuia dolabrata measures 20 ft. in height by 15 in breadth. The pretty-looking T. Lawsoniana lutea (fig. 127, p. 721) forms a plant 15 feet high, a perfect specimen, the soft yellow variegation of which, unlike that of some others, is bright at all seasons; Cupressus Nootkatensis albo-variegata is a good-sized plant. Another coniferous plant with constant yellow variegation is C. Nootkatensis var. lutea; the specimen had a height of 6 feet. A handsome specimen of Podocarpusandina was also remarked. Cupressus Lawsoniana gracilis aurea is a plant with foliage of a deep yellow tinge, quite unique, and of Irish origin, having been bought of Mr. Davis, nurseryman at Hillsborough; the plant possesses three main stems. A specimen of C. erecta viridis was noted 25 feet high. Of Juniperusthere are several, including J. sinensis albo-variegatus, a nice specimen of the Nepalese J. recurva, a very pretty, distinct-looking species, with drooping foliage, 30 feet high, and 36 feet in diameter; and J. Burgeoni, a plant raised here from seed sent from New Zealand. Retinosporas are found in great variety of forms, and they are kept under distinctive names, although it is a well-known circumstance that all of them may, at times, be found on one and the same specimen. A specimen of R. plumosa aurea measured 10 feet in height, and 12 feet in diameter of the branches; R. filifera is of the same dimensions; R. f. variety aurea is a smaller plant; R. tetragona var. aurea is a small plant, with pleasing yellow-tinted foliage. The Larch, not lending itself generally to garden decoration, was seen only in the Japan species, L. Kæmpferi, a tree of 6 yards in diameter and 6 feet in height, and in perfect health. The Irish Yew, as is quite befitting, makes extremely fine trees, and good use is made of them.

THE WALLS.

Before leaving this arboretum, we cannot omit to notice the wall of the kitchen garden, which on the side next to the pleasure-ground is profusely covered

with a number of creeping plants, and those which enjoy the protection afforded by a wall. There is here no formal training, and most of the plants are allowed to grow out to a distance from the face of the wall with but little appearance of the restraining hand of the gardener.

Dahlias, and some herbaceous perennials; and separating it from the wide walk, a broad strip of turf, on which large round-headed standard Portugal Laurels are arranged in a straight line, at a sufficiently wide distance apart as not to greatly shade the border or the wall overmuch. Some might condemn the use of



Fig. 127.—Cupressus lawsoniana var. lutea, at Castlewellan. (See p. 720.)
(From a photograph by the Earl of Annesley.)

A sort of floral connection is made from one to the other for a great part of the length, by the glowing scarlet-flowering growths of Tropæolum speciosum. Any flatness of the facing of climbers is obviated by the use of Garrya elliptica. Crataegus pyracantha, and C. p. Lalandei, &c., as outstanding buttresses, at regular distances apart. In the front of this wall is a wide border for flowering plants, mostly Gladiolus,

these objects of the topiarist's art in this part of the grounds, but they appeared to us in perfect keeping with the stately-looking Conifers, and the straight wall and walk alongside which they ranged. The latter connects the gardeners' cottage with a terrace on which the numerous glasshouses are built, and from which fine views over the arboretum are obtained.

Within the boundaries of the kitchen garden borders are set apart for testing rare trees, shrubs, and climbing plants, and here are Sciadopitys verticillata, Cupressus macrocarpa lutea, Diplopappus filicifolia, Coprosma Cunninghami, Urtica nivea, the Fern-like Libocedrus Donniana; L. chilenensis atro-virens, whose young growths have a yellow hue; a species of Myoporum; Pinus Montezumæ, which seems likely to do well; Quercus cuspidata, a distinct, evergreen species; Widdringtonia Whytei, from the Kilimanjaro Mountains, a two year-old seedling, 2 feet in height, from seed sent from Kew. There is apparently, said Mr. Ryan, a dwarf form of this species, a plant of the same age as the rest being only 6 inches high. Quercus bambusæfolia is here a hardy tree, although in England and the colder parts of Ireland and Scotland it is tender.

We might greatly extend our notes of plants in these borders, but enough has been said to show the interest felt by Lord Annesley in the introduction of plants capable of imparting greater interest to gardens in the milder districts of these islands. His lordship's energies are by no means confined to the garden, for we found in Drumbuck Wood, an old plantation of Holly and Oak, a short distance from the latter, a variety of experiments are being carried out in planting half-hardy things, but in truth, it must be said, not all of them successfully. The Oaks are stagheaded in great part, showing the effect of excess of water in the soil, and therefore not likely to improve; whilst the Hollies are gigantic specimens, the girth of one being 3 feet 6 inches at 3 feet from the ground.

Bamboos have been planted in groups, and they are doing well. A pond has been made for Water Lilies, and as a collecting place for surface water. In this pond, some plants of Nymphæa Marliacea were in bloom. Some Conifers were also noted here, but not in the low moist ground. Amongst them are Cryptomeria japonica spiralis, with very dark green foliage; C. j. Lobbi, a variety of an upright habit, and on that account less pleasing than spiralis; Thuja gigantea atrovirens, which trees, when growing in proximity, show great differences in foliage; the so-called Pinus radiata, a garden name, we take it, for a form of P. insignis out of a batch of seedlings of which it was obtained; the needles radiate all round the shoots, and their colour is greyish-green.

In the Scots Pine Spruce Fir and Oak woods, which exists on the hilly land skirting the lake, and much further, many choice Conifers are found in clearings made for them. Their height in many instances reach 70 to 90 feet, and having been afforded an ample space from the time they were planted, their proportions and contour are perfect.

Glass-houses.

The gardens are well provided with glass-houses of modern construction, which are mostly collected together on a terrace. A Water-Lily-house contained plants of Nymphæas chromatella, Leydeckeri rosea, Marliacea rosea, dentata alba, and carnea. Along the roof trail the stems of two plants of Gloriosa superba, which flowers freely in its season; an Aristolochia saccata was in bloom. Other plants not often seen in gardens were the yellow-flowered Stigmaphyllum ciliatum, very free, and useful for cutting; Brownea hybrida, from the East Indies; and Beaumontia grandiflora.

A small stove contained plants of Phyllanthus nivosus, the useful Phrynium variegatum, Codiæums in variety, Dracæna Youngii, and others; Pandanus Veitchi, Aglaonema versicolor, with very distinct leaf variegation; the beautiful green-leaved Begonia smaragdina; Marantas with handsome foliage, Sonerila Silver King, Caladiums, &c.

An intermediate-house contained a plant of the handsome Schubertia grandiflora in bloom; Pellionea Daveauеana, nice panfuls; Bambusa Fortunei, B. Tai-chiku, Ficus lanceolata, with long leaves 2 inches wide; the seldom-seen Doryanthes Palmeri, Codiæum discolor, whose leaves on the under-side are of a red colour and green above; C. aucubæfolium, Bentinckia nicobarensis, handsome and distinct; Heliconia metallica, Maranta Warscewiczii, a variety which stands employment in the mansion without suffering.

In a house devoted to the cultivation of Codiæums, of which there is a great variety, were plants of Leea amabilis, and one of Gmelina hystrix; also Heliconia illustris var. rubricaulis, which has a handsome leaf 6 inches wide and leaf-stalk 3 feet high, colour dark reddish-green; Aglaonema costatum, with dwarf, clean growth; Costus igneus, a species that is nearly always in flower, the colour of the flowers being bright orange; Maranta Veitchi in quantity, it being useful in house decoration; M. Lietzii is a species of dwarf habit, and useful for furnishing vases; and M. leopardinum is somewhat similar. Numerous Alocasias in variety, Eriocnema Sandersi, the fine-habited Dracæna recurva; Adiantum macrophyllum striatum, a very handsome Fern, which every one should possess; Tapeinotes, Carolinæ, Curmeria Wallisii, Dracænas argentea, striata, &c.

The cool Orchid-house showed a number of species and varieties, which form the beginnings of a collection, and the plants being mostly new importations, some pleasant surprises may be in store for the owner. Trachelospermum jasminoides variegatum, although hardy outside, is employed as a climber on the roof of this house. Another rare plant here is Quisqualis indicas. The Cattleya-house contained plants of C. Percivalliana, C. Trianæi, C. Mendeli, Lælia purpurata, Renanthera coccinea, Cymbidium Lowianum, Vanda Amesiana, V. Roxburghi, numbers of species of Dendrobium, Oncidium Forbesii, C. Trianæi alba, &c. The collection is a good one, and much discrimination is shown in making additions.

The "Rock-house" deviates in its management and planting from those usually seen. The central stage or bank is covered with a bold looking rockwork, which in the spring is made gay with the flowers of Daffodil Countess of Annesley, 6000 of which are forced, beside large numbers of other varieties. In this house we remarked Begonias Rex, Countess of Annesley, and Thomas Ryan; Passiflora Constance Elliott, P. edulis, Lapageria rosea, L. r. alba, Mutisia decurrens, and Bomarea Carderi.

A vinery was visited, in which was a collection of Bamboos which had come from Japan, and 700 plants of Maidenhair Ferns. In a Melon-house we found Gardenia grandiflora planted out in a heated bed; and in the same house were numbers of Gloxinias and Streptocarpus hybrids. Other plants and forcing-houses exist, twenty-three in all, we believe, but our time was short, and we were obliged to bid adieu to Castlewellan, and Lord Annesley's tireless and enthusiastic gardener, Mr. Thomas Ryan, without having seen their contents.

The Week's Work.

THE KITCHEN GARDEN.

By Charles Herrin, Gardener, Dropmore, Maidenhead.

The Seakale Quarter.—If the decayed leaves have been cleared off the crowns, there is no advantage in allowing the roots which are to be lifted for forcing to remain any longer in the ground, and by lifting them forthwith the land may be manured and dug for another crop. The roots, when lifted, should be got out of the soil as entire as possible, for the reason that any bit of root left in will grow into a plant. The roots which possess crowns strong enough for being forced should have every rootlet removed about half an inch from the base, and be then laid in, closely together, with the crowns level with the soil, in a border or heap of soil, affording them a slight covering of litter in frosty weather. This sort of protection permits of the roots being easily lifted when required. The thongs or small roots should be placed in a heap and covered with soil or leaves for the time being, cutting them into 6 inch lengths for planting in March. The thickest or crown-end in making the sets should be cut squarely across, and the lower end in a slanting direction, so as to afford an indication to the planter which end he is to keep uppermost. When made pack them in shallow boxes in any kind of sandy soil.

Jerusalem Artichoke.—The tubers are, this year, scarcely so large as usual, owing to the summer's drought. If the crop, for certain reasons, has to be lifted, this may be done forthwith without detriment to the tubers, if they are stored on a damp floor or in a clamp out of doors, the last-named being best for keeping them fresh and firm. If the land be not in need of trenching for some other crop, the tubers should be allowed to remain in the ground for a period of one or two months longer, covering a portion of it with litter to facilitate digging out in frosty weather. The medium-sized, well-shaped tubers make the most suitable sets, and a sufficient quantity of these should be selected and pitted. The Artichoke with a white tuber is of better shape than the purple, and having less deep eyes, may be prepared for table with less waste.

Chinese Artichoke, or Crosnes (Stachys tuberifera) may be treated similarly to the above. The crop, with us, is a very light one this year. These little tubers, it may be here stated, should not be washed until just previous to cooking them; and when sent to a distance, they should go just as they are dug up, or the colour will change from white to a dirty brown, which colour is retained when cooked.

Broccoli.—The recent nip of frost, and the biting east winds, although only of short duration, have injured the heads of those Broccolis which had not been protected in some manner. At Dropmore the self-protecting autumn varieties are still coming into use, and should the weather keep fairly open; Snow's Winter White will soon be fit for use. The Broccoli quarters should be examined every third or fourth day, and any plants which have developed small heads should be lifted, as previously advised, and replanted closely together in cold pits or other place that can be easily made secure against frost.

Materials for Hot-beds.—Where large quantities of fallen tree leaves are collected, it is an easy matter, if some stable litter be obtained, to make hot-beds for a variety of uses, which will retain a good degree of heat for a long period of time. Heaps should be made of these commensurate with the requirements of the garden in the matter of beds, and linings for the same; preparing them by mixing and turning several times. The leaves should usually form two-thirds of the mixture, and they should consist of those of the Oak, Beech, Hornbeam, and Chestnut.

Manuring.—When the ground is sufficiently frozen to carry a cart or wheel-barrow, manure of various kinds should be heaped upon all vacant plots of land, covering the heaps with a small quantity of soil if it cannot be dug-in in a short space of time.

THE FLOWER GARDEN.

By Hedley Warren, Gardener, Aston Clinton, Tring.

Border Carnations.—Those which were planted out some few weeks ago are now on the move; in fact, in some instances too much so, and it may be advisable, in consequence of this untimely growth, to afford them a mulching, it being preferable to do this betimes, and not to wait until the ground becomes frost-bound. The best mulch consists of a mixture of rotten stable-manure and leaf-mould, taking care not to use so much as will choke the plants.

Bedding Plants should not be afforded much water, it being safer to maintain a dryish condition of the soil for a few weeks longer. Those Pelargoniums that were lifted and potted, having now fairly started into growth should be cleared of decaying leaves or flower-stems, &c., and afforded a temperature of 60°, in order that shoots fit for furnishing cuttings may develop. Keep cuttings of Pelargoniums struck in the autumn months in a house having a warmth of 50° till the time arrives for potting them singly, when a rise of 10° to 15° may be afforded them. The stock of tender carpet-bedding plants, viz., Coleus, Iresine, and Alternanthera, should be kept in a temperature of not less than 60° to 65°, otherwise many failures may yet occur, which will mean a considerable addition to the work of propagation later on. Bedding Lobelias are still frequently propagated by cuttings or by divisions of the plants in the autumn; but it sometimes happens that, for some reason or the other, these fail to make satisfactory progress, so that it is wise at about this time of the year to examine the stock of plants, and if any doubt exists as to the supply for the forthcoming season, no time should be lost in making a sowing of seed. The plants raised in this manner are strong and far preferable to those raised from seed sown in the spring of the year. Those who find a difficulty in obtaining a good strain of Lobelias, will find in Sutton's Dwarf Royal Purple one that is good in every respect, it being distinct, and in colour of a rich purplish-blue, with a conspicuous white eye, and of compact habit; and notwithstanding the dry season, it retained its foliage and continued to bloom throughout the summer. Lobelia seed being exceedingly small, requires careful sowing on an even surface of light, rich soil, which should be watered prior to the sowing of the seed, or many of the seeds may be buried too deeply. After sowing the seed and pressing them with a smooth piece of wood, a light sprinkling of fine sand or very finely sifted soil may be given, and the pan or box covered with a sheet of glass, and removed to a temperature of 50° to 55°, where germination will soon take place.

The Hardy Fernery is a capital place in which to plant surplus bulbs. In fact, in many gardens this place is usually included in the ground to be planted, and it is certainly worth considering, when for a small outlay this otherwise bare spot in the pleasure-grounds in the early part of the year may be made bright and cheerful-looking by dotting about of some of the many early flowering bulbs; and although it may not be desirable to make a spring garden of the fernery, yet the planting of a few of the various spring-flowering plants, also such as Alyssum maritimum, Arabis in variety, Aubrietia, and similar plants among the Ferns will enliven the place until such times as the latter have made new fronds. Where the planting or construction of a hardy fernery is contemplated shortly, advantage should be taken of natural slopes, banks, or glens, where not only a far better effect will result, but may be obtained at a minimum outlay of labour and materials.

General Work.—When gravel-walks and drives are not rendered hard by frost, they are always in need of rolling in the winter. If moss-grown, the surface must be scraped with the hoe, and scrubbed with a stubby broom; or if in a very bad state from this cause, the substance of the walk should be turned or pricked up with a fork, and some small quantity of fresh gravel spread over it, after which it should be rolled down to a hard, smooth surface. The bare spots often observed under trees with dense heads should be re-turfed in mild weather, beating and rolling the newly-laid sods. The raking-up of tree leaves, and collection of refuse generally, should be finished, and the flower-garden and pleasure-grounds made tidy as far as circumstances will allow.

THE ORCHID HOUSES.

By W. H. White, Burford, Dorking.

Dendrobiums.—Attention should now be given to the deciduous and semi-deciduous species of Dendrobiums. The handsome golden-flowered D. chrysanthum now starting into growth should be forthwith placed well up to the roof in the East Indian-house, in the lightest available position. Although the young growths may appear to be starting strongly, the cultivator should not be tempted thereby to afford it much water, or the young green shoots will quickly decay. Before the new growths begin to send forth roots, much of the old compost should be picked out and replaced with peat and chopped sphagnum-moss in equal quantities, and until such time as the young roots have made some amount of progress, merely the surface of the compost should be kept moist, but afterwards as the growths lengthen the quantity of water may be gradually increased. It is now advisable to examine the plants of D. Wardianum, D. crassinode, D. moniliforme, D. aureum, D. heterocarpum, D. nobile and its varieties, also the garden hybrids D. micans, D. Wardiano-japonicum, D. Aspasia, D. Cassiope, D. Ainsworthii, D. Dominianum, D. Schroderianum, D. Cybele, D. splendidissimum, D. Dulce, D. Juno, D. melanodiscus, and D. chrysodiscus, the greater number of which will be showing their flower-buds, and may be brought from their quarters in which they have been resting into the intermediate-house, where the night temperature is usually at this season kept about 55°, there to remain till the flowers are about to expand, when, if then removed to a light position in the East Indian-house the flowers will open in their proper tints. From the present time water should be applied at the root at rather long intervals of time, any undue excitement at this season sometimes causing the growths now visible at the base of the pseudo-bulbs to break, and thus prevent the flower from arriving at perfection; too great a degree of wetness in the compost also causes the old roots to decay prematurely. In houses having a moderately moist atmosphere, the plants may make good progress without affording them any water. It is prudent for beginners in Orchid-culture to examine each plant daily, and as soon as shrivelling of the skin of the pseudo-bulbs is noticed, to afford that plant a moderate amount of water. Plants which are placed in the warmest house may have a slight overhead syringing with tepid soft-water on sunny days, and if this be

judiciously afforded, it will tend to the more free expansion of the flowers. The species D. Wardianum, D. crassinode, D. Wardiano-japonicum, D. micans, and others that push up new breaks from the base of the current season's flowering growth before the flowers open, require very careful treatment, or these breaks will grow too rapidly; but if the plants are kept in a moderately dry condition, and cool as well, the new breaks will remain almost stationary till the spring, when they will develop vigorously. Where many D. nobile are grown, flowers may be obtained during several months by placing those plants earliest matured in a cool house as soon as the growths are fully made up, bringing them into gentle warmth as flowers are required. Species which make late growth, viz., D. Parishii, D. rhodopterygerum, D. Bensoniæ, D. superbum (macrophyllum), D. albo-sanguineum, D. secundum, having completed their growths, should be kept in the Cattleya-house or the cooler part of the East Indian-house during their season of rest; and all of them should be kept as dry as possible at the root. Plants of the beautiful D. Phalænopsis, D. bigibbum, D. Statterianum, which may have passed out of flower, should likewise be at rest in a house the temperature of which rarely falls below 60°. The plants will need just as much water at the roots as will avert undue shrivelling. D. Falconerii, and the splendid hybrid D. Venus which was obtained from that species, should not be subjected to a severe drying when at rest, as, although such a kind of treatment results in abundance of flowers, the after-growths usually develop thin and weak—at least, at the first.

Angræcums.—The West African A. pellucidum, now showing its pendulous flower-spikes, should be carefully examined every day, and water afforded accordingly as the surface of the sphagnum-moss towards the sides of the pot or basket is wet or otherwise, for if neglected in the matter of moisture they always push their roots downwards into the compost, and in some cases the plant dies rapidly. The plant named requires plenty of water at all times, and a warm, moist atmosphere, like that of the East India-house to grow in, where it should be carefully protected always from direct sunshine. The winter-flowering Angræcum sesquipedale, now showing its flower-spikes, should be closely examined every day for a small species of yellow thrips; these tiny insects are very partial to the flower-buds, and if not eradicated as soon as observed, they quickly spoil them. The best means to employ against this pest is to vaporise the house with XL All every week from the time the spikes show till the flowers fade.

Sophronitis.—The small and charming Sophronitis grandiflora is growing in the cool-house freely, and will soon unfold its glowing flowers. The plants should have plenty of water at the root at this time, but care taken not to fill the young growths with it, or the bloom-buds perchance will decay. The plant does best in shallow pans, suspended close to the roof, very necessary at this season, the young growths requiring all the light possible, but in summer the plant is kept in a healthy state when placed upon a stage with plants of Odontoglossum crispum. When the flowers are open, do not touch these with water, and they will retain their freshness for a very long period of time. Repotting may be done when growth commences, or immediately after the flowers fade, and a small quantity of peat and sphagnum-moss is all that the plant requires to root in. Sophronitis cernua is now in bloom; it is a plant like S. violacea, appearing to thrive in a trifle warmer temperature than S. grandiflora.

THE HARDY FRUIT GARDEN.

By G. WOODGATE, Gardener, Rolleston Hall, Burton-on-Trent.

The Pruning of Wall-trees.—The pruning, cleaning, and training of most kinds of wall-trees will need to be continued on every favourable opportunity until the work is completed. Release all the branches from the walls, and where nails and shreds are used, all those that are fit for use again should be selected and cleaned. The shreds may first be soaked for a short time in boiling water, to destroy any insects or their eggs that they may contain. The old nails should be placed on a shovel and held over a fire until they are red-hot, and when partially cooled plunge them in linseed oil, and dry them before using. The practice of removing the whole of the branches from the walls every season greatly facilitates the work of pruning and cleaning, and there is less risk of loss of main branches, by their being cut through by ligatures. Such injury usually occurs when the branches are secured with tarred string, which is not removed annually. If the trees were disbudded and pruned during the summer, pruning as was advised in former calendars, there will be no need for much cutting. Any unhealthy branches however must be removed, and in their stead a sufficient number of clean and well-placed young growths laid in. Old trees have a tendency to acquire more spurs upon the branches than there is room for, and the worst placed and longest of these should be removed with a sharp pruning-saw; afterwards paring the wounds smoothly with the knife, and pruning back the current season's growth upon the remaining spurs to two or three eyes. This, however, does not apply to the Morello Cherry. As soon as the pruning is completed, let all the main branches be well brushed over with Gishurst compound, or soft soapy-water, at a temperature of about 120°; when finished, tie the branches loosely into bundles, to allow the wall to be brushed with a stiff brush; all holes made by the withdrawing of the nails should be stopped up, and the walls syringed with soft-soap and petroleum—one pint of petroleum to four gallons of water. If red-spider was observed during the summer on any of the trees, add a good handful of flowers-of-sulphur to each bucketful, and keep the whole well agitated during use. In refixing the branches to the walls, whether by shreds or raffia, take care to leave sufficient room for the swelling of the branches during the next year; and when driving in the nails, be careful not to let the hammer strike the wood. By whatever method the trees are trained, endeavour to fix the branches in as straight a line as possible, and sufficiently distant from each other that the future crop of foliage and fruit may have ample space for development. When training is completed, spray the whole of the trees with an insecticide, to destroy insects or their eggs, which may have escaped the application of soap-suds.

Morello Cherries produce their fruit on the wood of the preceding season's growth, and on spurs on the older wood; therefore the young wood must be laid in at its full length, and much closer together than is advisable for those of other fruit-trees, with the exception of Peaches and Nectarines. Remove the old fruiting-wood where necessary, to make space for young shoots; thin out the spurs where they are too numerous, and shorten back those remaining as much as may be necessary.

PLANTS UNDER GLASS.

By JNO. MCINTYRE, Gardener, Woodside, Darlington.

Gloxinias.—If a large quantity of Gloxinias be grown, a few of the tubers which ripened and were rested early may now be removed to a warm pit, and allowed to start into growth, so that they may bloom about February. These had better not be potted, but just grown-on in the pots in which they bloomed last season, for if the tubers are shaken out at this season, and a brisk heat is not available, they are apt to rot before new roots are made. Remove all the loose soil, however, and top-dress with fresh compost. After the plants are well started, a sprinkling of Clay's Fertiliser or Thomson's Manure may be given occasionally.

Stove Plants.—All specimens of stove plants that have done service during the summer will now require a season of rest, but a mistake is made by withholding water suddenly from any plants that it is wished to see entirely at rest. The practice of depriving plants entirely of water during a certain period of the year has been proved to be an erroneous one. Often are specimens of Clerodendrons, Bougainvilleas, Allamandas, Ixoras, and other species, as soon as they have served their immediate purpose, placed in vineries, Peach-houses, and other cold structures, where little or no attention is paid them until they are again required to be started into growth. In most instances this practice is ruinous to the health of the plants. The amount of water given should be gradually reduced before removing the plants to a cooler house, and at no time should they be subjected to a lower temperature than 50° at night, nor should water be absolutely withheld. Sufficient is required to keep the wood from shrivelling, and the roots from perishing.

Eucharis. Remove some of the potfuls of Eucharis to the warmest house with a view to obtaining blooms at Christmas or soon afterwards. Bulbs which flowered in the summer and have since made strong growth, bloom very readily at this season if afforded sufficient heat and moisture. Experience tells me that Eucharis are better if not plunged in bottom-heat. When the plants are started, a little good fertiliser may be afforded them with advantage.

FRUITS UNDER GLASS.

By W. POPE, Gardener, Highclere Castle, Newbury.

Peaches and Nectarines in the Early-house.—As the buds advance, air in moderate quantity should be afforded at all times by means of the upper ventilator. Under this sort of treatment, the blossoms will develop strongly, which is an essential for a good set. Endeavour to maintain a temperature of 50° in the daytime by artificial means, with an advance of 10° during sunshine. Do not exceed 45° at night excepting in very mild weather; when cold, it may fall to 40°. If fermenting material be used on the borders, turn this occasionally, and supply additional fresh material as the warmth declines. The surface-roots will be stimulated into growth by the warmth afforded by the bed of fermenting substance, and the warmth of the house maintained without fire-heat for a time. When the blooms open, cease syringing the trees, sufficient aërial moisture being provided by damping the paths, borders, &c., twice a day. Should the flowering-wood be thickly set with buds, a portion may be removed by drawing the hand the reverse way to the growth along the back of the shoots next to wall or trellis; the remaining flowers will be sure to benefit by such timely thinning, and time be saved in thinning fruit later on.

Succession-house.—If this is to be started, at or about the New Year, it will probably be the earliest house in many gardens, and should have the pruning and cleansing completed as soon as possible, the shoots, &c., laid in sufficiently thin to allow of the full development of the foliage later on, as upon this will depend, in a great measure, the flavour and proper ripening of the crop of fruit. Keep the house as cool as possible for the present, with plenty of air admitted night and day. Examine the border if in the house, and supply water, if needed. To old or weakly trees a good soaking of rather strong liquid-manure will be of immense benefit.

Making or Renewing Vine Borders.—Where new Vines are to be planted in the spring, this is a suitable time to prepare the border for them, so that the soil will have time to settle previously. A great point in successful Grape-growing is to have perfect drainage, more particularly in gardens that are low-lying, or where the subsoil is wet. In such cases it may be advisable to put a layer of concrete over the bottom, or even to form the border above the level of the surrounding soil, so as to ensure satisfactory drainage of the border, and its resulting warmth. If concrete be decided upon, a thick layer of brickbats should be put in and rammed firmly and level, and above this a layer 3 inches thick of fine washed gravel two parts, and cement one part, mixed to the consistency of soft mortar, spread evenly over the brick rubble with a sharp fall to the front, where a row of 3-inch drain-pipes must be laid with a sufficient fall to the outlet—this will make a good and permanent bottom. The next consideration is the drainage: this may be from 9 inches to a foot in thickness, and may be formed of brick-rubble, or any clean, rough material at hand, placing the roughest at the bottom, and finishing off with the finer particles, to prevent the soil entering and clogging the drainage. Above this place a thin layer of fresh-cut turves evenly, grass-side downwards, before putting in the bulk of the soil, which must not be in a wet, sticky state when used. The best material for this is the top-spit, cut 3 inches thick, of an old pasture or deer-park, well mixed with the usual ingredients of lime-rubbish, crushed bones, &c.; but this is seldom to be obtained. Ordinary good garden soil may be relied upon to produce fine crops of fruit if the following substances are added to it:—One bushel of crushed bones, a bushel of charcoal to each cartload of soil, with a barrowload of lime and mortar-rubbish, if the staple soil is of a heavy texture; or the same amount of pulverised clay, if it be light and sandy. If the soil is deficient in calcareous matter, a due proportion of finely-broken chalk may be incorporated with it, by turning two or three times before making up the border. When forming the border, trample or ram the soil firmly together as the work proceeds, and not making it more than 30 inches deep.

GUSTAV MANN.—The current volume of the *Botanical Magazine* is dedicated by its editor to Mr. Gustav Mann, late Assistant-Conservator of Forests in Assam, who, previous to going to Assam, explored the Camaroons and Fernando Po to the great profit of Science.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the PUBLISHER.

Letters for Publication, *as well as specimens and plants for naming, should be addressed to the* **EDITOR, 41, Wellington Street, Covent Garden, London.** *Communications should be* WRITTEN ON ONE SIDE ONLY OF THE PAPER, *sent as early in the week as possible, and duly signed by the writer. If desired, the signature will not be printed, but kept as a guarantee of good faith. The Editor does not undertake to pay for any contributions, or to return unused communications or illustrations, unless by special arrangement.*

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees &c.; but he cannot be responsible for loss or injury.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

Newspapers.—*Correspondents sending newspapers should be careful to mark the paragraphs they wish the Editor to see.*

APPOINTMENTS FOR THE ENSUING WEEK.

SATURDAY,	DEC. 12	Royal Botanic Society, Meeting.
SUNDAY,	DEC. 13	Brussels Orchidéenne, Meeting.
TUESDAY,	DEC. 15	Royal Horticultural Society's Committees.

SALES.

MONDAY,	DEC. 14	Dutch Bulbs, Roses, Carnations, &c., at Protheroe & Morris' Rooms.
TUESDAY,	DEC. 15	Japanese Lilies, Roses, Continental Plants, Palm Seeds, &c., at Protheroe & Morris' Rooms.
WEDNESDAY,	DEC. 16	Last Sale of the Season of 150,000 Fruit Trees, at Perry Hill, Cliffe, near Rochester, by order of Mr. W. Horne, by Protheroe & Morris.
		Rose and Fruit Trees, Border Plants, Shrubs, 20 Cases of Araucarias, as received, Dutch Bulbs, &c., at Stevens' Rooms.
THURSDAY,	DEC. 17	Roses, Bulbs, Hardy Perennials &c., at Protheroe & Morris' Rooms.
FRIDAY,	DEC. 18	Orchids, from Messrs. F. Sander at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—40·4°.

Glass-house Crops in Guernsey.

EVEN the uninitiated tourist of the City stamp must realise, after a few hours drive in Guernsey, that a large proportion of the land is devoted to Grape and Tomato culture under glass. Indeed, in some parishes, not less than half of the actual superficial area is under glass. In view of the fact that the Guernsey farmer is, as a rule, if not wealthy, at least comfortably off, a few remarks concerning his mode of procedure may not be altogether without a lesson to the British grower.

First, as to Tomatos. They form decidedly the staple crop of the local farming year. During the month of December, some Tomatos of the last crop, specially preserved for the purpose, are mashed into a pulp, and with the aid of a Tomato-sieve and a basin, the seed is extracted therefrom. This seed is put into the soil of the greenhouse a few inches deep, and the plant, manured with prepared bones, &c., and trained perpendicularly, by means of strings and cross-laths to a height of about 6 feet, reaches maturity just before the month of April. Less than a month later, the fruits are all picked and exported. Subjected to renewed treatment, the plants bear a second crop of Tomatos about the middle of August.

The growth of Grapes is also remarkable, and is becoming more and more popular every year. Almost every country-house in Guernsey has its conservatory, and a large proportion assist in supplying the British markets. Under certain conditions, these Grapes ripen perfectly without any artificial heat, at a somewhat earlier period than in England. In ordinary years, the cutting season commences early in August, and by the end of September most of the houses have been cleared. The infection of the Grape-growing industry has spread to Jersey, where some of the big conservatory owners can and do show fruit often larger than, and sometimes of quite as fine a taste, as the much-lauded Guernsey Grapes.

That Guernsey is a land of Grapes—of course, after Tomatos—is patent to the stranger even before he lands. As soon as the mail-boats get alongside the quay, they are boarded by numbers of young women with baskets of Grapes for sale. The prices paid on these occasions are, of course, much higher than those demanded in the greenhouse, and even in the shop. Nevertheless, the ubiquitous Guernsey Grape-marchande manages to get rid of the greater part of her stock.

A reliable market report on Guernsey produce for a week in the middle of September, when the best part of one constituent part of the produce, namely, the Grape, is on the market, gives the following prices as actually paid by dealers in the North of England:—Black Hamburgh Grapes, 3*d.* to 4*d.* per pound; Alicantes, 5*d.* to 6*d.*; Tomatos at the same time were sold at 3*d.* to 3½*d.* per pound for smooth, and 2½*d.* to 3*d.* for ordinary Tomatos. With respect to the demand, the same market report stated:—"Tomatos: although supplies from the Channel Islands are decreasing, the second crop of English is coming in, so the demand at present prices is fully met."

It must be borne in mind that Guernsey, in common with all the Channel Islands, boasts a wonderfully fertile soil, and an exceptionally favourable climate for fruit-culture. There is also ample bright sunshine. A noted Royal physician declares he is surprised to find growing in the open air in Guernsey plants which are, in England at least, looked upon as tropical.

So, aided by Nature, incited by a laudable desire to make money by hard work, strict attention to the needs of his crops, a careful noting of the conditions under which these best thrive, by judicious manuring, and the maintenance of a merited reputation, the resident on Sarnia's soil is able to make his land secure him the necessaries, and sometimes the comforts of this life. But, as already hinted, if the Guernsey farmer be comfortably off, it is not the result of sitting with his hands behind him. Before he can enjoy any of the receipts of his crops, he has to pay a considerable sum of money for the building of his greenhouses. All the glass, wood, and other material, has to be imported, and, if it be a question of heating the house, there is a big item for engineering work, the installation of boilers, pipes, &c. There is no coal in the island, and practically all the fuel has to be imported. To make the hot-house anything like a success, and to keep pace with the growing competition, it is necessary to have continual labour for taking care of the fires, regulating the temperature, opening and closing of the ventilators, &c. A large grower in the north-west of the island showed us one of his average-sized hot-houses, measuring 155 feet in length, and approximately 35 or 40 feet wide. This is quite a plain house, with only necessary adjuncts, but its building, fitting, heating and all, when complete, cost him over £350. It would seem that the boilers and pipes are responsible for quite half of the total cost, and if one inquires why growers do not confine their attention to the less expensive cold houses, one is told that the hot-houses form a speculation, where the initial outlay is more likely to be recouped by the ultimate multiplicity of the crops than in unheated buildings. Estimates for the construction of cold greenhouses range from 5½*d.* to 8½*d.* per foot "all over;" and some contractors will, in a fit of enterprise, offer to build you a house, providing you find the material, at as low a figure as 2¾*d.* a foot.

All shapes of greenhouses may be seen in Guernsey. Square, and lean-to (this latter has, as its back, the side of a house or a wall), round, and oblong houses are to be found in the various parishes. The commonest form is the oblong, some 10 or 12 feet in height at the centre, and running down at the sides to 2 or 3 feet, the sides being frequently superposed on a small brick or granite wall. Where lean-to cold houses are built, special efforts are made to afford the front of the building as much sun-heat as possible. From the relatively large number of oblong, gable-shaped houses, it may be concluded that this form has been found, on the whole, the most suitable to the exigencies of Tomato and Grape culture in Guernsey.

The Guernsey greenhouses are, occasionally, brought into requisition for the propagation of Melons and other fruit, but these cultures call for no special remark here.

And now, with respect to profits. It may be authoritatively stated that, as a general rule, the Guernsey grower gets a proportionately better financial return for his crops than does the Jersey farmer for his. The very fact of the former's crops being raised under conditions which can generally bid defiance to climatic vagaries at once gives him an immense start in the race for wealth. But there is another factor which has no little effect on the Guernseyman's income, and that is, union among the growers—a factor, by the way, which seems to be entirely wanting among the agriculturists of the sister island. It is known that, at certain seasons of the year, Tomatos and Grapes from Guernsey are sought after with great avidity by Covent Garden and other market buyers, and this owing to the obvious fact that from very few other places can they be then obtained. Knowing this, and bearing in mind his initial outlay on building greenhouses, his care and attention in cultivating the fruits of the earth therein, and his object in bringing them to the passing steamer or the resident merchant—bearing these things in mind, we repeat, the Guernsey grower, conscious that his compatriots are with him, asks for his goods a price which, while representing the value of the fruit to the buyer, ensures him a return for his labour and the money laid out, and some pocket-money into the bargain. And so it comes about that the Tomatos and Grapes change hands, and

every morning about ten o'clock, from April till October, and sometimes later, one can see thousands of baskets holding something under 20 lb. of fruit, being shipped on the out-going English steamers, the scene on the quay being both curious and exciting. But, it must not be supposed that when the Tomatos and Grapes have all been despatched, the grower's work is done. His reigning idea is never to allow his greenhouse to be idle. So, after the Tomatos are out, he puts in Chrysanthemums either for ultimate sale, or for exhibition in November. In some hot-houses even Potatos are planted, and excellent prices are obtained for these, which are ready for exportation or home consumption at the latter end of January.

Date Fruits at Nice.

In the *Comptes Rendus* for Nov. 9 we find an account, by M. Aimé Girard, of Phœnix melanocarpa, which has been found to do well at Nice, and whose fruit is possessed of peculiar economic properties. "This Date-Palm," says the writer, speaking of a specimen on the terrace of the villa Fleury de Cessole, at Nice, "came from Bordighera, and was placed here in 1882 by M. Victor de Cessole, owner of the villa; it was then ten years old, and from 1893 it has produced each year a dozen spikes, on which are formed fine, palatable, and sugary Dates, ripening in April in the Mediterranean climate, whereas, under the African climate the earliest Dates are not ready before July. This Date-Palm is the first in France from which palatable and edible fruit has been gathered. M. Ch. Naudin has named it Phœnix melanocarpa, to commemorate the black colour of the fruits."

As regards the constituents of the pulp, M. Girard says:—"It seems justifiable to affirm that the sugary matter which gives these fruits their flavour is formed exclusively of levulose."

As to other products included in the composition of the pulp, they have been determined by the ordinary processes of analysis. A remarkable fact has been ascertained. Among these products it has been impossible to detect either acids or tannin components. The absence of products of this class on the one hand, and the abundance of pectine on the other, accounts



Fig. 128.—Sequoia gigantea, at Castlewellan. (see p. 720.)

(From a photograph by Lord Annesley.)

for the particularly soft and mellow flavour of Dates gathered from Phœnix melanocarpa. The constituents of the pulp of these fruits have been tabulated as follows :—

Inedible Portion			
Skin, 37·23 to 100 of water		7·65	20·75
Stones, 2·81 to 100 of water		13·10	
Edible Portion (Pulp).			
Water			34·77
Soluble matter	Levulose	31·08	39·80
	Acids	none	
	Tannins and analogous matter	none	
	Nitrogenous matter	0·60	
	Pectine	1·72	
	Undetermined organic matter	5·63	
	Mineral matter	0·77	
Insoluble matter	Cellulosic lignines	4·20	4·68
	Nitrogenous lignines	0·36	
	Mineral matter	0·03	
			100 00

Thus constituted the fruit of Phœnix melanocarpa is possessed of particularly agreeable properties. In spite of its great richness in sugary matter, richness which in weight amounts to two-fifths of the pulp, the flavour, because this sugary matter is levulose, is soft and less marked than that of saccharose Dates; the absence of acids and tannins further accentuates this quality of mellowness; the tender pulp, of good substance, rich in pectine, melts, so to speak, in the mouth, and the refined quality of the Dates communicates a delicate perfume to it.

OUR ALMANACK.—Secretaries of Horticultural Societies and others, are earnestly requested to forward *immediately*, the dates of Show Fixtures and of Meetings of Botanical and Horticultural Societies of any kind for 1897, for insertion in the Almanack to be published in our issue for January 2.

ROYAL HORTICULTURAL SOCIETY.—Rev. W. WILKS, Secretary of the Society, writes :—"May I ask you to be so kind as to allow me the use of your columns to ask the members of the Fruit Committee to come to the next meeting, on December 15, prepared to revise the pamphlet *Fruits for Cottagers*, published in 1892. About 65,000 copies have been distributed, a new edition is now wanted, and the expediency of revision has been suggested."

LINNEAN SOCIETY.—At an evening meeting, to be held on Thursday, December 17, 1896, at 8 P.M., the papers to be read are : I. "On the Chalcididæ of the Island of Grenada, B.W.I.," by Mr. L. A. HOWARD, Ph.D.; and II. "On the Development of the Ovule of Christisonda, a Genus of the Orobancheæ," by W. C. WORSDELL.

BOTANICAL MAGAZINE.—The December number contains illustrations of the following plants :—

Grammatophyllum Rumphianum, Miquel, t. 7507.—A very handsome species, known in gardens by the synonymous names of G. Gulielmi II., Kränzlin, and G. Seegerianum, Hort.

Prunus subhirtella, Miquel, t. 7508.—A Japanese species, with lanceolate, transversely plicate leaves, and corymbs of pale rose or white flowers.

Coriaria japonica, A. Gray, t. 7509.—The most interesting feature of this Coriaria is the colour of the flowering and fruiting petals, which varies from cherry-red to coral-red. It flowered in Canon Ellacombe's garden at Bitton.

Cypripedium exul, Rolfe, t. 7510, described as insigne var. exul in these columns, 1891, ii., 94.

Iris albo-purpurea, Baker, t. 7511.—A Japanese species, with pale violet-spotted flowers, allied to I. hexagona. Kew.

A SILVER BANKSIAN MEDAL FOR ALLOTMENT CULTURE.—The Council of the Royal Horticultural Society has very kindly, through its Secretary, the Rev. W. WILKS, presented to the Technical Education Committee of the Surrey County Council, a Silver Banksian Medal for presentation to Mr. HARVEY HOPKINS of Carshalton, an ex-policeman, whose finely cropped and cultivated allotment received the highest number of marks of all the allotments judged last summer by the County Council's horticultural instructors. The medal will, we understand, shortly be presented to the recipient at a public function, to be attended by Mr. E. J. HALSEY, J.P., Chairman of the County Council, Mr. COSMO BONSOR, M.P., and other gentlemen. This act on the part of the Royal Horticultural Society to some extent marks a new departure, and an excellent one, obviously capable of extension to other County Councils, which, like that of Surrey, give special encouragement to both allotment and cottage garden culture in their respective areas. It would add immense interest to such work, no doubt, were one of these medals annually awarded, and they might, perhaps, be given to allotments and cottage gardens alternately. Once well known, there could be no doubt but that competitions for the medals would be very great, and superior cultivation consequently promoted. The Royal Horticultural Society can make its influence for good widely known in the direction above indicated. *Journal of Horticulture, December* 10, 1896.

LANDSCAPE GARDENERS AND ARCHITECTS.—We have great satisfaction in announcing that Mr. H. E. MILNER has been elected an honorary associate of the Royal Institute of British Architects as one of those "who, by reason of their position, or of their eminence in art, science, or literature, or their experience in matters relating to architecture, may appear to the Council to be able to render assistance in promoting the objects of the Royal Institute." As, owing to some rather foolish publications the relation between landscape gardeners and architects has been somewhat strained, we are the more pleased to see the Royal Institute taking broader views. Mr. MILNER is to read a paper on the "Relation of the Garden to the House," before the Institute in February next.

RATING.—On Friday, December 4, a special session was held at the County Court House, Wandsworth, to hear a number of appeals by the Surveyor of Taxes against assessments by the Wandsworth and Clapham Union, under the Agricultural Rates Act. Mr. YOUNG represented the Assessment Committee, and Mr. WRIGHT, Surveyor of Taxes, represented the Board of Inland Revenue. Mr. GEORGE CLARK, Priory Lane, Putney, gave evidence that he was owner and occupier of 7 acres of land in the above parish, 4 acres of which were under glass. Mr. WRIGHT contended these glass-houses were buildings, not only in the ordinary acceptation of the word, but were buildings under the Agricultural Rates Act. After an absence from the Bench for some time, the justices returned, and the Chairman announced that they had carefully considered the case, and were unanimously of opinion that the case be dismissed. Twenty-three similar cases were dismissed on like grounds.

THE SMITHFIELD CATTLE SHOW.—An event of considerable importance, that invariably precedes the Christmas season, is the annual cattle show of the Smithfield Club, held this week in the Agricultural Hall, Islington. Some idea of the magnitude of these exhibitions can be formed from one fact alone. The value of the money prizes, cups, and other awards offered annually amounts to nearly £4000. Primarily, of course, the display is one of "live meat," and this is perhaps an extremely uninviting spectacle for many of us who are more concerned with exhibitions of a very different nature. However, the "side shows" are so numerous and uncommonly varied, that some might be worthy of the visit of a vegetarian. During the short time we were present, after seeing the "best beast in the show" that obtained the Queen's Cup for the Lord of Glamis Castle, we preferred to wander through the extensive galleries, and inspect the wonderful amount of agricultural machinery, embracing all the latest improved appliances. These are of a character that leads one to think that latterly more advantage has been taken of modern mechanical skill in the matter of land-tilling than has ever before been the case. Then, in juxtaposition to these exhibits, were the displays of roots, grains, and vegetables made by our leading seedsmen. Messrs. SUTTON & SONS, Reading, for instance, had piles of extra-sized roots of Mangels, Swedes, and Turnips. These, as well as the fine Potatos exhibited, were representative of the firm's best strains. From our point of view, the most interesting feature in Messrs. SUTTON'S exhibit were some Peas in pots. The plants were not more than 18 inches high, and the pods appeared to be about half filled. Messrs. CARTER & Co., of High Holborn, also had a remarkable display of choice agricultural and horticultural produce, the latter including some excellent Potatos. Messrs. DICKSON, Limited, Chester, made no such effort, but confined their exhibit to some mounted specimens of the natural grasses, some Apples, and a few examples of young trees from the forest tree department of the Chester Nurseries. Messrs. WEBB & SONS, Stourbridge, showed Swedes exceptionally well, and filled a large stand with a good assortment of general produce. Mr. J. K. KING, of Coggeshall, Essex, and Reading, Berks, displayed general agricultural produce; as did also Messrs. THOS. KENNEDY & Co., Dumfries, who had a number of young trees; and Mr. ALEX. BLATCHFORD, Coventry. In Messrs. JARMAN & Co.'s stand, of Chard, Somerset, was noticed good Parsnips, Onions, Turnips, some Apples also, and fruit trees. The well-known Potato raisers, Mr. FIDLER, of Reading, and Mr. FINDLAY, of Markinch, N.B., displayed some admirable specimens of some of the newest varieties of "The Tuber;" and Mr. HORNE, of Perry Hill, Cliffe, Rochester, Kent, showed some dessert and culinary varieties of Apples. Included in this exhibit were fruits of the variety of Fameuse, a consignment of which was recently presented to HER MAJESTY from Canada; it is of moderate size, very deep red in colour, and not particularly firm. Messrs. HARRISON, of Leicester, had a stand that for effect was well deserving of mention, and it included an excellent lot of root and other produce. Berner's Hall and the Arcade Gallery were filled with specialties in medicines and foods for cattle, and agricultural and horticultural manures. The corridor leading from the main entrance contained Messrs. SPRATT'S stand, and other providers for poultry, game, and dogs. In another annexe was a sort of bazaar, which contained novelties in innumerable articles, and the dead poultry was displayed in yet another hall; indeed, one's experience, when coming from the Smithfield Club Show, is to the effect that something of most things has been seen, besides much—very much—beef.

FLOWERS IN SEASON.—Among the few flowers obtainable out-of-doors sometimes at this season may be mentioned the lovely blue-flowered Gentiana acaulis, a number of fine flowers of which have been sent us by Mr. J. ALLSOP, the gardener at Dalton Hall, Hull. They bespeak the mildness of the present season in that part of Yorkshire.

A LARGE BISMARCK APPLE.—A very fine specimen of Bismarck Apple was shown by Messrs. B. HURST & SON, Burbage, Hinckley, at the Royal Horticultural Society's meeting on November 24, for which they received a Vote of Thanks; and they now send us a few interesting particulars regarding the fruits. "It was one of two growing on a dwarf espalier in a nursery row; the tree upon which it grew is four years old from the bud, and was worked on the English Paradise stock; it has three tiers of branches on each side of the middle stem; the tree is growing in the open in a very exposed place, but at the same time fully open to the sun; when last weighed and measured, the fruit was 15 inches in circumference and weighed 18 ozs. (avor.), and as you mention in your report, it was handsome and well-coloured." [Bismarck was figured in the *Gardeners' Chronicle*, Feb. 18, 1893, p. 195.]

ESSEX TECHNICAL LABORATORIES.—The *Journal* for October contains a study of the bacteria found in the water of the Colne Estuary, so famous for its "native oysters," articles on the Essential soil-constituents, on Butter-making, &c.

NATIONAL ROSE SOCIETY.—The balance-sheet to November 30, shows a balance in favour of the Society of over £76, as compared with one of £45 last year. Nearly £500 were distributed in prizes and other disbursements for the benefit of exhibitors. While the show at Ulverston cost only £2 12*s.* 8*d.* (not including the prize-money, which amounted to £138) the receipts are placed at £80.

CORNWALL AS A WINTER RESORT.—The Great Western Railway Company has issued a third edition of its pamphlet on this subject. Readers of the *Gardeners' Chronicle* will not be surprised to learn that much of the evidence in support of the relatively equable climate of parts of the county is derived from the exotic plants which thrive in the gardens, records of which have been given in the *Chronicle*. We have, in fact, repeatedly given illustrations of the gardens of our westernmost county and of the adjacent Scilly Islands.

LEMONS IN CALIFORNIA.—According to an article in *Garden and Forest*, the greatest amount of success in Lemon culture is attained when the Lemons are grafted on Orange stocks.

THE GENUS SILENE. — An important monograph of this genus by Mr. F. N. WILLIAMS has lately been issued by the Linnean Society in the thirty-second volume of the journal of the society. Mr. WILLIAMS carefully enumerates no fewer than 390 species, all authenticated and grouped with the skill of an expert monographer, reference being facilitated by tabular summaries, indexes, &c. "In the matter of absolute priority in the names of species," writes Mr. WILLIAMS, "I have preferred not to change a few old-established names which are always met with in the floras generally used, and under which the literature of the species is always to be found, in favour of obscure, little known (and usually inappropriate) names which may possibly have antedated them in publication by a few months. The plea of convenience and stability in nomenclature, is of far more scientific importance in morphology than endless name-changing for reasons of priority."

EDINBURGH SEED TRADE. — The seed trade assistants of Edinburgh held their annual dinner in Messrs. AITCHISON'S Rooms, Queen Street, on the evening of Thursday, 3rd inst., under the presidency of Mr. SOLATER. Over a hundred gentlemen sat down to an excellent *menu*. Fifteen seed houses in town were strongly represented, and the committee are to be congratulated on a highly successful gathering.

FAMOUS GARDENS ABROAD AND AT HOME was the subject of an interesting lecture delivered by Mr. F. W. MEYER on the 2nd inst. before the "Devon and Exeter Gardeners' Association." The meeting upon this occasion was held in the Guildhall, Exeter, where the representations of 100 lime-light views of foreign and English gardens were seen to advantage. The lantern was manipulated by Mr. J. I. PENGELLY.

KEW GARDENERS' MUTUAL IMPROVEMENT SOCIETY.—On Monday last, 7th inst., a meeting of this Society was held in the garden library, Kew, Mr. W. WATSON, Assistant-Curator, in the chair. Mr. ROLFE gave an interesting lecture, entitled "Orchids at Home and Abroad." During over an hour he secured the attention of the members. After a discussion by the student gardeners, Mr. W. WATSON gave a *résumé* of his thoughts on Mr. ROLFE'S ideas. He paid special attention to the cultivators' view of the matter.

STOCK-TAKING: NOVEMBER. — It may have been at one time true that "when chemicals showed a decline," our imports, as a rule, fell off; to-day the fact is quite the other way, for, notwithstanding a decline in the imports of chemicals, imports foot up the large total of £42,502,969 as the value for November, as against £39,006,911 for the same month last year, or an increase of £3,496,028. Had there been but four Sundays in the month (as in November, 1895) instead of five, as in the past month, the increase would have been still more marked. The following figures are from the "summary" table of the Board of Trade Returns for the past month:—

IMPORTS.	1895.	1896.	Difference
	£	£	£
Total value ..	39,006,911	42,502,969	+3,496,028
(A.) Articles of food and drink – duty free	12,658,182	14,085,506	+1,427,324
(B.) Articles of food and drink dutiable	2,642,803	2,870,932	+228,129
Raw materials for textile manufactures	7,700,372	9,810,248	+2,109,876
Raw materials for sundry industries and manufactures	4,098,954	3,914,085	—184,869
(A.) Miscellaneous articles	1,485,176	1,466,730	—18,446
(B.) Parcel Post ..	83,464	110,863	+27,402

Interest naturally turns to the food supplies, and from Canada, the United States, Argentina, Russia, Roumania, supplies of Wheat, Barley, Oats, Indian Corn, have poured in. Our "Corn averages" may be consulted for the effect of these on market prices. But food supplies and raw material for textile fabrics account for the major part of the great increase for the month—cotton from the United States being placed at nearly 1,000,000 cwt. more than was landed in the same month last year. There was a heavy falling off in Australian wool, but this was compensated for in other directions; and West Indian sugar planters may find some consolation in the condition of the Beet-sugar supplies from the Continent—not very satisfactory for the producers, or for consumers here. Imports of Apples from Canada show an extraordinary increase, as witness the following table:—

IMPORTS.	1895	1896.	Difference.
Fruits, raw:—			
Apples .. ...bush.	589,721	1,406,570	+816,849
Cherries ... ... ,,			
Plums ... ... ,,	320	15	—305
Pears .. ... ,,	22,456	14,331	—8,125
Grapes .. .. ,,	138,668	56,226	—82,442
Unenumerated .. ,,	45,963	66,361	+20,398
Onions ... .. ,,	609,388	714,749	+105,361
Potatos ... ... cwt.	82,181	40,707	—41,474
Vegetables, raw, unenumerated .. .. value	£71,650	£71,691	+£35

Always interesting, our usual fruit, root, and vegetable summaries have an added interest at Christmas time: and it is satisfactory to add that the supplies of Currants are in excess of those sent in November, 1895. London children are now revelling in good Apples at 1*d.* per lb.; Pomegranates at two a 1*d.*; Oranges being plentiful at three and four a 1*d.*;—this, not from the street-hawkers, but from the shop and market. We conclude this section by noting that the imports for the eleven months of the year are given at £398,303,740—against £379,750,023 for the same period of 1895—a gain of £18,553,717. As to our

EXPORTS

The value for last month—£18,539,853—against £19,540,333 for the same period last year, or a falling away to the amount of £1,000,480. The value for the eleven months is £219,631,003, as against £206,989,636 for the same period last year—a gain of £12,641,367. The reduction in American demands is accountable for a great portion of the falling off in last month's exports, textiles figuring most notably, also linen goods of various kinds. There is no doubt that politics have had much to do with this, but as no tariff alterations are even hinted at in President CLEVELAND'S last "Message," doubtless a firmer tone will be given to the market, with a corresponding result on this side. By the way, the export trade scare is just now exercising our French friends, to whom writers in various journals are now proving that Germany is making inroads on their foreign trade preserves!

NATIONAL CHRYSANTHEMUM SOCIETY.—A meeting of the Floral Committee took place on December 9, and, as might have been expected, only a few subjects came before that body. A First-class Certificate of Merit was awarded to incurved King of Orange, a new and distinct clear golden variety of compact character, shown by F. W. FLIGHT, Esq., Cornstiles, Twyford, Hants. This welcome addition to the incurved section was shown by Mr. FLIGHT in his first-prize stand of twelve incurved on Dec. 1, and was much admired. This was the only Certificate awarded. From Mr. CHANDLER, Nyn Park, Northaw, came Florence Chandler, a white sport from Primrose League, the basal petals suffused with delicate pinkish lilac. Mr. OLLERHEAD, the Gardens, send incurved Egyptian, shown in good character, but paler in tint than is usually seen; as this is one of the varieties that has raised the question as to its proper classification, it was thought best not to make any award until its proper classification had been settled by the special committee to be appointed for the purpose. Messrs. H. CANNELL & SONS, nurserymen, sent what they regard as a type forming a new section, namely, Midget, a miniature Japanese, like a diminutive Alfred Salter, pale pink in colour, the small incurved flowers compact and full. As a plant was shown as well as cut blooms, it promises to make a very useful decorative variety, and for cutting purposes. Mr. W. WELLS, Earlswood Nurseries, had three single varieties, one of which, Disraeli, was Commended, a somewhat distinct and attractive variety of a creamy-yellow colour. Mr. PHILIP LADDS, of Swanley, sent blooms of a large and brilliant yellow incurved Japanese, invaluable for late blooming, and said to be an excellent market variety, as it is largely grown for this purpose by Mr. LADDS.

CYCLAMENS MADE IN GERMANY. — Messrs. HUGH LOW & Co. inform us that at the next meeting of the Royal Horticultural Society on Tuesday next, they intend to show a batch of Cyclamen, half of which have been raised from the best German seed from several growers, and half from seed of their own saving. The plants are of the same age, and have been cultivated under identical conditions.

ADENOSTYLIS ALBIFRONS. — This plant, a native of Swiss woods, is used with good effect in the gardens of some of the Swiss hotels, and is also treated as a pot plant. In this latter condition, and in the absence of perfect flowers, it presents a remarkable superficial resemblance to a garden Cineraria. M. CORREVON, in his useful little *Flore Coloriée de Poche* (Paris, KLIENSECK), describes it as a robust plant, with very large rounded leaves on long stalks, unequally crenelated, dentate, grey, and cottony on the under-surface; stems 70 to 120 cent. (say, 2½ to 4 feet); flowers purplish, small; corollas tubular, in a wide-spreading head.

THE LINCOLN STAMP ALBUM.—The Lincoln Stamp Album must be now so well and favourably known to philatelists, that only to novices can it need recommendation. The appearance of a new (the eleventh) edition gives us an opportunity of commenting upon the usefulness of this album, which includes a series of maps and a descriptive postage-stamp catalogue to aid the collector to identify his specimens. There are various qualities and shapes of these Lincoln albums, some of which are arranged to contain post-cards, post-marks, crests, and similar articles. The volume before us is handsomely got up; the paper is good, the divisions for the stamps of sufficient size, and, where necessary, of triangular, oblong, and other unusual shapes to accommodate special issues. It should be added that the address of the publisher, Mr. WILLIAM S. LINCOLN, is now 2, Holles Street, Oxford Street, W.

ISLE OF WIGHT HORTICULTURAL IMPROVEMENT ASSOCIATION.—The usual monthly meeting was held at Warburton's Hotel, Newport, on Saturday, Dec. 5, when the Rev. H. EWBANK, M.A., Ryde, read an excellent paper on "A Garden in the Isle of Wight." The chair was occupied by Dr. GROVES,

B.A., J.P., and there was a numerous attendance of members, who were evidently much interested by Mr. EWBANK'S discourse on the cultivation of herbaceous and alpine plants in the island. He spoke of the many advantages it possessed for the growth of rare plants, and stated how, in his own garden, plants from many varied climes seemed to sacrifice their little peculiarities to a great extent and live together in harmony. Still, he had many losses to deplore amongst plants from foreign parts. In the course of his remarks he said that he considered many of the double flowers, particularly some of the large double-flowered Dahlias of renown, vulgar-looking when compared with the many hardy herbaceous plants, such as Aconites, Cyclamens, Irises, Snowdrops, Hellebores, and Narcissi—which all received due attention from the lecturer. In the discussion which followed, it was pointed out by the gardeners coming from various parts of the Island, that many plants considered half-hardy will stand without protection in the severest of winters, and that much might be done by District Councils in the Island to enhance its beauty, and make it still more attractive to visitors than it is, not making in name only, but in reality, the Garden Isle.

THE DARWIN STATUE.—It has been resolved by the committee of the Shropshire Horticultural Society to place the commission for a statue of CHARLES DARWIN in the hands of Mr. HORACE MONTFORD. It is proposed to erect it in front of the Shrewsbury Public Free Library, formerly the Free School building, where DARWIN received a portion of his education.

PLANT PORTRAITS.

NARCISSUS TAZETTA, 1, Grand Monarque, segments white, cup pale yellow; 2, Gloriosa, segments white, cup yellow; 3, Grand Soleil d'Or, segments yellow, cup orange. *Floral Magazine*, t. 6.

PASSIFLORA EDULIS, *Garden*, November 21.

TULIPS, 1, Vuurbaak, double crimson; 2, alba maxima, double white; 3, Raphael, double white, tipped with pink recommended for early forcing as well as planting out of doors. *Floriculture Illustrée*, t. 5.

HOME CORRESPONDENCE.

LAPAGERIA SEEDLINGS.—I may inform Mr. Burbidge that last season the white and red varieties fruited here very freely, and that I have raised a few plants from the seed sown, of which I send one for your inspection. Also flowers of L. rosea var. I do not think seeding is beneficial to the plants, as they do not seem to grow so freely afterwards. The plants here are growing in a small conservatory, and kept quite cool. The flowers are fertilised by insect agency here for a certainty. *Thos. Denny, Down House, Blandford.* [The fruiting of any plant is a deterrent to growth. The young seedling is interesting, and the flowers are very fine. ED.]

ORIGIN OF THE SOUVENIR DE LA MALMAISON CARNATION.—In the obituary notice of Mr. William Young, in your issue of November 28, it is said that, among other things, he introduced the original Malmaison Carnation. The impression given is that it was raised by him. I have often tried to find out its true origin, and have read several suggested ones, none of which seemed quite clear or satisfactory. I have always had an impression that it might have taken its name from the good old Bourbon Rose, Souvenir de la Malmaison, which to me, the oldest form of the Carnation much resembles in colour and shape. The Rose was probably introduced prior to the advent of the Carnation. In 1843, I believe, the Rose came to England, and so fine and distinct a Rose must have become a favourite, and it may have suggested the name for the Carnation. *George Stanton.*

GROS COLMAN AND GROS MAROC GRAPES.—Mr. Kirk's remarks on p. 665 will have startled many Grape-growing exhibitors not a little. In support of the northern gardeners' practice of placing Gros Maroc before Gros Colman when staged in the "any other black Grape" class, Mr. Kirk says:—"We find Gros Maroc, in the month of September, is much superior to Gros Colman," adding, "and as a proof of this, I may mention that it (Gros Maroc) was put 1st in the 'any other black Grape' class at the Edinburgh show held last September, beating Muscat Hamburgh and Madresfield Court!" Mr. Kirk concludes his note by asking, "What do correspondents of the *Gardeners' Chronicle* say to that?" What, indeed! It is certainly hard to express a decided opinion without having seen the respective exhibits. But to account for the decision of the judges, I should conclude that the examples of Muscat Hamburgh and Madresfield Court were of moderate quality, and the Gros Maroc exceptionally fine. It is hard to believe that practical Grape-growers who are acquainted with the characteristics of the Grapes in question would have made such an award had the specimens of Muscat Hamburgh and Madresfield Court been good, for these varieties are superior in flavour and quality to Gros Maroc when at its best. With regard to the relative qualities of the Gros Colman and Gros Maroc Grapes, I may say that I have grown the latter from the time it was first exhibited, and I have on several occasions included what were described in the horticultural press as good examples of Gros Maroc in the twenty-bunch class, in ten varieties, as well as in large collections of fruit, at the Crystal Palace, both from Vines inarched on the Black Hamburgh stock and from others on their own roots, and the flavour of the fruit from the Black Hamburgh union has been superior to that possessed by fruit obtained from Gros Maroc on its own roots. In equally good examples of Gros Maroc and Gros Colman, the flavour is better in the former than in the latter in the month of September. But I do not for a moment suggest that Gros Maroc, Gros Colman, Black Alicante, Lady Downes, Alnwick Seedling, Gros Guillaume, or any other thick-skinned, long-keeping, black Grape, is to be compared in quality in September with either Muscat Hamburgh or Madresfield Court. Moreover, the last-mentioned two varieties are fit to eat in August and September, and the above-mentioned varieties certainly are not. Hence the too common practice of staging these Grapes in the "any other black" class in August and September, should be discountenanced; leaving the thick-skinned Grapes to be shown at the Chrysanthemum and fruit exhibitions in November. One great drawback in the constitution of Gros Maroc is that with age its productiveness greatly decreases, a circumstance which will prevent its ever becoming popular with market-growers. This is also the opinion of Mr. Moxham, the manager of the Ashford Vineries, Fordingbridge, who is a most extensive and skilful cultivator of Grapes for market; his staple varieties for supplying the summer and early autumn demand for Grapes being Black Hamburgh and Cannon Hall Muscat. The latter variety sets as freely with Mr. Moxham as the former, whilst Gros Colman is grown in several long houses, and Black Alicante in less quantities for winter and spring use. All the Vines when seen by the writer, towards the end of July last, were bearing heavy crops of handsome well-proportioned bunches. *H. W. Ward, Lime House, Rayleigh, Essex.*

——It would be difficult to support the action of any judge in placing Gros Maroc before Muscat Hamburgh and Madresfield Court Grapes. I had not time to examine the Grapes at the exhibition referred to, but I have a distinct recollection of the remarks made upon them by our felicitous friend, Mr. Kirk; and more than once, too, in his vineries at Norwood, which were not eulogistic of Gros Marocs, yet I think the Marocs in these vineries were as fine in appearance as they are seen anywhere. It is an old Scotch adage—"Ae man's meat is another man's poison;" and I feel sure that Mr. Kirk would never choose for his own palate Gros Maroc if he could get either of the others. Exhibitors who have competed frequently, and have had their share of disappointments, are generally alive to the grades of excellence in exhibits. One such man judged the Grapes to which Mr. Kirk refers, who was like his colleague, a keen, painstaking man. It is a pity Black Hamburghs and Muscat Hamburghs should be seen so seldom on exhibition-tables; and it is not often they are now seen fit for exhibition at all! It is agreed on all hands (in the north, at all events) that there has been retrogression in regard to the culture of the finer sorts of Grapes. Where do we ever see such Black Hamburghs and White Muscats as were tabled by Mr. Drummond at the first International Show held in Britain in October, 1862, at South Kensington, and the finest fruit-show we have ever seen? Some years later, the first International Show held at Edinburgh (nominal in character, however), astounded visitors when they witnessed the grand Black Hamburgh Grapes of Mr. Meredith, and Muscats from Mr. D. Thomson, at Archerfield. At the second International Show in Edinburgh, the late Mr. Johnstone surprised everyone by taking eleven 1st prizes and two 2nds in the leading classes, Black Hamburghs, Muscat Hamburghs, White Muscats, and Lady Downes being his best Grapes. There is a great want of competition at horticultural exhibitions in the north—Edinburgh, Glasgow, and Dundee especially; the shows of fruit are due to the numerous classes. Fancy our friend Kirk having next to no opposition at Edinburgh in the class for a collection of fruit, when the larger prizes were so tempting! *M. Temple, Carron, N.B*

LARGE BUNCH OF GROS COLMAN GRAPES.—At a trade show in Birmingham last week I exhibited a single bunch of Gros Colman Grapes weighing 6 lb. 7 oz. Mr. Crump, of Madresfield, was judge, and said it was the largest of the variety he had any knowledge of. Can you oblige me and say what are the records of heaviest Gros Colman as grown up to the present? Some of the berries in bunch in question were nearly 4½ inches in circumference, the average being over 4 inches. I notice Mr. Barron puts the weight up to 4 lb., with 4½ inches circumference, but I have many times exceeded these. I am much interested in the figures, and shall be obliged by any information you can give me through the *Gardeners' Chronicle*. *Robt. Grindrod.* [The largest berry of which we have record was 4 inches in circumference. We have no record of any large bunch of Gros Colman, but doubtless many of our correspondents can oblige you. ED.]

SWEET PEA CUPID.—That novelty in Sweet Pea Cupid did well with me this summer. The seed was sown in the month of February in a gentle heat, and the seedlings were potted off in the following month into small 32's, and then placed in a Peach-house, where they remained until the middle of April, when they were stood in a cold frame till May. By this time they had grown over the sides of the pots, and some of the plants had each nine flowers. They were planted altogether in a small bed, and eventually formed a mass of white flowers, the thirteen plants giving about 500 sound seeds. The bed was manured with rotted hot-bed materials and leaf-mould. The soil is naturally a light one. *Wm. Jolland, Tivoli, Cork.*

THE CHRYSANTHEMUM IN DECEMBER.—In the development of the Chrysanthemum as an exhibition subject, it is now made evident that in a favourable season the Japanese varieties that are among the earliest to flower can now be had in fine character in the beginning of October, and later blooming ones as late as the end of December. Taking the exhibitions of the National Chrysanthemum Society during the past two seasons as fair criteria from which to draw conclusions, it will be remembered that in 1895 the October exhibition of the Society brought together blooms of such remarkable qualities, as to rival in refinement and high character those usually seen in November. The summer of 1895 was generally uniform in character; and the December show of that year drew to the Aquarium such an unusually large number of exhibitors and blooms, the latter of such fine quality, as to occasion great surprise. In the present year the October display was quite weak, owing to the incidence of a season that old growers say was one of the most unkind that they had experienced for years; but in December they were able to exhibit Japanese and incurved blooms so numerously and so refined as to be extraordinary. So far from this being an accident of incidence of the season, or of cultivation, there is reason to believe that a December exhibition, if held in the first week, or at latest in the second, will continue to be the floral surprise it was a few days ago. Growers have dared much and acquired experience during the past few years; and were they favoured with a dry, comparatively mild, and fogless winter, there seems no reason why a creditable exhibition should not be got together early in January. Even now, the Chrysanthemum takes a high place among our Christmas flowers, but it is the great demand for cut flowers at that season which creates so much uncertainty in reference to a January exhibition. A few years since, the National Chrysanthemum Society attempted a mid-winter show in January, but it proved disappointing; it was abandoned, and the December exhibition established in its place. The committee of the National Chrysanthemum Society is constantly being exhorted to find what is mentioned as a more suitable place in which to hold their exhibitions. The committee have from time to time inspected halls which have been recommended as well adapted for the purpose, only to find them

too small, inconvenient, and expensive; and similar steps taken by a section of the committee have probably met with similar results. One thing appears to be quite certain, that if the society ceases to occupy the Aquarium, it will have to relinquish two, if not three, of its four annual exhibitions, for it would then have to provide staging, print and post bills, and advertise in the daily papers, &c., all of which is now done at the expense of the Royal Aquarium. Is it a matter for wonder that the committee hesitate to make a change at the call of those who are of necessity ignorant of these and other circumstances of like importance? *R. Dean.*

HARDINESS OF CEDRUS DEODARA.—I can corroborate what Mr. Simpson says, p. 696, as to the hardiness and good growth of the above variety of Cedar at Wortley. I remember the ones now fine specimens as very small trees, when I began my gardening career at Wortley in 1856. During the six years I was there others were planted. After an absence of several years I went through the gardens at Wortley about a month ago. I noted the specimens of Cedrus Deodara in particular; the largest one would be fully 40 feet in height; and the stem if cut down would have from 24 to 30 cubic feet of timber in it. The grounds at Wortley are very bleak and exposed to the east. If 20 acres of a suitable part of the park had been planted with C. Deodara at the time the present specimens were planted it would have been a fair investment. *H. J. C. Grimston, Tadcaster.*

—— The Deodar as a timber tree is a failure in East Kent, as I and my neighbours have experienced. Larch, Spruce, and Austrian Pine flourish, and I am now making a plantation of them, but have to omit dear Deodar. *Walter V. Lister.*

—— Mr. Simpson is surely poking fun at your readers in praising the Deodar as a forest tree. It may be the most precious tree in the world, but surely we have no evidence that it is so. Even by his own note he shows that it wants certain favourable conditions; whereas how can we plant forests, or even woodlands of any extent, if we have to think whether a tree wants a dry bottom or not! [Woodlands are sometimes drained. Ed.] This tree, as usually grown in pleasure-grounds, with the great care that gardeners generally give to it, is very often a sickly-looking tree, never showing the vigour of the hardier Cedar of Lebanon—I mean, in our country. *A Planter.*

HOW I GREW A GOOD CROP OF ONIONS ON POOR SOIL.—When I came into this neighbourhood to reside a few years ago, I was curious enough to ask first one and then another of my neighbours what they found the ground best suited for; they kindly told me, but said that I should not be able to grow Onions nor Strawberries, and several other plants, such as Brussels Sprouts. Before going any further, I must inform my readers how I make a valuable manure for the Onions. I am situated where fowls do well, having a few acres of pasture-land on which their run is almost unlimited, my stock numbering about 100; these are divided, and roost in four different houses. Every morning the droppings are collected and put on the ground intended for the Onions, and this number gives manure sufficient for 6 square yards; after cleaning the fowl-houses, they are well sprinkled with fresh-slaked lime. Now suppose we call the birds machines, by which we manufacture the—if you like—British guano; and when it is understood that I feed with Wheat, Barley, Dari, Oat-meal, bone-meal, calcined oyster-shell and flint-grit, besides a little meat-biscuits, all sound and of good quality, it should be a good guarantee that the manure is a valuable one. Now for the crop of Onions off this poor soil, as stated above. I top-dressed 6 square yards every morning, until I had finished the allotted ground necessary for the purpose, sowing so that they require little or no thinning—the result was about 10 lb. to the square yard, which is, at ½*d.* per lb., about £100 per acre. Should you care for it, I shall have a valuable experiment for publication at the end of the next Strawberry season. *Joseph Meredith, Rosemound, Bishops Offley, Eccleshall, Staffs.* [The experience of so able a cultivator is always welcome. Ed.].

PEAR, HUYSHE'S VICTORIA.—This just now forms our dessert Pear, and a very excellent one it is, following close upon the heels of Marie Louise. Although I am now writing in praise of this Pear, this is the first time I have been enabled to do so, for this reason, that in previous years we always made the fatal mistake of gathering far too early. This year, however, I took the necessary precaution that this should not occur again; so that notwithstanding sundry attacks from wasps, tomtits, and gales of wind, the Pears were allowed to hang on the tree until long after the usual time of gathering, with the result that now we have a very superior Pear, buttery, melting, juicy, and likely to keep in use until well into January. Marie Louise, although a very fine Pear, is at the same time a very disappointing one, for directly it gets about ripe it has a trick of going sleepy, or black at the heart. Of this "heart disease" Huyshe's Victoria seems to be free, hence its being more long-lived. My H. Victoria is now a fully developed pyramid. When I say developed, I mean that for many years whilst we had plenty of money, and, of course, plenty of men, these trees were neatly pruned in closely, as was the fashion, so that a string when fastened to the lowest horizontal branch, and then stretched to the top of the tree, would define what was supposed to be, horticulturally speaking, the proper contour of the tree. Men and money grew scarce; the trees were very much left to form their own deportment—with the result that on these formerly highly-trimmed trees we have now loads of excellent fruit. Not that it reflects any credit upon our management; but I should very much have liked to have sent you a photograph of some of our trees so fruit-laden, and afterwards of their appearance when some of them were completely broken down under the load of fruit. Had I been an *employé* of the Royal Horticultural Society at Chiswick, and this had happened, no doubt they would soon have got together a kind of self-constituted committee of inspection to seriously consider whether I had arrived at that state of dotage when it would be advisable to offer me a comfortable retiring pension. Private gardeners are often retired without very much pension. Amongst the many blunders belonging to the Royal Horticultural Society they certainly have this redeeming point, which is a credit to them, namely, that they retire their old servants liberally. Long may such a liberal spirit continue! Huyshe's Victoria in appearance very much resembles that of an Easter Beurré, but it is a better and far more useful fruit. Would anyone kindly say whether they have given it a trial on a wall? *W. Miller, Combe Abbey.*

CHRYSANTHEMUMS BEAUTY OF TEIGNMOUTH AND PRIDE OF MADFORD.—When I wrote to the *Gardeners' Chronicle* before, I distinctly said when Pride of Madford and James Lynch were sent to Mr. Salter, they were both named. I did not say they were both named James Lynch, as was stated in the *Gardeners' Chronicle*. I also said Pride of Madford was dead (or rather it failed to give any cuttings) on arrival. What I intended was to prove that Pride of Madford was named and distributed at least two years previously to Messrs. Hannaford receiving it. I cast no reflection upon Messrs. Hannaford, for as I said, the names must have got mixed or lost in the transit. I also wished to point out the mistake Mr. Godfrey had made in labelling James Lynch (and a very poor specimen of it) as the true and worthless Pride of Madford: it struck me as being a slur on our friends over the water, after they had sent us such beautiful varieties as Pride of Madford, Oceana, C. B. Haywood, Australia, and James Lynch. What appeared in my catalogue had not been proved until the two varieties had flowered this year, and they were seen to be synonymous; it was then that I introduced it at the National Chrysanthemum Society, on Oct. 21, and was awarded First-class Certificate as Pride of Madford, its true and proper name. *W. Wells, Earlswood.*

CYCLAMENS NOT OPENING THEIR FLOWERS.—I have carefully read the correspondence in the *Gardeners' Chronicle* on this interesting subject, but without particulars as to "C. B. W.'s" mode of cultivation, it has been practically impossible to state a reason for his flower-buds failing to open. In this week's issue he favours your readers with the necessary information, and this coupled with the valuable remarks of the Editor as to the water-logged condition in which he found the two plants sent, seems at once to point out where he has erred in their cultivation. The pots should be one-third filled with potsherds, then a little sphagnum or other moss or leaves, after which fill the pots with soil composed as follows, equal parts of good yellow loam, leaf-mould, and coarse sand, adding a handful or two of some good chemical manure, or if preferred, some decomposed cow-manure, say a fourth to a barrow-load, then pot lightly, preserving every root possible. "C. B. W." seems to have omitted to use coarse sand, which is absolutely necessary to successful cultivation, and uses instead peat which is not at all desirable but detrimental. Good drainage is one of the most essential elements in their cultivation, which would be a difficult thing to accomplish when using the soils "C. B. W." has used. The plants must always be kept in a moist condition, syringing them overhead three or four times daily if success is aimed at; but they must be so potted that the water immediately passes through the pot. To allow the plant to get water-logged is almost as detrimental to their health as to suffer them to get too dry. Many growers are successful in growing plants until the buds begin to show, but cannot understand why, having succeeded so far, the flower-buds fail to open; and many then use liquid-manure, with a view to assist them to expand (as recommended by one of your correspondents), when, as a matter of fact, the mischief is done long before the plants get to this stage, and all the manure in the world will not undo the mischief that has been done. When the flower-buds are showing, the plants should be carefully watered, so that the water does not settle in the centre of the corm or bulb, and any dead leaves or flower-stalks should be pulled out, not cut off, as is so often done. In conclusion, I regret I cannot offer "C. B. W." much encouragement with the plants he has; probably some of the flowers will open, while others will remain in a semi-dormant state; but I should be very much surprised to hear that either the removing them from their elevated position, or feeding them with liquid-manure, as previously recommended, had the desired effect. *F. C. Edwards, Author of "Cyclamens, and How to Grow Them."*

AMPELOPSIS VEITCHII UNDER GLASS.—A day among the "Mums" in and around Edinburgh brought me other pleasures in addition to that on placing me abreast of some of the finest varieties and the highest culture of these plants that have almost robbed the Rose itself of its supremacy. One of the simplest and least expected of these was found of the end wall of a Chrysanthemum-house, covered with this beautiful creeper, in finer form and richer in colouring than I have ever met with it before, and that is saying a good deal, for I have seen the best that fronts and backs of colleges at Cambridge can do to adorn themselves through growing A. Veitchii to perfection and display it artistically, either in large masses alone, or contrasted with the best silver and golden variegated Irises. But here, under glass, the crimsons glowed with even greater brilliancy, and the leaves were larger and possessed more substance. Possibly the colours were enriched owing to their being seen in contrast with many of the yellow and white flowers of the Chrysanthemums, such as Graphic, Duchess of York, &c. But I afterwards met with the Ampelopsis, apart from the brightness of Japanese and other Chrysanthemums, and found its size and brilliancy, and usefulness for table and other decorative purposes greatly enhanced by the shelter afforded by glass. In all gardens, north or south, in which this lovely creeper has failed to grow or colour well, I would advise that it should have part or whole of a light cool glasshouse to itself. *D. T. F.* [It is apt to get so coarse under such circumstances as to be unrecognisable. Ed.]

HAMBURGH, OR PLAIN-LEAVED PARSLEY.—For the hundred-and-one uses to which Parsley is put in the kitchen, the plain-leaved, more robust growing variety is just as useful as the "finest moss-curled," and much more readily freed from dirt. The roots are grown in most gardens for culinary uses, so that not many, if any, more need be grown if the plant is compelled to produce nice young leaves all through the winter. The intelligent gardener will scarcely need to be told how he may obtain these, although the amateur may be glad of a hint. If he have a greenhouse or intermediate-house, or even a warm cellar that is provided with a fair amount of light, he may pack the roots in soil in a conical heap with the heads all pointing outwards. This heap may be made in a flat hamper, such as the nurseryman uses to pack potted plants in when sent a distance by rail or carrier. The mass is then transportable; or it may be made on the floor, and it may take the shape of a lean-to heap against a wall. After packing two or three layers in mould, afford a moderate amount of water and proceed as before, affording more water and so on till it is finished. Supposing that all the autumn leaf-growth was twisted off the roots on lifting them, the growth made under glass or elsewhere will be new and tender, and just as much appreciated by the cook as that from out-of-doors plants, often so difficult to collect, and unpleasant to gather in frosty weather or from beneath the snow, as many a gardener who has been in the kitchen

garden well knows. Where pits exist which are provided with hot-water pipes, the roots may be bedded-out on the flat, and treated to a temperature of 45° to 55°, air being afforded daily, if only for a few hours, to keep the leaves from "fogging" off. *A. Y. B*

IMPROVED SOWING OF FERN-SPORES.—There are many methods of preparing the soil when raising Ferns from spores; and one that should not be neglected is to destroy all trace of plant-life, such as moss and Liverworts, by soaking the soil in boiling water before making use of it for filling the pots and pans. Another way is to char the soil. Some persons use loam, leaf-mould, or peat, in the spore-pots, whilst others scatter the spores on soft bricks or blocks of hard peat, or on wood, coke, &c. Charring the soil in a certain manner. This method, though not differing very materially from some of the older ones, possesses advantages worthy of consideration. Clayey-loam is the soil recommended, and it is one that is generally obtainable. If possible, it should be of the consistency of putty. Break it into small pieces with the fingers, place it on a shovel, and submit it to the heat of a strong fire. Shovel and soil becoming of a red-heat, should (if properly burned) assume a blackish colour in cooling, and the soil should then be passed through two sieves, a ½-inch meshed one placed on the top of a ¼-inch mesh sieve answers the purpose very well. The soil remaining in the ¼-inch sieve is very suitable for use in the sowing of spores, and it may be said here, that dust is totally improper for successful work. The holes of the pots or pans should be stopped with a large crock, and three-parts filled with pure loam, the remaining part consisting of the charred soil. The properties of the soil when charred are peculiar, being very porous, although close-grained, and when well damped, it keeps moist for a long period of time (a piece of this soil put into the mouth has an effect similar to that of a French *fondante*—flavour excepted!). At a place where the above method is practised, hundreds of pots are placed on a stage in a small house set apart for the raising of Ferns by spores; each pot is provided with a saucer, which faciltates watering; and no glass is used to cover them; but if the pots and pans have to be placed with other plants, it is advisable to cover each with a piece of glass slightly inclined, so as to protect the spores from water whilst syringing the other plants. With this treatment no moss appears, or if any, not in sufficient quantity to injure the young prothallus. The employment of such soil on the surface of the spore-pots, &c., considerably facilitates the tedious operation of pricking-off the young Ferns. Of course, it must be understood that after the sowing of the spores, the pots should be placed on a shelf or stage near the glass, the stage being covered with coal-ashes or other moisture-holding material. *Louis Gentil, Kew.*

HORTICULTURAL INSTITUTE.—It is most gratifying to observe the wide-spread interest in the proposed Home of Horticulture, as evidenced both in the public prints and in private correspondence. In a few days I will send my drawings and suggestions to you, and shall be obliged if you will afford space for their publication in your columns, in reply to the questions which are now being asked. *James L. Wood.* [The scheme will be published probably in our next issue. ED.]

SCOTLAND.

GLASGOW BOTANIC GARDENS.

SINCE these gardens have been acquired by the Corporation, a considerable amount of change has become apparent, more money having been spent in plants, both outdoor and indoor, and the sum spent in maintenance is not so limited as formerly, when the late Mr. Robert Bullen was the Curator. This is a happier state of things, and the free opening of the gardens on Sundays and Saturdays brings a crowd of visitors from the town and country. Pity that all our municipalities do not wake up respecting their botanic gardens, and place their cost of keeping-up upon the rates.

There was a brilliant show of Chrysanthemums, under the management of the present Curator, Mr. David Dewar, particularly in the annexes and round about the Kibble Conservatory; and what with the great plants of Camellia alba, many of them in flower, and the superb collection of Rhododendrons (which are allowed space for full development), and the immense quantity of blossoms upon them, the Tree-Ferns, and the Palms, the promenading area forms a winter garden which has few equals. In time we may look for an interesting assortment of Orchids and miscellaneous plants, both under glass and outdoors. The collection of Ferns, succulents, and medicinal plants has always been well maintained; and with a more liberal means at command every other department will in time be made more striking and instructive. Among the plants in flower that is not often seen was one of Æchmea spectabilis. It is one of the strongest-growing species, and has long, lanceolate, acuminate leaves, much longer and broader than those of Æchmea fulgens, of a brownish-green hue, coarsely serrated at the edges; the panicle of flowers stift, and growing to a height of about 20 inches, very much forked. The flowers are of a dullish-pink hue, each about 1 inch long, and tapering, with a contracted orifice, making an altogether stylish-looking plant, suitable for any garden. *J. A.*

NOTES ON SOME SCOTCH GARDENS.

On visiting country-gardens and gardeners, it is gratifying to observe those gardens which were a few years ago in a state of deplorable neglect, made clean and tidy, with every plant and shrub, and tree, in flourishing condition. There are a goodly number of gardens in Stirlingshire which have passed into the hands of new proprietors, and in many cases special efforts have been made by the new owners to render the policies and gardens worthy adjuncts to the perhaps fine mansion or extensive estate.

LARBERT HOUSE, the residence of Mr. Graham, a beautiful place, but once sadly neglected, is now fit to rank with the leading residential estates of the district—roads, walks, shrubberies, and lawns, are put into good order in conformity with the tastes of the proprietor. On the occasion of a visit made in early autumn, it was noted that the old state of affairs was quite changed—new ranges of glass have been erected in modern style, and these were filled with choice, well-grown plants. Fruits of various kinds grown under glass, were attractive and abundant.

Among stove-plants in robust health were some remarkably well-coloured Crotons, among which I remarked one named Lord Salisbury, raised by Mr. Airdrie, the head-gardener at Larbert, in its leaf-markings very beautiful and distinct; the lower leaves green with yellow spots, whilst those higher up the plant, are of a pale pink colour, and the centre leaves are yellow. Others raised from seed give much promise, viz., C. Countess, C. Flamingo, C. Magnificent, and C. Prince of Orange, are of very fine vivid tints. Begonias, of the tuberous-rooted section, have received considerable attention in recent years, and Mr. Airdrie has raised many fine varieties, of which B. Mrs. Graham is a fine flower which measures 5 inches across, scarlet in colour, and an extra fine variety. Some double and semi-double flowered varieties are also excellent. In the stove devoted to fine foliage-plants generally, which are in fine condition, some well-grown Dendrobium Wardianum growing in suspended baskets were noted.

Grape-vines were very promising, and these included the following varieties, Mrs. Pince, Muscat Hamburgh, Black Hamburgh, and Madresfield Court. The last-named variety had received liberal treatment during its swelling period, and abundance of air is admitted to the vinery in which are the Vines when the fruit is approaching ripening, with the result that no cracked berry is ever seen. Peaches and Nectarines looked well, young trees mostly at their full size. Those varieties of Peaches which have afforded the most satisfaction are Dymond, Goshawk, Sea Eagle, Crimson Galande, the fruits attaining large size and high colour. Of Nectarines, Violet Hâtive, Elruge, and Pine-apple are the most favoured. Figs cultivated in pots fruit abundantly, the varieties remarked being Gros Vert, Osborne's Prolific, Bourjassotte Blanc, and Monaco Blanco. The Tomato is extensively cultivated, and the variety Comet, of handsome exterior, appeared to be the finest cropper. The vegetables observed in the kitchen garden were, as is usual this year, of great excellence. Hardy fruits are going to receive special attention, and new orchards have been planted. Chrysanthemums have for years been remarkably well grown, and the blooms or the plants have often taken good prizes at important shows.

MAJOR DOBBIE'S GARDEN.—After leaving this rising place I went to another garden, where it was remarked that many things were uncommonly well done; this was Major Dobbie's residence, also at Larbert. This gentleman has extended his borders, and formed some beautiful pleasure-grounds, a vegetable garden, and erected glass-houses for the cultivation of decorative plants and fruit. The conservatory, a spacious building, was exceedingly gay with flowers in season. Fine Grapes were remarked; also Tomatos growing capitally on a shelf at the back of a vinery, their stems being trained downwards. Bedding-out here receives special attention; and species and varieties of shrubs possessing fine foliage are apparently turned to good account. Among the capital crops of vegetables noted were the Cranston Onion. Excellent Gooseberries furnishing a late supply were pointed out by Mr. Wilson. These consisted of varieties not commonly met with in gardens, but which are nevertheless of great value as late bearers; viz, Thumper, a large yellow of fine quality; Crown Bob, very fine; and White Warrington, far from ripe (middle of August), is a capital sort. Mr. Wilson, the head gardener here kindly gave me much information regarding these fruits and other matters. The Apple crop was a very good one, the result of choosing such varieties only as are best suited to the locality. *M. Temple, Carron House Gardens.*

TOMATOS TO RIPEN IN MARCH.

IT is the practice of some gardeners who require early Tomatos to sow seeds towards the end of the year; but in my experience, the seedlings require so much nursing that the plants are much less strong than they should be. I have for years relied upon plants from seed sown at the end of July or commencement of August for early-spring fruiting. We have so many good Tomatos now in commerce it may seem unnecessary to mention a few as being most desirable, but although there is little difficulty to obtain a set during summer, it requires much care to secure a good crop of fruits in March. Certain varieties are best for this purpose, and after speaking of the principal points to observe in their cultivation, I will mention several of these. I am aware that many cultivators obtain their first supplies of fruit from plants raised from cuttings, but unless the cuttings are extra good, there are serious losses during the winter, and though these may fruit earlier they fail to produce a proper quantity. My chief objection to cuttings as winter-fruiters arose from our great loss during a severe fog in February several years ago. We had a nice lot of plants growing freely, and all were killed; whereas a few seedlings survived, but from what reason I cannot explain, unless it was that they had more roots. We sow the seeds in a cold-frame, and as they grow, the seedlings are given ample room. They are potted up into small pots, and again repotted into 6-inch pots when ready. The seedlings are only kept in a close atmosphere after the first potting from the seed-pans, as it is essential to grow them as hard as possible. The plants are stood on a hard Ash bottom in a cold frame, and the sashes are only used during hot sunshine in the middle of the day to prevent the too rapid drying of the roots, and if very hot a little shade is given; the plants are fully exposed during the night. Towards the end of October or early in November, the cultivator must decide if he intends to fruit the plants in pots or to plant them out. I prefer them in pots, and this necessitates a shift if the plants are becoming pot-bound. This needs care, and if the plants are repotted, they are then placed on a shelf or stage in a close atmosphere (but not given heat) until the roots are again active. Water must be given very sparingly until growth is active, for if

given heat or moisture freely, the growth becomes too rapid, and the plant will fail to fruit at the required time. If they are not repotted in November, keep them as quiet as possible, exposed to full light and circulation of air. If they are kept in full light, the plants will be about 18 inches in height or 2 feet at the most in January, and when placed in their fruiting quarters good growth will follow. I do not put the plants into the fruiting-pots until they are moved to their permanent quarters, but much depends upon the plants themselves, and upon the size of pots to be used. Ten-inch pots should be the largest, for they may be plunged, and the roots will enter the plunging-material very readily. We plunge the pots at the commencement, and all this necessitates is extra care in watering the plants. Those that are planted out being in 6 or 7-inch pots are a mass of roots, and should be well soaked previous to planting. We put only a small amount of soil at the start, just enough to cover the roots, in order to limit top growth, and planting may be done in December with careful watering. The temperature afterwards may be 60° at night with a chink of air 70° during the day in mild weather; but should it be otherwise, a lower temperature both night and day will suffice. From sun-heat a free rise in the temperature is beneficial, and ample air, provided cold draughts be avoided. In regard to soil, I advise its use sparingly, and as wireworm may be troublesome, we use the second spit of old pasture soil to escape the pest, at the same time adding a liberal quantity of wood-ashes or burned refuse. During the final potting bone-meal is added, also old mortar rubble if the soil is heavy. Firm potting is important from the first to secure a steady growth, and for the first few months the firmer the growth the more success afterwards. I need hardly add that only one growth to each plant is allowed, and this must be near the glass from early October until the end of December. Our plants are placed upon shelves close to the glass in the fruit-houses at rest, and are merely protected from frost. Our first crop is usually given by the variety Prelude, but I do not advise it as the fruits are very small, its only merit being due to early fruiting. Conqueror is excellent and early, but not a shapely fruit; and I find a good selection of the Old Red difficult to beat—the fruits are corrugated, but there is a difficulty in getting the best Tomatos to set their blooms in winter. Another excellent winter variety is Early Ruby, this is very prolific, and of good quality and appearance; Frogmore Selected promises well for winter fruiting, being a heavy cropper, and good in all ways. Conference may be relied upon, and though not large, it gives a good crop, and the fruits are of good quality. In respect of any kind, it is well to go over the blooms daily at about noon in order to set them. Prevent a too strong growth; and fumigate on the first appearance of white fly. *G. Wythes.*

Continental Novelties.

Amongst several interesting novelties we received some short time since from Fred. Roemer, Quedlinburgh, Germany, were some plants of a double-flowering, dwarf-growing Lobelia. The extraordinary name attached to the plants can scarcely be commended for its brevity, though it may be useful to some as a descriptive appellation. Lobelia erinus speciosa compacta duplex has very dwarf compact growth, and the stems and foliage are distinctly purple. The flowers are of large size and double, colour deep blue, and from the plants received is indicated a free disposition to bloom.

Myosotis alpestris "Distinction," of which a number of plants were received in several stages of growth, is described as a seedling from Myosotis alpestris Victoria, and the flowers much resemble that variety in colour and size. The plants were about 6 inches high, and from the dates given at which the several batches of plants were raised from seed, it appears that this variety commences to bloom about ten weeks from time of sowing. It is said to be a capital variety for forcing; and if placed in a greenhouse in autumn, the plants continue to flower throughout the winter, and are useful for cutting purposes. The accompanying notes state, that if planted in the open ground in autumn, the plant will commence to bloom as early as M. dissitiflora, and be much more floriferous. For all purposes in open ground to which the Myosotis is adapted, this particular variety is strongly recommended, and especially for growing in pots.

Law Notes.

THE AGRICULTURAL RATES ACT AND GLASS-HOUSES.

The Justices at Brentford on Monday devoted the day to hearing a number of points under the Agricultural Rating Act, 1896, of interest to market gardeners. They came before the Court upon appeal by the Surveyors of Taxes against the lists prepared by the Assessment Committee of the Brentford Union of what properties were entitled to the benefit under the Act, or help from the Imperial Exchequer. Mr. Horace Page was instructed by the Assessment Committee to support their decisions. The great majority of appeals hinged upon the question whether the glass-houses in market gardens should be considered as agricultural land, and therefore within the scope of the Agricultural Rating Act. Mr. Cooke, arguing for the Surveyors of Taxes, pointed out that section 5 of the Act clearly defined that buildings upon agricultural land were to be exempted from the Act, and the Board of Inland Revenue had issued orders to Surveyors of Taxes that they must construe that section in that light, and that glass-houses must be regarded as buildings. It was agreed on all hands that farm-buildings and out-houses, such as cattle-sheds, pig-sties, &c., were exempted from the Act, and so therefore glass-houses, which come in the same category, should be. They were built on brick foundations, with doors of wood and glass, and brick chimneys, and if that did not constitute a building, he did not know what would. It had been argued that if the view of the Inland Revenue were correct, market gardeners would derive no benefit from the Act; but with that he had nothing to do, but to point out it was a fallacious view, as they would get something allowed on their open garden-land.

For the respondents, the Assessment Committee, Mr. Page contended that the judgment in Purser *v.* The Worthing Local Board governed the case. That case was very clear. A market garden was, under the Agricultural Rating Act, included in the definition of agricultural land, and the judges in the Worthing Case held that a garden was no less a garden because glass was put on it for the purpose of aiding the production of fruit and vegetables.

The Chairman of the Bench, interposing, enquired if in the Worthing Case the glass-houses were movable, or fastened to the ground by foundations.

Mr. Page rejoined that that point did not arise, but, as a fact, the glass-houses in Worthing were of brick foundation.

Mr. Cooke, replying on this point, urged that the Agricultural Rates Act should be taken as commencing the question of glass-houses *de novo*, and therefore it was not governed by the case cited.

The Bench dismissed the appeal, and confirmed the Assessment Committee's decision, the Chairman stating that they had the clear definition of a garden in the Act, and a very clear judgment of the High Court upon the position of glass-houses as affecting the status of the garden. That judgment they could not go behind. They allowed costs against the Revenue.

Another point of interest arose in connection with the famous Syon Gardens. The Assessment Committee had scheduled the Duke of Northumberland as entitled to come within the Act in regard to a piece of garden-land separated from the main gardens by a wall, and a Willow-bed abutting on the Thames.

Mr. Cooke argued that the garden-land was part of the curtilage of Syon House kitchen garden, and the Willow-bed was in the same position, and in the alternative that the wall round the garden must be valued separately as a house or building, and deducted.

Mr. Page replied that the garden, being separated from the kitchen garden, was no part of the curtilage of the house, and to define a small wall as a building was absurd; and that the Willows were cultivated and sold, and this constituted a garden as much as did the growing of Rhubarb for sale in a market garden.

Evidence was taken as to the position of the garden, and the Court held that it must be regarded as part of the kitchen garden. The value put upon it was £2, and that sum they would deduct from the assessment as of the whole. They could not regard the wall as a building, and Willow-beds, such as those, cultivated for profit, were fit to be included in the operation of the Act.

Society.

IRISH GARDENERS' ASSOCIATION.

December 9. The tercentenary of the introduction of the Potato into the British Isles was celebrated on Wednesday and Thursday by the holding of a Conference of the Irish Gardeners' Association, and an Exhibition in the Rotunda. Specimens of every description of the plant were displayed, also garden-tools and chemicals, which of late years have played an important part in the cultivation and preservation of the crop. The commemoration was organised by the Association, the President of which, Mr. A. G. Watkins, of Merrion, in proposing that Lord Powerscourt should preside, said that the Association felt proud of having got together such an exhibition of Potatos as had never been seen in Ireland before, and probably not in the world. They hoped that not only would it be a suitable memorial to Sir Walter Raleigh, but that the fruits of their labours would be of material benefit to the people by improved knowledge of cultivation and the introduction and trials of newer varieties. They hoped ultimately to stamp out the dread Potato disease. They proposed as a memorial to Sir Walter Raleigh, and to commemorate the tercentenary of his introduction of the Potato, to establish a Gardeners' Benevolent Fund for Ireland.

Lord Powerscourt said they were met to celebrate the fact that 300 years had elapsed since Queen Elizabeth's great courtier, Sir Walter Raleigh, conferred upon Europe perhaps two of the greatest benefits that they knew of, namely, Tobacco and the Potato. Ireland was fitted, with her mild climate and fertile soil, for the production of many things of great use if the soil was properly cultivated. He understood that it was contemplated to try a vineyard in the south of Ireland, and he thought it was worth trying. Papers on subjects connected with the cultivation of the Potato were then read by members of the Association. *Times.*

Messrs. Sutton & Sons, of Reading, made a most extensive exhibit, occupying a space of 400 square feet. The display included 209 distinct varieties, embracing thirty-five varieties which have been distributed by the Reading firm, 32 seedling varieties now under trial, but not yet in commerce, 146 other varieties of miscellaneous origin, and six botanical species which have been proved to be of no commercial value. We hope to refer more fully to this event in our next issue.

Obituary.

W. R. Baker.—The death, on the 29th ult., at the age of 86, of this gentleman is announced. He was an enthusiastic and well-informed gardener, as the pinetum, rockery, and collections of herbaceous plants at Bayfordbury give testimony. The pinetum is one of the richest in the south of England, and the "old squire" was full of information concerning his trees. Many memorial trees have been planted by members of the family of different generations. These afford interesting studies of the rate of growth, the species of tree selected being in each case the same. Bayfordbury is one of the very few places in which we have seen very numerous seedling Cedars of Lebanon come up spontaneously all over the lawn. A correspondent of the *Times* writes:—"Mr. Baker was a lineal descendant of the second Jacob Tonson, nephew of and partner with the 'great' Jacob Tonson, the friend and publisher of Dryden and the leading wits of the period. The second Jacob's eldest daughter married Alderman Baker, father of Sir William Baker, whilom M.P. for Hertfordshire. Mr. Baker's possession of the splendid series of portraits by Sir Godfrey Kneller is accounted

for by the fact that Jacob I. was the originator and chief spirit of the Kit Cat Club, which was formed in 1688 by the leading Whigs of the day; it was first held in Shire Lane, afterwards christened Lower Serle's Place; thence it migrated to the 'Fountain Tavern in the Strand; and thence, early in the last century, to a small house adjoining the mansion of Barn Elms, near Barnes. Phillips, in his *Morning's Walk from London to Kew*, 1817, found that the club-room still existed in almost the same state as when the patriotic Whigs held their revels there a century previously. The Kit Cat portraits, forty-two or forty-three in number, were so called from the name adopted by this club, and originally hung in this room, and each measures 36 inches long by 28 inches wide. They begin with Kneller himself and end with Jacob Tonson. Old Jacob bought an estate in Hertfordshire about the year 1720, and died there in 1736. Jacob the second, his nephew, predeceased him by about four months, dying at Barnes in N ember, 1735. When the Kit Cat Club dissolved, old Jacob acquired the pictures by purchase or otherwise, and they have since remained in possession of the family."

JOHN LORAINE BALDWIN.—One of those fine old English gentlemen, of which so few now remain, has passed away, and was buried at Tintern on Tuesday. He had been for twenty-three years the Warden of Tintern Abbey. He was born June 1, 1809, and died in his eighty-eighth year, on November 25, 1896. In 1873 he married Lady Francis Russell, widow of the late Lord Francis Russell (and sister of the late Sir Thomas Peyton, Bart.), who died on February 2, 1888. Mr. Baldwin was a great lover of, and an extensive cultivator of plants, his specia. favourite being the Carnation. He had a long border at St. Ann's, his Tintern residence, and he grew hundreds more in his garden at Neath Abbey; he had also a large collection of herbaceous plants, and took great interest in Ferns. His familiar, good-natured face was to be seen at all the London flower-shows, and he seldom omitted those at Bath and Bristol. In 1845 he, together with the late Lord Bessborough, the Hon. Sir Spencer Ponsonby-Fane, Gen. Sir Henry de Bathe, and others, formed the I. Zingari cricket-club, of which he was made Vice-President, a post he held up to the time of his death. The Marylebone Cricket Club presented him with a handsome conservatory, on which was a tablet containing the name of the Prince of Wales, and that of all the other members; this conservatory was filled with a choice collection of plants, and was always a blaze of bloom. Botanists and horticulturists were constantly at Tintern, and had always a welcome.

He was passionately fond of cricket, and took very great interest in the doings of the Kent and Middlesex county teams. He had also much to do with the formation of some of the London clubs, so that he was known by the title of "King of Clubs" among his intimates. In all manly English sports and pastimes his name has been very prominent.

Mr. Baldwin, in his house at St. Ann's, was marked by a geniality and benevolence of nature that is as rare as it is welcome. He kept Tintern Abbey in splendid condition, and at the time of the Jubilee, in 1887, he held a service there at which the Bishop of Llandaff preached, and a cathedral choir chanted hymns of prayer and praise, the sounds of which can never be forgotten as they soared upwards through the roofless Abbey.

The friends of Mr. Baldwin were so numerous that it was not to be wondered that so many attended the funeral, or that a hundred wreaths were sent to St. Ann's.

Every room in his house at St. Ann's, Tintern, and in that at Dover, was a perfect museum, and interesting to every one as representing every year facts for a century; and his cups, and vases, and glasses of flowers on every table representing all flowers in season, was a perpetual flower-show. Mr. Baldwin was the possessor of the finest British Fern yet raised, known as Polystichus angulare v. Baldwin. It was presented by the late Colonel Jones at the Bath Fête of the British Association in 1888, at that time too young to have attained its permanent character; but in 1890 it was exhibited at the Royal Horticultural Society, and awarded a First-class Certificate, being admired by every one. This plant, we learn, is now the property of Mr. E. J. Lowe, having been left to him in Mr. Baldwin's will.

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (−) the Mean for the week ending December 5.	Accumulated. Above 42° for the week.	Below 42° for the week.	Above 42°, difference from Mean since December 29, 1895.	Below 42°, difference from Mean since December 29, 1895.	Rainfall. More (+) or less (−) than Mean for the Week.	No. of Rainy Days since Dec. 29, 1895.	Total Fall since Jan. 1, 1896.	Bright Sun. Percentage of possible Duration for the Week.	Percentage of possible Duration since Dec. 29, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch		Ins		
0	1 +	8	30	+ 173	− 275	6 −	230	51·6	15	23
1	1	3	39	+ 90	− 178	7 +	192	26·5	14	29
2	1 −	3	27	+ 140	− 165	5 +	176	22·5	16	29
3	1 −	4	31	+ 79	− 134	4 +	169	23·1	26	35
4	3 −	0	34	+ 62	− 148	7 +	165	22·6	20	31
5	1 −	8	21	+ 171	− 173	9 +	155	23·6	27	37
6	1 −	5	26	+ 173	− 167	5 −	198	40·1	10	31
7	2 −	4	26	+ 226	− 182	1 −	181	31·4	9	31
8	2 −	19	12	+ 239	− 102	13 +	164	28·9	24	40
9	1 −	8	28	+ 178	− 165	1 −	207	35·8	25	28
10	1 −	22	10	+ 258	− 132	2 +	180	31·8	25	33
*	2 −	27	3	+ 331	− 106	7 +	184	26·6	19	44

The districts indicated by number in the first column are the following:—

0, Scotland N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts*—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending December 5, furnished from the Meteorological Office:—

"The *weather* was fine and dry during the early days of the period, but became very unsettled and rainy later over the entire kingdom, and continued so throughout the period.

"The *temperature* was again slightly below the mean except in 'Scotland, N.,' the deficiency ranging from 1 to 3. The highest of the maxima were recorded either on Dec. 2nd or 3rd, and ranged from 56° in 'Ireland, S.,' to 47° in 'England, N.E.' The lowest of the minima were recorded on Nov. 30 or Dec. 1, and ranged from 14° in 'Scotland, E.,' 19° in 'Scotland, W.,' and 20° in the 'Midland Counties,' to 30° in 'Ireland, S.,' and 31° in the 'Channel Islands.' The lowest grass minimum temperature reported was 10°, which occurred at Worksop on Nov. 30.

"The *rainfall* was less than the mean in 'Scotland, N. and W.,' as well as in 'England, N.W.' and 'Ireland, N.' In all other districts, however, it was above the normal, the excess being very large in most parts of England, and also in 'Scotland, E.'

"The *bright sunshine* somewhat exceeded the mean in most districts. The percentage of the possible duration ranged from 27 in 'England, S.,' 26 in 'England, E.' and 25 in Ireland, to 10 in 'Scotland, W.,' and 9 in 'England, N.W.'"

MARKETS.

COVENT GARDEN, DECEMBER 10.

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Adiantum, per doz.	4 0–12 0	Evicas, hyemalis, per doz.	12 0–15 0
Aspidistras, per doz.	12 0–30 0	Ferns, small, doz.	1 0– 2 0
— specimen, each	5 0–15 0	— various, doz.	5 0–12 0
Chrysanthemums, per doz.	6 0–12 0	Ficus elastica, each	1 0– 7 6
— specimen plants, each	1 6– 2 6	Foliage plants, per doz.	12 0–36 0
Cinerarias, per doz	9 0–12 0	Hyacinths, dz pots	9 0 12 0
Cyclamens, per doz.	12 0–18 0	Marguerites, p. doz.	8 0–12 0
Dracænas, each	1 0– 7 6	Palms, various, ea.	2 0–10 0
— various, p. doz.	12 0–24 0	— specimens, ea.	10 6–84 0
Evergreen Shrubs, in variety, doz.	6 0–24 0	Poinsettias, per doz.	12 0–18 0
Ericas, p. doz.	10 0–12 0	Solanums, p. doz.	12 0–15 0
		Tulips, per doz. pots	6 0– 9 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Anemone, doz. bun.	1 6– 2 6	Orchids:—	
Arums, p. 12 blooms	4 0– 6 0	Cattleya, 12 blms.	6 0–12 0
Bouvardias, per bn.	0 6– 0 9	Odontoglossum crispum, 12 bm.	2 0– 6 0
Carnations, pr. doz. blooms	1 0– 2 6	Pelargoniums, scarlet, per 12 bun.	4 0– 8 0
Chrysanthemums, doz. bun.	4 0– 9 0	— per 12 sprays	0 6– 0 9
— doz. blooms	1 6– 6 0	Poinsettias, per doz. blooms	12 0–15 0
Eucharis, per dozen	2 6– 4 0	Pyrethrums, 12 bn.	2 0– 4 0
Hyacinths (Roman), doz. sprays	0 9– 1 6	Roses (French), per doz. blooms	1 0– 2 0
Lilac, wh. (French), per bunch	3 6– 5 0	— Tea, per doz.	0 9– 1 6
Lilium Harrisi, per doz. blooms	4 0– 6 0	— yellow (Maréchal), per doz.	6 0– 9 0
— lancifolium, doz. blooms	2 0– 3 0	— red, per dozen	1 0– 2 0
Lily of the Valley, dozen sprays	1 0– 2 0	— pink, per doz.	3 0– 4 0
Maidenhair Fern, per 12 bunches	4 0– 8 0	— Safrano, p. doz.	1 0– 2 0
Marguerites, per 12 bunches	2 0– 4 0	Tuberoses, 12 blms.	0 6– 1 0
Mignonette, per doz. bunches	4 0– 6 0	Tulips, per doz.	0 9– 2 0
Mimosa (French), per bunch	1 0– 1 6	Violets (Fr.) Parme, per bunch	2 6– 4 0
		— — Czar, per bunch	2 0– 3 0
		— — doz. bun.	1 6– 2 0
		— (Eng.), per doz. bun.	1 6– 2 6

ORCHID-BLOOM in variety.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, Blenheims, per ½-sieve	2 0– 2 6	Grapes, Gros Colmar, per lb.	1 3– 1 6
— Cox's Orange, per ½-sieve	5 0– 6 0	— Muscat, 2nd qual., p lb.	2 0– 2 6
— Wellingtons, per sieve	5 0– 6 0	— Gros Colman, 2nd qual., per lb.	1 0 –
— Ordinary kinds, per sieve	2 0– 3 0	— Muscats, English, 1st quality per lb.	3 6– 4 6
Grapes, Alicante, 1st quality, per lb.	1 3– 1 9	Nuts, Cob, per 100 lb.	30 0–35 0
— Alicante, 2nd quality, per lb.	1 0– 1 2	Pine-apples, St. Michael, each	1 6– 3 6
— Gros Colman, selected, p. lb.	1 9– 0 2		

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per doz.	2 0– 3 0	Mushrooms (Fnch.), p. lb.	0 4– 0 6
— Chinese (Stachys tuberifera), per lb.	0 4 —	Sea Kale, per punnet, 3½ to 4 lb. weight	0 1– 1 3
Beans, French, Channel Is., per lb.	1 4– 1 6	Tomatos, home-grown, smooth, per doz. lb.	3 0– 3 6
Cauliflowers, p. tally of 5 doz.	5 0– 7 6	selected	5 0– 6 0
Cucumbers, home-grown, per dz.	6 0– 8 0	— ordinary kinds, do.	1 6– 2 0
Mushrooms, (Indoor) per lb.	0 6 0 8	— Canary Islands, per case, about 12 lb.	3 0– 5 0

POTATOS.

Arrivals still increasing, and trade slow. Prices about the same as last report. *J. B. Thomas.*

SEEDS.

LONDON: *Dec.* 9.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maze Pond, Borough, London, S.E., write that to-day's seed market, as is customary during December, was dull and uninteresting. Clover and grass-seeds, although falling just now to find buyers, keep steady in value. Continental and Canadian markets are cabled strong. Full prices are asked for Mustard and Rape-seed. As regards Haricot Beans the tendency of quotations is upwards. Blue Peas show no alteration. The new Californian Butter Beans, proving good and cheap, meet with increasing favour. For Canary and Hemp-seed the demand is just now restricted to narrow limits.

FRUIT AND VEGETABLES.

GLASGOW: *December* 9.—The following are the averages of the prices current at market during the past week:—Fruit: Pears, 6*d.* per lb.; Apples, 1*s.* to 2*s.* 6*d.* per stone; Tomatos, Guernsey, 5*d.* per lb.; do., Scotch, 6½*d.* do.; Grapes, home, 1*s.* to 2*s.* do.; do., foreign, 4*d.* to 6*d.* do. Vegetables: Turnips, white, 2*s.* to 2*s.* 6*d.* per dozen bunches; Swedes, 1*s.* to 1*s.* 2*d.* per cwt.; Savoys, 1*s.* to 1*s.* 3*d.* per dozen; Cabbages, 8*d.* to 9*d.* do.; do, late, 11*d.* to 1*s.* 6*d.* do.; do., Red, 2*s.* 6*d.* to 3*s.* do.; Cauliflowers, Dublin, 2*s.* to 2*s.* 6*d.* per dozen; Parsnips, 4*s.* 6*d.* per cwt.; Herbs, assorted, 1*d.* to 2*d.* per bunch; Leeks, 1*s.* 3*d.* to 2*s.* 6*d.* per dozen bunches; Mint, 6*d.* per bunch; Onions, Dutch, 3*s.* per bag; do., Portugal, 1*s.* per stone; do., Globe, 3*s.* to 3*s.* 6*d.* per cwt.; Parsley, 5*s.* to 6*s.* do.; Greens, 4*d.* per bunch; Celery, table, 2*s.* per bundle; do., common, 9*d.* to 1*s.* do.; Potatos, best, 8*d.* per stone; Carrots, 2*s.* 6*d.* to 3*s.* 6*d.* per cwt.; Artichokes, 10*s.* to 14*s.* do.; Cucumbers, 4*s.* to 4*s.* 6*d.* per dozen; Lettuces, 6*d.* to 9*d.* per dozen; do., French, 9*d.* to 1*s.* do.; do., Cos, 9*d.* do.; Radishes, 9*d.* to 1*s.* per doz. bunches; Horseradish, 2*s.* to 3*s.* per bundle; Mushrooms, 1*s.* to 1*s.* 3*d.* per lb.; Beetroot, 6*d.* per doz.; Cress, 3*d.* per basket; Brussels Sprouts, 1*s.* 6*d.* to 1*s.* 9*d.* per stone.

LIVERPOOL: *December* 9.—North Hay Market:—Turnips, 18*s.* to 19*s.* per ton. Potatos: Imperators, 1*s.* 9*d.* to 2*s.* 2*d.* per cwt.; Giants, 1*s.* 9*d.* to 2*s.* do.; Main Crop, 2*s.* 3*d.* to 3*s.* do.; Champions, 1*s.* 9*d.* to 2*s.* 2*d.* do.; Sutton's Abundance 1*s.* do.; Bruces, 1*s.* 9*d.* to 2*s.* 3*d.* do.;

Gartons, 1s. 9d. to 2s. do.; Turnips, 6d. to 8d. dozen bunches Swedes, 1s. 2d. to 1s. 4d. per cwt.; Carrots, 6d. to 8d. per dozen bunches; Onions, English, 3s. 6d. to 4s. 6d. per cwt.; do., foreign, 2s. 9d. to 3s. do.; Parsley, 6d. to 8d. per dozen bunches; Cauliflowers, 1s. to 3s. per dozen; Cabbages, 8d. to 1s. 2d. per dozen; Celery, 8d. to 1s. 6d. do.. St. John's:—Potatos, 8d. to 10d. per peck; Grapes, English, 2s. to 3s. per pound; do., foreign, 6d. to 8d. do.; Pines, English, 4s. to 8s. each. Birkenhead:—Potatos, 6d. to 8d. per peck; Grapes, English, 2s. 6d. to 4s. per pound; do., foreign, 6d. to 8d. do.; Pines, English, 4s. to 8s. each.

CORN.

AVERAGE PRICES of British Corn (per imperial qr.), for the week ending December 5, and for the corresponding period in 1895, together with the difference in the quotations. These figures are based on the Official Weekly Return:—

Description.	1895.	1896.	Difference.
	s. d.	s. d.	s. d.
Wheat	24 11	32 8	+ 7 9
Barley	24 5	26 2	+ 1 9
Oats	14 1	17 0	+ 2 11

ENQUIRY.

"He that questioneth much shall learn much."—BACON.

WHAT VARIETY OF GRAPE-VINE IS LIKELY TO SUCCEED ON GROS MAROC OR GROS COLMAN?—*T. S.* would be glad to know if any reader of the *Gardeners' Chronicle* would tell him what early varieties of the Vine are likely to succeed when inarched upon Gros Maroc or Gros Colman, and if any late ones have been known to succeed when inarched upon Black Hamburgh? Is Buckland Sweetwater useful as a stock for other varieties?

NOTICES TO CORRESPONDENTS.

APPLE CANKER: *R. N.* A good specimen of Apple canker (Nectria ditissima), showing the fungus *in situ*. Of the numerous specimens we receive we very rarely see one with the fungus present. It kills the branches. Cut out all the diseased branches and burn them. The fungus spores enter by means of cracks in the bark, caused by frost or any other cause.

ASPIDISTRA LEAVES WITH SPOTS UPON THEM: *G. B.* We are unable to guess the reason for the spots, as you furnish no particulars. Can you send a leaf or two, or a whole plant for inspection?

BEAN LEAF: *F. C. F.* We find on your leaf some white scale, which cannot be reached by vaporisers. Try washing with weak petroleum emulsion. Burn the affected cases.

BEET FOR MARKETING: *St. Andrew's.* Any good recognised dark-fleshed symmetrical variety is suitable for market use, as Cheltenham Green Top, Nutting's Dwarf Red, Dewar's Dwarf Red, &c.; and the Egyptian for very early use.

CARNATION LEAVES: *T. H. S.* Your leaves are affected by a fungus (Helminthosporium) often described and figured in *Gardeners' Chronicle*. Burn all the affected leaves, and wash the plants with a very weak mixture of Gishurst compound.

CATTLEYA-LÆLIA CROSS: *A. de L., Liège.* Your Lælio-Cattleya × is a tolerably pretty variety. It resembles in most respects L.-C. × Wellsiana, which is a cross also between a variety of Cattleya Trianæi and Lælia purpurata.

CHRYSANTHEMUM SPORT: *H. R. Woodcock.* If the flower you send was produced by a plant of W. K. Woodcock, it is a sport undoubtedly. We cannot recall a variety named W. "N." Woodcock.

CORRECTION: *Edinburgh Chrysanthemum Show. For the words* Mr. Kirk, of the Forth Vineyards, *read* Messrs. D. & W. Buchanan, &c.

FERN: *G. M., Arbroath, N.B.* The photograph is that of a young plant of Stenochlæna Meyeriana, J. Sm., and the specimen is a sterile frond of the same. The fertile frond has very narrow pinnæ, and is quite different from the sterile frond, which also, when mature, has more pinnæ than on the specimen sent. It is a native of the East Indies and the Malayan Islands, and is a remarkably handsome basket and rockery Fern. In its present state, your frond looks like S. tenuifolia, Moore, which, at best, is but a variety of S. Meyeriana, if not the same species.

GRAPE ALPHONSE LAVALLEE: *X. Y. Z.* There is such a variety in cultivation, but we are unable to give you any information concerning it.

MITES ON APPLE BARK: *Apple Bark.* The acari are the nymphs (=active pupæ) of Oribata lapidaria. I do not think that they would injure the Apple-tree. They were probably feeding on minute lichens or fungi growing on the bark. *A. D. M.*

MUSHROOMS: *Constant Reader.* Either the spawn was old, or you have blundered in the management of the bed. The flies, of which "myriads exist" in the Mushroom-house, may be killed by fumigation with tobacco, or some of its preparations. Old Mushrooms commonly get fly-blown, and the resulting maggots pierce them in all directions. Do not allow them to get old, unless you can grow them out-of-doors in the winter, where, of course, there are no flies to give trouble.

NAMES OF FRUITS: *Hythe.* Pears are not sufficiently sound. Enquirers should give their names and addresses. *—Thomas Denny.* Your Pear is Uvedale's St. Germain, or Belle Angevine of the French.—*N. A. C.* 1, Easter Beurré; 2, Beurré Diel; 3, Mère de Ménage; 4, Lady Henniker.—*C. H.* 1, Bergamotte d'Esperen; 2, Olivier des Serres.—*W. Dodge.* 3, Braddick's Nonpareil; 4, Sturmer Pippin; 5, Waltham Abbey Seedling; 6, Flemish Beauty. *—B. & Co.* Can you send further specimens?

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to be so good as to consult the following number.—H. B. M.* Cosmos bipinnatifidus.—*L. F. P.* 1, Abies nobilis; 2, Tsuga Sieboldi; 3, Abies Lowiana; 4, Juniperus virginiana var.; 5, Libocedrus decurrens; 6, Juniperus sinensis; 7, Thuia (Biota) orientalis. We do not think the same insect would attack both Celery and Onions.—*W. N. R., Northampton.* 1, Æschynanthes Lobbianus; 2, Reineckia carnea variegata; 3, Dictyogramma japonica; 4, Croton Weismanni; 5, Croton interruptus.—*H. F. G.* Othera japonica is the same as Ilex Othera. We never saw it in fruit before.—*W. O. W.* 1, Arbutus Unedo; 2, Not found; 3, Libonia floribunda; 4, Berberis Aquifolium; 5, Hypericum calycinum; 6, Rhododendron ferrugineum.

OUR ALMANACK: *Contributor.* We insert *all* the fixtures we know of up to the date of publication. The Röntgen rays have not as yet enabled us to publish the dates of meetings, &c., before they are decided on.

RATING GREENHOUSES, &c.: *A. F.* Read the account of recent cases given in last week's issue of the *Gardeners' Chronicle*, p. 692, and in the current number.

WORM: *C. F. W.* The common hair-worm, Gordius aquaticus. It is an article of faith with some that these worms are developments of horse-hairs which take on new life in the mud of the ponds in which they are usually found!

X L ALL: *Constant Reader.* If the directions accompanying the liquid are adhered to, it is said that no injury is done to plants by its use. Without having seen the plants before and since the vaporising was done, we can form no opinion regarding the fall of the blooms of Euphorbia, or the browning of the fronds of the Adiantum Williamsi and A. Farleyense.

COMMUNICATIONS RECEIVED.—W. D.—P. H.—T. D.—Geo. McK.—H. H. J.—C. F. B.—L. P. De Laughe, Brussels.—W. E. T.—T. L.—F. C. F.—J. O'B.—J. B.—A. H. C.—F. W. S.—H. A. G. (too late for present issue).—G. M. K.—J. S. W.—Miss Hornby (next week).—Prof. Zacharias, Hamburgh.—G. C.—W. D.—P. H.—T. D.—S. G. R.—H. B.—H. & B.—C. F. B.—T. W.—S. McGredy & Sons.—T. L.—D. R.—H. W. W.—A. H. C.—E. J.—J. D.—A. M. L.—W. R.—W. B. H.—J. H.—S. H.—J. McIntyre.—D. R. W.—J. Barnett.—A. D.—C. T. D.—B. Cowan.—C. H. P.—W. M.—J. McD.—H. H. D.—J. Anderson.—J. J.

PHOTOGRAPHS, SPECIMENS, &c., RECEIVED WITH THANKS.—L. P. De L.

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE."

IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners' Chronicle" has, since the reduction in the price of the paper,*

Increased to the extent of more than 90 per cent., and that it continues to increase weekly

Advertisers are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN, AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS *at home, that it has a specially large* FOREIGN AND COLONIAL CIRCULATION, *and that it is preserved for reference in all the principal Libraries.*

MASON'S WINE ESSENCES.
6 PENCE WILL BUY A BOTTLE WHICH WILL MAKE 60 GLASSES IN 6 MINUTES OF DELICIOUS, Non-Alcoholic Wine
FOR CHILDREN'S PARTIES.
Sample Bottle, Post Free for 9 stamps.
In all Fruit Flavours.
Try the Ginger or Elderberry; These are Special Favourites.
MASON'S EXTRACT OF HERBS for making Delicious Non-Intoxicating Beer. A 6d Bottle makes 8 Gallons. Sample Bottle, 9 stamps, or a Sample of both Post Free for 15 stamps.
NEWBALL & MASON, NOTTINGHAM.
Agents Wanted

BENSON'S
£5. 5s.
"LUDGATE" WATCH
BEATS ALL OTHERS FOR ACCURACY, DURABILITY, and PRICE.
FOR GARDENERS. FOR GARDENERS.
Send for Book of Illustrations and Prices, post-free.
BENSON'S ENGAGEMENT RINGS. 5000 at Lowest Makers' Prices, set with Brilliants, Emeralds, Pearls, Rubies, Opal, Turquoise, &c., of the purest quality. Book of Illustrations, with Pattern Sizes, post-free.
J. W. BENSON, THE STEAM FACTORY, 62 and 64, LUDGATE HILL, E.C., And at 28, ROYAL EXCHANGE, E.C.

The "DENNIS" HEATING APPARATUS. Complete, 50s.
1896. NEW CATALOGUE GRATIS. 1896.
HOT-WATER PIPES, BOILERS, SPOUTING, PUMPS, &c.
THOS. W. ROBINSON, DENNIS FOUNDRY, STOURBRIDGE.

LARGELY INCREASED CIRCULATION

NOTICE TO ADVERTISERS.

THE

GARDENERS' CHRONICLE

FOR

JANUARY 2, 1897,

WILL

CONTAIN AS A SUPPLEMENT

A

SHEET ALMANAC.

As a large Extra Circulation of this Number is guaranteed, it will be a very valuable medium for Advertisements.

SECRETARIES OF HORTICULTURAL SOCIETIES ARE REQUESTED TO NOTIFY THE DATES OF THEIR MEETINGS WITHOUT DELAY, IN ORDER THAT THEY MAY BE INSERTED IN THE ALMANAC.

ADVERTISERS DESIROUS OF SECURING SPACE IN THIS NUMBER

are requested to communicate with "The Publisher" not later than MONDAY, December 28, 1896.

THE PUBLISHER, 41, WELLINGTON ST., STRAND, LONDON, W.C.

Telegrams—"CONSERVATORIES, LONDON." Telephone, No. 8246.

NOTICE to Builders, Seedsmen, Nurserymen, Market Gardeners, Hot Water Fitters, Timber Merchants, and the Trade generally.

WILLIAM COOPER, LTD.,

TENTH ANNUAL CLEARANCE SALE.

RELIABLE BARGAINS

Office: 755, OLD KENT ROAD, LONDON, S.E.
Works: 747 to 755, OLD KENT ROAD, LONDON, S.E.
(The Largest Steam Horticultural Works in the World.)

Being at the End of the Season, we are again induced to offer our Stock on hand at ridiculously Low Prices, to make room for our SPRING STOCK, for SIX WEEKS ONLY, COMMENCING DECEMBER 14th.

NOT Second-Hand GOODS.

CONDITIONS OF SALE.—Goods are offered subject to being on hand on receipt of reply. Cash to accompany all Orders, and Prices to be strictly *Net*. All orders will be executed in rotation, and carefully packed and put on rail, except those otherwise stated.

P.O.O. payable at 794, OLD KENT ROAD. Cheques crossed "L. and S. W. BANK."

GREENHOUSE DEPARTMENT.

AMATEUR SPAN-ROOF FORCING HOUSE.



TENANT'S FIXTURE.

For Cucumbers, Tomatoes, Melons, &c.

Everything Complete and ready for erection.

Lot	Length.	Width	Height.	Usual Price. Packed on rail. £ s. d.	Sale Price. Packed on rail. £ s. d.
1 to 4	7 ft.	5 ft.	7 ft.	£2 10	£2 0
5 to 7	8 ft	5 ft.	7 ft.	3 0	2 5
8 to 12	9 ft.	6 ft.	7 ft. 3 in	3 10	2 10
13 to 15	10 ft.	7 ft.	7 ft. 6 in.	4 10	3 10
16 to 18	12 ft.	8 ft.	8 ft.	5 10	3 15
19 to 21	15 ft.	10 ft.	8 ft. 6 in.	7 15	5 10
22 to 25	20 ft.	10 ft.	9 ft.	10 15	7 10
26 to 30	25 ft.	10 ft.	9 ft.	14 5	10 0
31 to 34	50 ft.	10 ft.	9 ft.	27 0	20 0
35 to 40	100 ft.	10 ft.	9 ft.	45 0	25 0

21-oz. Glass for roof 5 per cent. extra.

AMATEUR FORCING HOUSE.

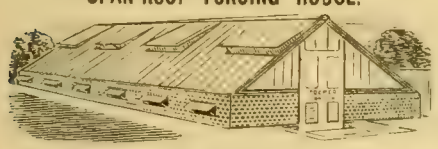
TENANT'S FIXTURE. LEAN-TO.

Lot.	Length	Width.	Height	Usual Price. Packed on rail. £ s. d.	Sale Price. Packed on rail. £ s. d.
41 to 44	7 ft	5 ft.	7 ft.	£1 4	£1 16
45 to 49	8 ft	5 ft.	7 ft.	2 14	2 0
50 to 53	9 ft.	6 ft.	7 ft. 3 in.	3 10	2
54 to 58	10 ft.	7 ft.	7 ft. 6 in.	4 5	
59 to 61	12 ft.	8 ft.	8 ft.	5 6	3 7
62 to 65	15 ft.	10 ft.	8 ft. 6 in.	6 15	5 0
66 to 70	20 ft.	10 ft.	9 ft.	10 10	6 15
71 to 74	25 ft.	10 ft.	9 ft.	13 15	9 0
75 to 77	50 ft.	10 ft.	9 ft.	25 5	18 0
78 to 80	100 ft.	10 ft.	9 ft.	40 10	22 10

In ordering, it should be stated at which end door is to be inserted, when facing house from outside.

21-oz. Glass for roof 5 per cent. extra.

SPAN-ROOF FORCING HOUSE.

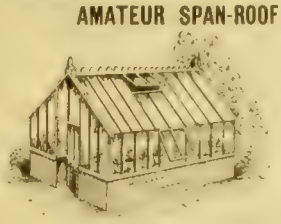


A most useful house for Gentlemen, Nurserymen, &c., for forcing and growing tomatoes, cucumbers, melons, &c. Complete and ready for erecting on brickwork.

Lot.	Length.	Width.	Usual Price. Packed on rail. £ s. d.	Sale Price. Packed on rail. £ s. d.
306 to 309	20 ft	9 ft.	£8 0 0	£6 0 0
310	30 ft.	9 ft.	11 0 0	9 0 0
311 to 313	40 ft.	9 ft.	15 0 0	12 0 0
314 to 316	60 ft.	9 ft.	22 0 0	18 0 0
317 to 319	100 ft.	9 ft.	35 0 0	25 0 0
320	20 ft.	12 ft.	10 0 0	8 0 0
321	30 ft.	12 ft.	14 0 0	11 10 0
322 to 325	40 ft.	12 ft.	19 0 0	16 0 0
326 to 329	60 ft.	12 ft.	27 0 0	23 0 0
330 to 332	100 ft.	12 ft.	42 0 0	35 0 0
333	20 ft.	14 ft.	13 0 0	11 0 0
334	30 ft.	14 ft.	18 0 0	16 0 0
335 to 337	40 ft.	14 ft.	22 0 0	20 0 0
338 to 341	60 ft.	14 ft.	32 0 0	29 0 0
342 to 346	100 ft.	14 ft.	50 0 0	40 0 0

Continued on next page.

AMATEUR SPAN-ROOF GREENHOUSE.



TENANT'S FIXTURE.

Complete with ventilators, irons for opening same, door, staging, &c., all ready for erection.

Lot.	Length	Width	Height	Usual Price. Packed on rail. £ s. d.	Sale Price. Packed on rail. £ s. d.
81 to 89	7 ft.	5 ft.	7 ft.	£2 10	£2 8
90 to 93	8 ft	6 ft.	7 ft.	3 10	2 18
94 to 99	9 ft.	6 ft.	7 ft. 3 in.	4 0	3 5
100 to 105	10 ft.	7 ft.	7 ft. 6 in.	5 0	4 5
106 to 120	12 ft.	8 ft.	8 ft	6 0	4 15
121 to 125	15 ft.	10 ft.	8 ft. 6 in.	8 10	7 0
126 to 127	20 ft.	20 ft.	9 ft.	12 0	9 10
128 to 131	25 ft.	10 ft.	9 ft.	16 0	12 0
132 to 136	50 ft.	10 ft	9 ft.	30 0	23 0
137 to 139	100 ft.	10 ft.	9 ft.	50 0	30 0

21 oz. Glass for roof 5 per cent. extra.

AMATEUR LEAN-TO GREENHOUSE. (No. 5 in list.)

TENANT'S FIXTURE.

Everything complete and ready for erection.

Lot	Length	Width	Height	Usual Price. Packed on rail. £ s. d.	Sale Price. Packed on rail. £ s. d.
140 to 143	7 ft.	5 ft.	7 ft.	£2 8	£2 0
144 to 148	8 ft.	5 ft.	7 ft.	3 0	2 10
149 to 153	9 ft.	6 ft.	7 ft.	3 10	2 14
154 to 157	10 ft.	7 ft.	7 ft. 6 in	4 10	3 12
158 to 159	12 ft.	8 ft.	8 ft.	5 10	4 0
160 to 162	15 ft.	10 ft.	8 ft. 6 in	8 0	5 18
163 to 165	20 ft.	10 ft.	8 ft. 6 in	11 10	8 2
166 to 167	25 ft.	10 ft.	9 ft.	16 10	10 16
168	50 ft.	10 ft.	9 ft.	28 0	20 15
168 A	100 ft.	10 ft.	9 ft.	45 0	27 0

21 oz. glass for roof 5 per cent. extra.

When ordering it should be stated at which end door is required (when facing front of house outside). If desired it can be inserted in front for 10s. extra for alterations.

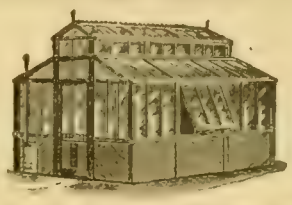
SPAN-ROOF CONSERVATORY (TENANT'S FIXTURE).



Substantially constructed. Everything complete and ready for erection.

Lot.	Length.	Width.	Usual Price. Packed on rail. £ s. d.	Sale Price. Packed on rail. £ s. d.
210	7 ft.	5 ft.	£6 0 0	£5 15 0
211	8 ft.	5 ft.	7 0 0	6 0 0
212 to 213	9 ft.	6 ft.	8 0 0	7 0 0
214	10 ft.	7 ft.	9 0 0	7 15 0
215	10 ft.	8 ft.	10 10 0	9 0 0
216 to 220	12 ft.	8 ft.	12 10 0	11 0 0
221 to 222	15 ft.	10 ft.	18 0 0	16 0 0
223 to 224	18 ft.	10 ft.	21 0 0	18 0 0

LANTERN ROOF CONSERVATORY.



An elegant and highly finished structure. Everything complete and ready for erection.

Lot	Length.	Width.	Usual Price. Packed on rail. £ s. d.	Sale Price. Packed on rail. £ s. d.
225	10 ft.	7 ft.	£15 0 0	£13 0 0
226 to 227	12 ft.	7 ft.	16 0 0	14 0 0
228	15 ft.	9 ft.	20 0 0	17 0 0
229	20 ft.	10 ft	26 0 0	22 0 0
230	25 ft.	12 ft.	38 0 0	30 0 0

If preferred for brickwork, these houses will be altered free of charge.

ODD GREENHOUSES.

These houses are all complete as per list, with doors, lock and key, ventilators, irons for opening, staging, glass, &c., perfectly new.

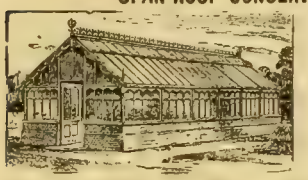
Lot		Usual Price. £ s. d.	Sale Price. £ s. d.
608	Lean-to Conservatory, 14 ft. by 8 ft.	£10 10	£8 0
609	Span-roof Conservatory, 12 ft. by 8 ft.	9 10	8 0
610	Ditto 18 ft. by 10 ft.	15 0	11 0
611	Span-roof Circular light Conservatory 9 ft. by 6 ft.	8 10	7 0
612	Lean-to Forcing House, for 3 ft. brickwork, 20 ft. by 12 ft.	9 10	8 0
613	Lean-to Greenhouse, 15 ft. by 8 ft. door and two ventilators in front	8 0	6 0
614	Lean-to Greenhouse, 10 ft. by 5 ft.	6 0	4 6
615	Span-roof Greenhouse, 20 ft. by 10 ft. for 3 ft. 6 in. brickwork	12 0	9 0
616	Span-roof Greenhouse, 30 ft. by 10 ft., portable	22 0	15 0
617	Span-roof Forcing House, for 3 ft. brickwork, 20 ft. by 12 ft.	10 0	7 15
618	Five Cucumber and Tomato Houses, 100ft by 11 ft., for brickwork, complete with centre gutters, top ventilators, doors, &c., &c., 21 oz. glass, everything new and complete, ready for erecting. The lot	200 0	160 0
	Or can be had separate at £32 10s. each		
619	Three Cucumber Houses, complete as above, 150 ft. by 10 ft. The lot	200 0	160 0
620	One Cucumber House, complete as above, 50 ft. by 10 ft.	70 0	42 0
621	Lean-to Greenhouse, for brickwork, 15 ft. by 10 ft.	8 0	6 0
622	Lean-to Greenhouse, 50 ft. by 12 ft., portable, with partition complete	32 0	21 0
623	Three-quarter Span Greenhouse, for brickwork, 30 ft. by 10 ft.	25 0	14 0
624	Span-roof Greenhouse, 60 ft. by 10 ft. with three partitions, making a complete range of houses	50 0	32 0
625	Lean-to Greenhouse, 20 ft. by 10 ft., door and two ventilators in front	15 0	9 10
626	Lean-to Greenhouse, 6 ft. by 5 ft. door in front	3	2 0
627	Lean-to Greenhouse, 14 ft. by 9 ft. for brickwork	7 0	4 10
628	Span-roof Forcing House, for brickwork, 15 ft. by 9 ft.	8 0	5 0
628A	Four Span-roof Forcing Houses, each 20 ft. by 9 ft. 6 in., 18 in. woodwork at base instead of brickwork, 21 oz. glass each	10 0	7 10
629	Lean-to Conservatory, 19 ft. 8 in. by 10 ft.	16 10	12 0
629A	Lean-to Greenhouse, 9 ft. by 6 ft., for brickwork	4 0	2 10

Full Catalogue post Free on application.

W. COOPER, Ltd., HORTICULTURAL PROVIDERS, 755, OLD KENT ROAD, LONDON, S.E.

W. COOPER, Ltd., TENTH ANNUAL CLEARANCE SALE—*continued.*

SPAN-ROOF CONSERVATORY.

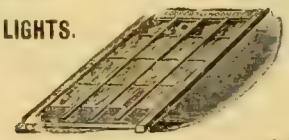


Substantially and Handsomely Built.

Everything Complete and Ready for Erection.

Lot	Length.	Width.	Usual Price.	Sale Price.
261	15 ft.	9 ft.	£20 ...	£21
262	20 ft.	12 ft.	42 .	33
263	25 ft.	14 ft. .	65 .	50
264	30 ft.	15 ft. ...	80 ..	60
265	40 ft.	16 ft. ...	100 ...	75

GARDEN LIGHTS.



Lot.		Usual Price. each	Sale Price. each
		s. d.	s. d.
368 to 370	3 ft. by 2 ft., painted and glazed .	5 0 ..	3 9
371 to 395	4 ft. by 3 ft. ,, 21 oz. ...	7 6 ...	5 9
396 to 503	6 ft. by 4 ft. ,, ,, .	10 6 ...	8 0
504	About 30 good sound second-hand Lights, glazed 21 oz., stiles 2½ in. by 1¾ in. ...	10 6 ...	6 0
505	4 Glazed Lights, 6 ft. by 4 ft., 21 oz., stiles 3 in. by 2 in	12 0 ..	9 0
506	4 Glazed Lights, 7 ft. 10 in. by 3 ft. 6 in. with iron bar...	17 0	12 0
507	12 Glazed Lights, 4 ft. by 3 ft., stiles 2½ in. by 1¾ in ...	7 6	5 6
508	50 Unglazed Lights, 6 ft. by 4 ft., stiles 2in. by 2 in ...	4 0	3 0
509	6 Unglazed Lights, 1 3 ft. 9 in. by 3 ft. 8 in. ; 1 2 ft. by 4 ft. ; 1 2 ft. 5 in. by 2 ft. 6 in. ; 1 3 ft. 3 in. by 2 ft. 6 in. ; 2 7 ft. 6 in. by 4 ft. ... ... The Lot	25 0	15 0
510	13 Unglazed Lights, 1 6 ft. by 4 ft. 1 in. ; 1 5 ft. by 3 ft. 5 in. ; 2 5 ft. by 4 ft. 2 in. ; 1 4 ft. 4 in. by 4 ft. 3 in. ; 2 7 ft. by 1 ft. 6 in. ; 1 3 ft. 9 in. by 3 ft. ; 5 3 ft. 6 in. by 1 ft. 6in. The Lot	50 0	40 0
511	6 Old Glazed Lights, 5 ft. by 3 ft. 7 in. ,,	40 0	20 0
512	2 ,, ,, 4 ft. by 3 ft. 10 in. ,,	12 0	6 0
513	5 ,, ,, 8 ft. by 3 ft. 7 in. ,,	60 0	30 0
514	1 Old Door (half glass) 6 ft. by 2 ft. 6 in. ...	7 6	3 6
515	1 ,, ,, 5 ft. 2 in. by 3 ft. ...	7 0	3 0
515A	50 Unglazed Lights, 3 ft. 6in. by 2 ft. 6 in., suitable for Small Frames and Ventilators ... ... each	3 6	2 0

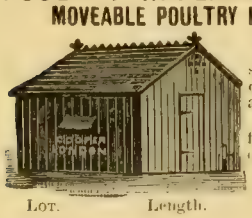
MELON AND CUCUMBER FRAMES.



Lot.		Usual Price.	Sale Price.
		s. d.	s. d.
516 to 525	1 Light Frame, 4 ft. × 3 ft.	18 0 .	14 0
526 to 534	2 ,, 6 ft. × 4 ft.	32 0 .	25 0
535 to 542	1 ,, 6 ft. × 4 ft.	30 0 .	24 0
543 to 550	2 ,, 8 ft. × 6 ft.	54 0 ..	44 0
551 to 553	3 ,, 12 ft. × 6 ft.	75 0 ..	58 0
554	Two Second-hand Span-roof Frames 6 ft. × 4 ft., 2 lights .	40 0	20 0

POULTRY APPLIANCE DEPARTMENT.

MOVEABLE POULTRY HOUSES, SPAN ROOF.



Well and substantially constructed, warranted waterproof, complete with door, ventilator and slide.

These houses are adaptable for Potting, Tricycle, and Coal or Wood sheds.

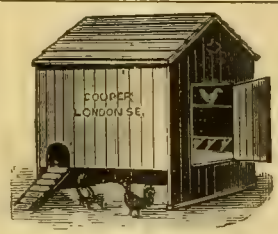
Lot.	Length.	Width.	Usual Price.	Sale Price.
			s. d.	s. d.
640 to 647	5 ft.	4 ft	25 0 .	20 0
648 to 655	6 ft.	4 ft. ..	30 0 .	24 0
656 to 666	7 ft.	5 ft.	36 0 .	27 0
667 to 679	9 ft	6 ft.	42 0 ..	32 0

The following are extras.
Nest Boxes, 9d. each. Perches, 1d. per foot.

NEW SPAN-ROOF IMPROVED POULTRY HOUSE.



Lot.	Length.	Width.	Usual Price.	Sale Price.
680 to 691	4 ft.	4 ft.	30s.	23s.
692 to 697	5 ft.	4 ft.	33s.	25s.
698 to 708	6 ft.	4 ft.	38s.	32s.
709 to 716	7 ft.	5 ft.	45s.	40s.
717 to 725	8 ft.	6 ft.	60s.	45s.



SPAN-ROOF IMPROVED POULTRY HOUSE.

Lot	Length.	Width.	Usual Price.	Sale Price.
726 to 734	5 ft.	4 ft.	45s.	35s.
735 to 739	6 ft.	4 ft.	50s.	40s.
740 to 748	7 ft.	5 ft.	55s.	45s.
749 to 756	9 ft.	6 ft.	63s.	50s.

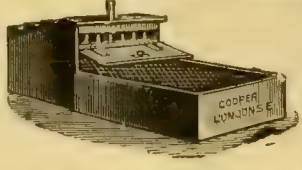
NEST BOXES.

Lot 810 to 870

This is the popular method of sitting hens, and should be universally adopted. The bottom is of wire-netting, made concave, so that no eggs are left uncovered by the hen. It is also a protection against rats burrowing into the nest These boxes are constructed of thoroughly well-seasoned, tongued and grooved matchboards, painted outside one coat of good oil paint, complete with handle, size, 1 ft. 8 in. high, 1 ft. 4 in. wide, 1 ft. 3 in. deep. Securely packed and put on rail at the following respective prices: Usual price, 1s. each. Sale price 3s. each ; 6 for 16s. 6d. ; 12 for 30s. ; 36 for £3 15s.



SAFETY CHICKEN COOP.



These Coops are constructed on the most improved principle, and are very neat in appearance. They are made of good, sound, well-seasoned, tongued and grooved matchboards, are fitted with a shutter as a protection against winds, sun, and vermin at night, and are painted outside one coat of oil colour. Securely packed on rail at the following prices: Size 2 ft. wide, 1 ft. 10 in. deep, 1 ft. 10 in. high at front, 1 ft. high at back.

871 to 899 Usual price, 5s. 6d Sale price, 4s. each ; 6 for 22s. ; 12 for 40s. ; 36 for £5 5s.

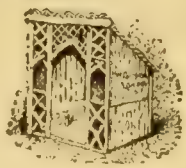
900 to 920 3 ft. moveable wire runs Usual price 4s. each extra. Sale price, 2s. each.

RUSTIC DEPARTMENT.

Lot 1165.

5 ft. wide, 5 ft. 6 in. deep.

Usual price, £1. Sale price, £ 7s.





Lot 1169 to 1161.

5 ft. wide, 3 ft. 6 in. deep.

Usual price, £4. Sale price, £3 5s

IRON BUILDING DEPARTMENT.

CHAPEL OR MISSION HALL.



A Handsome Building, with Organ Chamber, Vestry, and Porch, complete, neat in design, and cheap. Ventilation is here supplied through the upper portion of Windows at sides, being made to open and shut ; also Ventilators in Roof. A Circular Window hung to swing in each Gable end creates a through circulation of air.

Everything complete. Ready for Erecting. Match lining, Felt, &c.

Lot 1205 40 by 20 Usual Price, £140 Sale Price £100
,, 1206 60 by 30 ,, £275 ,, £180

MISSION SCHOOL.

Usual Price.	Sale Price.	Usual Price.	Sale Price.
£10 0 0 .	£8 0 0	£115 0 0	£87 0 0
£24 0 0 ...	£19 0 0	£170 0 0 .	£130 0 0
£59 0 0 ...	£45 0 0		

See Sale List.

COTTAGE, WORKSHOP, OR STORE ROOM.

See No. 206 in List.

Wooden Framework covered with Corrugated Iron, Suitable for Cottage, Store Room, or Workshop. Made in Sections.

Lot.		Usual Price. £ s. d.	Sale Price. £ s. d.
1212	10 ft. by 8 ft. complete ...	... 7 0 0 ..	5 0 0
1213	14 ft. by 10 ft. ,, ...	... 11 0 0 ...	8 0 0
1214	18 ft. by 12 ft. ,, ..	... 16 0 0 ...	11 0 0
1215	22 ft. by 14 ft. ,, .	... 22 0 0 ...	15 0 0

GLASS DEPARTMENT.

		Usual Price. each	Sale Price. each
		s. d.	s. d.
1248	40 Boxes 200 ft. 4/21 oz., 8 × 6 .. each	21 0 ...	13 0
1249	73 ,, ,, ,, 9 × 7 .. ,,	21 0 ...	14 0
1250	110 ,, ,, ,, 10 × 8 .. ,,	21 0 ...	14 0
1251	55 ,, ,, ,, 12 × 8 ... ,,	21 0 ...	14 6
1252	49 ,, ,, ,, 12 × 9 ... ,,	21 0 ...	15 0
1253	312 ,, ,, ,, 12 × 10 ,,	21 0 ...	15 0
1254	108 ,, ,, ,, 11 × 9 ... ,,	21 0 ...	15 0
1255	90 ,, ,, ,, 13 × 9 ... ,,	21 0 ...	15 0
1256	110 ,, ,, ,, 14 × 9 ... ,,	21 0 ...	15 0
1257	All other sizes in stock, 4/21 oz. per 200 ft. ... ... ,,	23 0 ...	21 0
1258	121 Cases, 15 oz., 300 ft., large sizes for cutting up ... ,,	30 0 ...	25 0
1259	85 ,, 21 oz., 200 ft., ditto ... ,,	30 0 ...	25 0
1260	9 ,, 21 oz. ground, large sizes 200 ft. ... ... ,,	40 0 ...	27 0
1261	13 ,, 15 oz. ground, large sizes, 200 ft. ... ... ,,	35 0 ...	27 0
1262	15 ,, 15 oz. Ruby, large sizes, 200 ft. ... ... ,,	55 0 ...	38 0
1263	21 ,, 15 oz. enamelled ditto, 200 ft. ... ... ,,	55 0 ...	40 0
1264	30 ,, 15 oz. blue and ruby, 12 × 10, 50 ft. ... ... ,,	14 0 ...	7 6
1265	15 ,, 15 oz. blue and ruby, 10 × 8, 50 ft. ... ... ,,	13 0 ...	7 0
1266	440 Bent Glass Tiles, rolled plate, per doz.	10 6 ..	7 0
1267	10 Ditto ditto 4/15 oz., per doz. ...	8 6 ...	5 6
1268	12 50 ft. boxes 3/15 oz., Picture Glass, 32 × 28 ... ... each.	10 0 ...	7 6
1269	20 50 ft. boxes 3/15 oz. Picture Glass, 20 × 18 ... ... each,	10 0 .	7 6
1270	9 Boxes 4/21 oz., (3 14 × 14, 2 18 × 16, 2 20 × 14, 2 20 × 14), about 150 ft. in each box, nearly new, been in greenhouse about 3 months, each ..	18 0 ...	12 0

HEATING APPARATUS DEPARTMENT.

HYGIENIC HEATER.



Burning Paraffin or Gas without smoke or smell These Heaters are constructed as a means of Heating by Hot Air without the use of hot water or fires. Its peculiar construction economises the heat generated, so that there is no waste of heat or fuel. There being perfect combustion in this Stove, and nothing whatever injurious to plants, but actually everything conducive to their health, it should be observed that plants may be had in full bloom throughout the severest winter. This cannot be obtained in stoves of other systems. See list for full description.

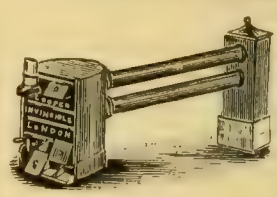
Lot.		Usual Price.	Sale Price.
		£ s. d.	£ s. d.
1275 to 1277	No. 0	£1 0 0 ..	£0 15 0
1278 to 1283	No. 1	1 10 0 ..	1 0 0
1284 to 1290	No. 2 ..	2 5 0 ...	1 10 0
1291 to 1295	No. 3 ..	3 5 0 ...	2 0 0
1296 to 1297	No. 4 ...	3 10 0 ...	2 5 0
1298 to 1299	No. 5	4 0 0	2 10 0

1300—No. 0 Heater for Gas, Usual Price, 20s.
Sale Price, 16s.

No. 4 Slightly Damaged, Usual Price, £3 10s.
Sale Price, £2.

"INVINCIBLE" HOT WATER APPARATUS.

Most Efficient and Cheapest in Existence.



Requires no sunk stoke-hole and no brick setting. Will last all night without attention. Burns house cinders, therefore costs next to nothing for fuel. Anyone can fix it. A child can stoke it. Success guaranteed.

No. 1 Boilers only, capable of heating 75 ft. 4 in. piping.

Lot 1301 to 1305.
Usual Price, £2 15s. ; Sale Price, £2.

Sale Prices for Complete Apparatus :—Cost of Complete Apparatus for Greenhouses with 4-in. pipe, flow and return along one side cut and fitted ; so that if the internal measurement of the Greenhouse is given the Apparatus will be sent completely ready for fixing, an advantage which will be appreciated by all. Securely and carefully packed on rail at the following respective prices : 7 ft. by 5 ft., £2 12s. 6d. ; 9 ft by 6 ft. £2 17s. 6d. ; 10 ft. by 7 ft. £3 ; 12 ft. by 8 ft. £3 ; 15 ft. by 10 ft. £4 ; 20 ft. by 10 ft. £5 ; 25 ft. by 10 ft. £6.

Lot.		Usual Price. s. d.	Sale Price. s. d.
1306 to 1319	—Sets of stoking tools ...	3 0 ...	2 0
1320	—About 1½ cwt. of Round Indiarubber Rings, for 4 in. Socket H. W. Pipes, at per lb....	6 0 ...	3 6
1321	—About 1 cwt. Square Indiarubber Rings, for 4 in. Expansion Joints, at per lb. ...	4 6 ...	2 3
1322	—Secondhand "Invincible" Boiler, No. 2, equal to new, usual price, £3 10s. ; sale price, £2 12s.		

Continued on next page.

Full Catalogue Post Free on application.

W. COOPER, Ltd., TENTH ANNUAL CLEARANCE SALE—*continued.*

WROUGHT WELDED SADDLE BOILERS.

Sockets, 6s. 6d. each extra.

Lot.		in.	m.	in.		Usual Price.	Sale Price.
1342	...	18 by 12	by	12	... each	£2 9 0	... £1 16 0
1343	..	27 by 14	by	14	... ,,	3 12 3	... 2 18 0
1344	..	36 by 14	by	14	... ,,	4 11 6	... 3 8 0
1345	...	42 by 18	by	18	... ,,	7 13 0	.. 5 15 0
1346	...	48 by 21	by	18	... ,,	9 3 0	. 6 15 0
1347	..	54 by 21	by	21	... ,,	11 11 0	8 0 0
1348	...	60 by 24	by	21	... ,,	13 10 0	... 9 10 0

The above sizes are inside Arch.



RAPID PROPAGATORS FOR RAISING PLANTS.

From Seed, Slips, or Cuttings.

		Usual Price. £ s. d.	Sale Price. £ s. d.
Lot 1323 to 1328	1 ft. 8 in. by 1 ft. 6 in.	1 5 0	0 16 0
,, 1329 to 1333	2 ft. 6 in. by 1 ft. 10 in.	1 10 0	1 0 0
,, 1334 to 1341	4 ft. by 2 ft.	3 0 0	2 0 0

TIMBER DEPARTMENT.

SPECIFICATION.

Materials required for Span-roof 100 ft. by 12 ft. Cucumber House.

Lot 1369 to 1370.

Best Red deal, all planed, rabbetted, &c., ready for use, Door and Ventilators made.

105 feet 1½ by 6 Ridge,
105 feet 1¼ by 4 Capping,
230 feet 3 by 3½ Plate,
210 feet ¾ by 3 Drip,
4 8 feet 2½ by 3 End Rafters,
120—8 feet 1½ by 3 Bars,
15 Ventilators, about 4 feet by 2 feet,
15 Ventilators, Seats about 60 feet,
1 Door and Frame, 6 ft. by 2 ft. 6 in.

Packed free on rail. Usual Price £9 10s. Sale Price £6 10s.

Lot				Usual Price. s. d.	Sale Price. s. d.
1371	98,000 ft.	Run.	No. 1 Sashbar, per 100 ft. Run	3 0	2 0
1372	137,000	,,	No. 2 ,,	3 9	2 9
1373	56,000	,,	No. 3 ,,	5 0	3 6
1374	177,000	,,	No. 4 ,,	6 6	4 6
1375	120 Top Ventilators, 2 ft. 4 in. by 2 ft. each			2 0	1 6
1376	170 Marginal Lightdoors, 6 ft. 6 in. by 2 ft. 6 in. each			12 6	9 0
1377	850 squares 5-8 Tongued and Grooved Matchboards ... per square			8 0	6 6
1378	710 squares 6 in. Feather-edge Boards per square			8 0	6 0
1379	19,080 pieces Unplaned, 1 in. by 3 in., for staging, &c. ... per 100 ft.			5 0	3 0
1380	12,794 pieces Unplaned, ¾ in. by 3 in., per 100 ft.			4 6	2 6
1381	4,374 pieces Unplaned, ½ in. by 3 in., per 100 ft			4 0	2 0

PLANED EXTENDED TRELLIS.

MADE OF BEST YELLOW DEAL.

Lot.			Usual Price. s. d.	Sale Price. s. d.
	Open.			
1382	5 pieces, 12 ft. by 1½ ft.	per piece	2 8	2 0
1383	11 ,, 12 ft. by 2 ft.	,,	4 0	3 0
1384	12 ,, 12 ft. by 2½ ft.	,,	4 6	3 6
1385	13 ,, 12 ft. by 3 ft.	,,	5 6	4 0
1386	9 ,, 12 ft. by 3½ ft.	,,	6 0	4 6
1387	10 ,, 12 ft. by 4 ft.	,,	7 6	5 6
1388	20 ,, 12 ft. by 5 ft.	,,	8 9	6 3
1389	6 ,, 12 ft. by 6 ft.	,,	10 6	7 9
1390	60 ,, Unplaned Trellis, 14 ft. by 4 ft. open ... ... per piece		5 0	1 6

SPECIAL OFFERS IN TIMBER.

We give no guarantee whatever with this timber as to quality. This is what has been turned out, not being good enough for our use, being either shaky, knotty, or decayed or twisted:

Lot.		Per 100 ft.	Usual Price. s. d.	Sale Price. s. d.
1392	3,000 ft. prepared 3½ in. by 2 in. ...		10 6	6 6
1394	4,000 ft. ,, 3 in. by 2in.		9 0	6 0
1395	500 ft. ,, 3 in. by 3 in.		12 6	7 6
1396	200 ft. ,, 3½ in. by 3 in.		14 0	8 0
1397	500 ft. ,, ⅞ in. by 4 in.		4 6	3 0
1398	400 ft. ,, 1½ in. by 6 in.		13 6	8 0
1399	100 ft. ,, 2½ in. by 3 in.		11 0	6 6
1400	100 ft. ,, 2 in. by 6 in. ...		16 0	10 0
1401	200 ft. ,, 3 in. side plate . ..		12 6	7 0
1402	200 ft. ,, 3 in. by 3 in. end plate		12 6	7 0
1403	200 ft. ,, 2½ in by 6 in. sill ..		20 0	14 0
1404	800 ft. ,, 3 in. by 2 in.		9 0	6 0
1405	300 ft. ,, 3½ in. by 1½ in. capping		7 0	4 6
1406	2,000 ft. 3 in. by 2 in. unplaned		8 0	5 0
1407	1,000 ft. odd bar 2 in. by 2½ in. and 3 in. (the lot)	—		20 0
1408	200 9 ft. lengths, 3 in. by 1¼ in. bar per 100 feet		6 6	3 0
1409	150 ft. 2 in. by 2 in. bar		5 0	2 9
1410	3,000 ft. 3 in. by 1½ in. bar		6 6	3 9
1411	2,000 ft. 3 in. bar, 2 ft. to 5 ft lengths (the lot)			20 0
1412	2,000 ft. 2 in. bar		3 9	2 9
1413	200 ft. 2 in. by 4 in. bar		14 0	8 0
1414	3,000 ft 3 in. bar in 12 ft. lengths ...		6 6	3 9
1415	2,000 ft. 2 in. bar		3 9	2 9
1416	4,000 ft. 3 in. by 9 in. yellow deals ...		—	20 0

All timber consigned at the Cheap Timber Rate to all parts of the country.

SUNDRIES DEPARTMENT.

Lot.			Usual Price. s. d.	Sale Price. s. d.
1417	Loam, Surrey, splendid quality,	per sack	2 6	1 6
1418	General Potting Compost	per sack	2 6	1 6
1419	Chrysanthemum Compost,	per bushel	3 0	1 6
1420	Compost for Potting Ferns,	per sack	2 6	1 6
1421	Compost for Potting Bulbs,	per sack	2 6	1 6
1422	Leaf Soil, well decayed	per sack	2 6	1 6
1423	Celebrated Orchid Peat ...	per sack	6 0	3 0
1424	Brown Fibrous Peat for Stove Plants	per sack	2 6	1 6
1425	Good General Peat for Ferns	per sack	2 0	1 6
1426	Rhododendron Peat	per sack	2 0	1 6
1427	Rich Brown Loose Peat ...	per sack	2 0	1 6
1428	Cooper's Sunshade for Shading Greenhouses	per lb.	1 0	0 1
1429	General Fertilizer for Florists and Gardeners	per cwt.	15 0	10 0
1430	Silver Sand, coarse or fine, 2 cwt. sacks		3 3	2 3
1431	Cocoa Nut Fibre, fresh and clean,	per sack	1 6	1 0
1432	Toganrog Mats, nearly new,	each	2 0	1 0
1433	Beetle Powder	per tin	1 0	0 9
1434	Nicotine Soap	per packet	1 6	1 0
1435	Cooper's Dubbin ...	per box	1 0	0 9
1436	Virgin Cork, best quality	per cwt.	14 0	10 6
1437	Tanned Garden Netting, 1 yard wide,	per 100 yards	4 0	2 9
1438	Tanned Garden Netting, 2 yards wide,	per 100 yards	10 0	6 6
1439	Tanned Garden Netting, 3 yards wide,	per 100 yards	16 0	14 0
1440	Tanned Garden Netting, 4 yards wide,	per 100 yards	70 0	50 0
1441	Birch Brooms for Garden Purposes,	per doz.	6 0	4 6
1442	70 Sacks Charcoal Nuts ...	per sack	2 6	1 9
1443	New Mushroom Spawn	per bushel	3 0	2 0
1443A	Galvanized Pea Guards	per doz.	4 0	2 9
1444	Pea Trellis, 6 ft. by 3 ft.	each	2 0	1 6
1445	4 Quart Water Can, galvanized, ...	,,	2 2	1 8
1446	6 ,, ,, ,,	,,	2 4	1 9
1447	8 ,, ,, ,,	,,	2 8	2 0
1448	10 ,, ,, ,,	,,	2 10	2 1
1449	12 ,, ,, ,,	,,	3 2	2 6
1450	16 ,, ,, ,,	,,	4 8	3 6
1451	Folding Chairs ...		5 0	3 0
1452	10-inch Cooper's Beatall Lawn Mowers		23 6	17 0
1453	12-inch Cooper's Beatall Lawn Mowers		25 0	17 0
1454	14-inch Cooper's Beatall Lawn Mowers		30 0	18 0
1455	16-inch Cooper's Beatall Lawn Mowers		35 0	20 0
1456	18-inch Cooper's Beatall Lawn Mowers		40 0	25 0
1457	10-inch Britannia Mower, with box		40 0	27 6
1458	12-inch Shank's Improved Mower		80 0	60 0
1459	Garden Arches, 7 ft. by 4 ft. by 1 ft.		4 8	3 6
1460	,, ,, 7 ft. by 4 ft. by 1 ft., extra strong		6 6	5 3
1467	Wire Hanging Baskets		1 0	0 9
1477	Secondhand Windsor Pump with Rose and Jet		20 0	12 0
1478	New Windsor Pump with Rose and Jet .		20 0	16 0
1479	New London Pump with Rose and Jet...		10 0	7 6
1480	6 Gardener's Hammers	each	2 0	1 4
1481	1 Pandora Spirit Stove	,,	3 0 ..	2 0
1482	2 Truck Baskets, No. 5	,,	1 6	1 0
1483	4 ,, ,, No. 6 ...	,,	2 0 .	1 6
1484	1 ,, ,, No. 7	,,	3 0	2 0
1485	Wire Balloon Trainer ...		5 6	4 0
1486	Wire Stakes, 3 ft.	per dozen	9 0	6 0
1487	Oil Cooking Stove Complete, including Kettle	each	6 0	5 0
1490	Oil Cooking Stove Complete, including Kettle ...	each	2 0	1 6
1491	Oil Cooking Stove Complete, including Kettle	each	3 0	2 0
1492	Strong Garden Barrow, No. 650 in List .		30 0 ..	25 0
1493	Strong Garden Barrow, No. 651 in List .		36 0	28 0
1494	Hose Reel		17 0	14 0
1496	Water Cans		1 8	1 5
1500	36 Gallon Cask Black Varnish		34 0 ...	25 0
1501	Chaff Cutting Machine, nearly new ...		130 0 ..	80 0
1502	Oat Crushing Machine, nearly new ...		70 0	40 0
1504	130 Pound Paint Brushes, Best Bristle .		5 0 ..	3 6
1505	Glazier's Diamond, nearly new		15 0 ..	7 6
1506	6 New Cane-bottom Chairs		30 0 ..	20 0
1507	10 60 ft. Lengths Hose, 1 Ply. ..	each	19 6	17 0
1508	2 ,, ,, 2 ,, ,,	,,	23 6	20 0
1509	1 ,, ,, Armoured	,,	47 0 ..	40 0
1510	1 ,, ,, ,,	,,	39 0 ..	32 0
1511	1 ,, ,, 3 Ply ...	,,	25 6	22 0
1512	2 ,, ,, 1 ..	,,	16 0	14 0
1513	2 ,, ,, 2 ..	,,	20 0 .	17 0
1514	2 ,, ,, 3 ..	,,	21 0	18 0
1515	2 ,, ,, 2	,,	16 0 ..	14 0
1516	5 ,, ,, 1	,,	12 6 ..	10 6
1517	4 ,, ,, 3	,,	30 0 ..	26 0
1518	1 ,, ,, 1	,,	12 0 ..	10 0
1519A	20,000 Wood Labels, 3 in.	per 1,000	2 6	1 5
1520A	60,000 ,, 4 in.	,,	2 6	1 8
1521A	21,400 ,, 5 in.	,,	3 0	2 0
1522A	58,000 ,, 6 in.	,,	3 6	2 9
1523A	26,000 ,, 7 in.	,,	4 6	3 6
1524A	20,000 ,, 8 in.	,,	5 9 .	4 6
1525A	7,000 ,, 9 in.	,,	7 3 .	5 9
1526A	8,200 ,, 10 in.	,,	8 0 ..	6 0
1527A	1,000 ,, 12 in.	,,	10 0 ...	7 6

SUNDRIES DEPARTMENT—*continued.*

Lot.			Usual Price. s. d.	Sale Price. s. d.
1528A	44,000 Flower Sticks, 1 ft. .	per 1,000	3 0	2 2
1529A	15,400 ,, 1 ft. 6 in. ..		4 0	3 9
1530A	28,000 ,, 2 ft. ..		7 6	6 0
1531A	24,800 ,, 2 ft. 6 in. ..		10 0	8 0
1532A	11,700 ,, 3 ft. ..		12 0 .	10 0
1533A	8,100 ,, 3 ft. 6 in. ..		17 0	14 0
1534A	12,400 ,, 4 ft. ..		20 0 .	17 0
1544A	8,800 ,, 4 ft. 6 in. ..		28 0 .	23 0
1545A	8,700 ,, 5 ft. ..		35 0 .	29 0
1546A	700 Dahlia Stakes, painted green, 4 ft.	per gross	25 0 .	20 0
1547A	870 Dahlia Stakes, painted green, 5 ft.	per gross	30 0 ..	25 0
1548A	1,270 Dahlia Stakes, painted green, 6 ft.	per gross	36 0 ...	30 0

The following Lots are at our Nurseries, and will be packed on Rail Feltham Station:—

1550 to 1616 are Special Cheap Lots, including Timber, Sashbars, Deals, Nests of Drawers, Iron Safe, Writing Table, Blacksmith's Forge, Carpenter's Bench, Iron Building, Pump, Boiler, &c., &c. See Catalogue, Post free on application.

		Usual Price.	Sale Price.
1617	Palms, Latania borbonica, in 5 in. pots, per doz.	10 0	6 0
1618	Areca ombra, in 4 in. pots per doz.	5 0	3 6
1619	Phœnix technata, from Stores, per 100	10 0	7 6
1620	Ferns, mixed, nice plants, in 5 in. pots, comprising Pteris cristata, Aralia serrulata, Selaginella and Lygodium, per doz.	5 0 .	3 0
1621	Pelargoniums, first class varieties, 2½ in. pots ... ... per doz.	3 0	2 0

HARDY HERBACEOUS PLANTS.

1622	Wallflowers, all single varieties, per 100	6 0 ..	4 0
1623	Wallflowers, Double German ,,	7 6 ..	5 0
1624	Double white Daisies ,,	5 0 .	3 6
1625	Sweet Williams (Seedlings) ,,	4 0 .	3 0
1626	Gentiana coccinea ,,	4 0 ..	4 0
1627	Pyrethrum (Double Mixed) ,,	3 0 .	2 0
1628	Pyrethrum (Double White) ,,	3 6 .	2 6
1629	Delphiniums (Mixed) ,,	2 0 ..	1 0
1630	Hypericum Moserianum ,,	3 6 .	2 6
1631	Anemone japonica ... ... ,,	3 0 .	2 0
1632	Tritoma Uvaria (Red hot Poker plants)	1 6 .	1 0
1633	Iris (mixed) per 100	1 6 ..	1 0
1634	Lilium candidum (White Madonna Lily) per 100	2 0 ..	1 0
1635	Veronicas, fine bushy plants .. per 100	6 0 .	5 0

FRUIT TREES, &c.

1636	Apples, Pears, Plums, and Cherries, robust trees on best varieties (sale price, 10s per dozen) each	1 6	1 0
1637	Ditto ditto ditto, horizontal trained (twice trained) each	3 6	2 0
1638	Apricots, Peaches, and Nectarines (twice dwarf trained) each	4 6	3 0
1639	Strawberries, very strong runners, leading varieties per 100	2 6	1 6
1640	Gooseberries and Currants (strong bushes) per doz.	4 0	2 6
1641	Rhubarb, extra strong crowns for forcing each	1 0	0 6
1642	Seakale for forcing per 100	7 0	5 0

VINES. VINES.

SPECIAL LINE IN BLACK HAMBURG VINES.

1643	Planting Canes .. . each	3 6 .	2 6
1644	Fruiting Canes .. .. each	4 0	3 6

CARNATIONS AND PINKS.

1645	All the leading varieties of Carnations (our selections) doz.	5 0 ..	4 0
1646	All the leading varieties of Carnations (purchasers selection) doz	6 0	5 0
1647	Pinks Mrs. Sinkins, Her Majesty, Modesty, and Earl of Essex doz	3 0	2 0

CLIMBERS, &c.

(Clematis, purple, blue, and white).

1648	Strong, healthy plants, in 5 in. pots, each	1 6 ..	1 0
1649	Ivies (Variegated) in 5-in. pots, doz.	7 0 ...	5 0
1650	Ivies (Irish), very strong, in 5-in. pots, doz.	6 0 .	3 6

ROSES. ROSES.

1651	Dwarf Hybrid Perpetual, splendid, 6, Well-rooted bushes, in good var., doz.	4 0 7 6	3 0 5 6
1652	Standards, good heads, on best vars . 6, Ditto doz	8 0 15 0	6 6 12 0

HEDGING, &c.

1653	Privet, in splendid condition for transplanting for hedges about 3 ft., 100,	10 0	6 0

MANETTI STOCKS.

1654	500,000 Manetti Stocks, very strong, in grand condition . . . 1,000,	25 0 .	20 0
1655 to 1973	Special Cheap Lots of Flowers and Vegetable Seeds. See Catalogue.		

☞ **A Number of Superior Pianos and American Organs are included in this Sale.**—*See Catalogue.*

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Full Catalogue Post Free on application.

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THE GARDENERS' CHRONICLE

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4	Lines ..	£0	3	0	15	Lines ..	£0	8	6
5	„ ..	0	3	6	16	„ ..	0	9	0
6	„ ..	0	4	0	17	„ ..	0	9	6
7	„ ..	0	4	6	18	„ ..	0	10	0
8	„ ..	0	5	0	19	„ ..	0	10	6
9	„ ..	0	5	6	20	„ ..	0	11	0
10	„ ..	0	6	0	21	„ ..	0	11	6
11	„ ..	0	6	6	22	„ ..	0	12	0
12	„ ..	0	7	0	23	„ ..	0	12	6
13	„ ..	0	7	6	24	„ ..	0	13	0
14	„ ..	0	8	0	25	„ ..	0	13	6

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Publishing Office and Office for Advertisements,
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The Maximum of Utility with the Minimum of Cost. Is a perfect protection against SHEEP, HORSES, or STOCK. It is made 6 feet high, by 12 inches square (in halves, which bolt together), of Barb Wire, attached to an Iron Frame.

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Roofing Felts are the kind you want You should ask to see them. A few shillings extra in getting a thoroughly good felt will save you many pounds in after years. Look for the RED HAND on every yard Your dealer keeps them, or will obtain them for you.

MATS SUPERSEDED BY USING "FRIGI DOMO" CANVAS.

Registered Trade Mark.

Made of prepared Hair and Wool, a perfect protection to all Plants & Blooms. Cheaper than any kind of mat, and will last for years.

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ESTABLISHED 1851.

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TOM B. DOBBS & Co., 32, Queen's Square, Wolverhampton—Vegetable and Flower Seeds, and General Nursery Stock.

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F. DANIELS, late Foreman at Staunton Harold, Leicestershire, as Head Gardener to Colonel NORRIS, Swalcliffe Park, Banbury.

WILLIAM DAVIES, for the last eighteen years Head Gardener at Weir Bank, Teddington, Middlesex, as Head Gardener to EDWARD DURRANT, Esq., Garbrand Hall, Ewell, Surrey.

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GARDENER (UNDER).—Age 20; requires situation Inside or Out. Good references from past and present employers.—For further particulars, apply to W. BRUFORD, The Gardens, Grantlands, Uffculme, Devon.

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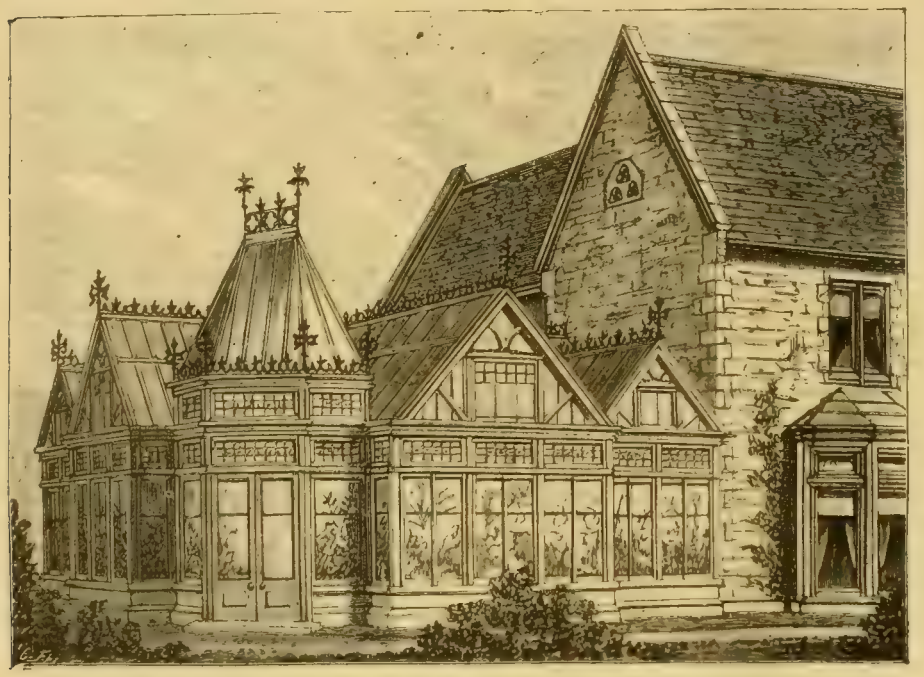
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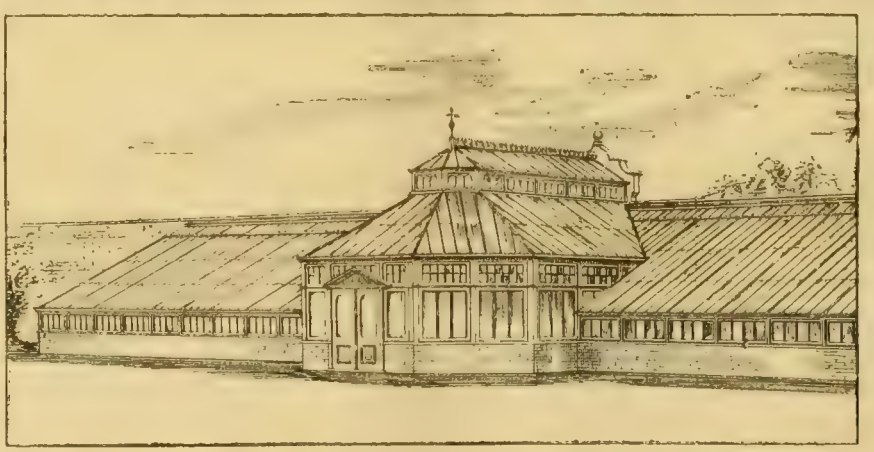
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The Gardeners' Chronicle

ESTABLISHED 1841. No. 2921.

No. 521.—Vol. XX. {Third Series.} SATURDAY, DECEMBER 19, 1896. [Regt. as a Newspaper. {Price 3d. Post-free, 3½d.

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NOTICE TO ADVERTISERS.

It is particularly requested that all Advertisements intended for next week's issue, should be addressed to the **Publisher,** *and should be so despatched as to reach this Office not later than WEDNESDAY MORNING NEXT.*

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ESSEX.—FOR SALE, by order of the Mortgagees, a MARKET NURSERY of Five Acres, with Four Glasshouses, efficiently heated. Comfortable Dwelling-house. Lease, forty years. Ground-rent, £7 10s. Price, £350. No stock. Full particulars of PROTHEROE AND MORRIS, 67 and 68, Cheapside, E.C. (Folio 8933.)

PROTHEROE AND MORRIS, HORTICULTURAL MARKET GARDEN and ESTATE AUCTIONEERS and VALUERS, 67 and 68, Cheapside, London, E.C., and at Leytonstone, E. Monthly Horticultural Register had on application.

ALLINGTON PIPPIN.—The finest new Dessert sent out for thirty years.
Maidens, 5s.; 2-yr., 7s. 6d. each; larger to 21s. each.
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Now being distributed.

CHRYSANTHEMUM CUTTINGS.—Strong, healthy stock. Source d'Or, Elaine, 2s. per 100; Jardin des Plantes, 2s. 6d.; and W. H. Lincoln, 2s. 9d. per 100.
Strong planting Canes, Northumberland Fillbasket RASPBERRIES, 60s. per 100.
ORCHARD COMPANY, Scotby, Carlisle.

ASPIDISTRA, well variegated and strong, per 100 leaves, 25s. and 35s.; FICUS ELASTICA, 48s.; 12 to 14 leaves, 12s. per dozen; ISOLEPIS GRACILIS, out of 60's, nice stuff, 3s. 6d. per 100. Cash with Order. All grown cool and hardened.—GREENFIELD, GRAINGER AND CO., Rivermead Nurseries, Earlsfield, S.W.

CYPRIPEDIUM CALCEOLUS (native Lady's Slipper Orchid), for re-naturalising in woods, or for rockery, &c. Strong, selected, healthy plants, from Austria (should all bloom first year), 25s. per 100; 4s. per doz.; single sample, nine stamps, free for cash with order.—GUILDFORD HARDY PLANT NURSERY, Millmead, Guildford. General Illustrated Catalogue of Alpines, Rock Plants and Shrubs, and other Hardy Plants on application to Manager.

CYCLAMEN SEED of our well-known strain, own saving, as used by ourselves.
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SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free.
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CŒLOGYNE CRISTATA, well grown and cheap. Good plants, 1s.; with 25 bulbs, two or three spikes, 2s; stronger, 65 bulbs, six spikes, 5s.; 100 to 150 bulbs, eight to sixteen spikes, 7s. 6d. to 12s. 6d. each.
A few other ORCHIDS cheap.
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30,000 CHRYSANTHEMUMS.

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Fine, healthy unflowered plants,
5s., 7s. 6d., 10s. 6d., and 15s. each.
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The finest Raspberry ever sent out.
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AZALEA INDICA, best varieties, well set with bloom, in 6-inch pots, 18s. to 24s. per dozen.
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Packing free for cash with order.
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ROSES.—ROSES.

ALL THE BEST KINDS.

WELL-GROWN, WELL-ROOTED PLANTS.

IN VIGOROUS HEALTH.

CATALOGUES FREE.

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500,000 very Healthy Thriving young

FRUIT TREES for SALE,

OF THE CHOICEST MARKET SORTS, IN LARGE OR SMALL QUANTITIES.

CATALOGUES on application to—

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MARKET GARDENERS AND FRUIT TREE GROWERS,

SIPSON, WEST DRAYTON, MIDDLESEX,

And 458 & 459, COVENT GARDEN MARKET, LONDON

NURSERYMEN, SEEDSMEN, AND FLORISTS, BY

SPECIAL ROYAL WARRANT TO HER MAJESTY THE QUEEN.

FISHER, SON & SIBRAY, LIMITED,

ROYAL NURSERIES, HANDSWORTH, SHEFFIELD,

HAVE ISSUED THEIR

CATALOGUE of GENERAL NURSERY STOCK,

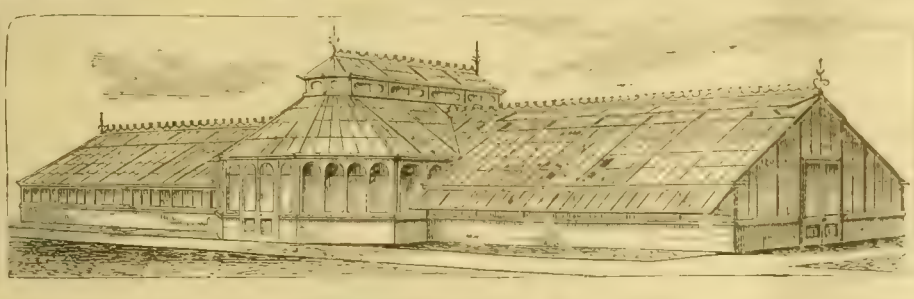
which may be had free on application, in which they offer the following well-grown Stocks:—

FRUIT TREES of every description.
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RHODODENDRONS, of all the best varieties.
HARDY CLIMBERS, CLEMATIS, &c., extra strong.
HOLLIES and AUCUBAS, very bushy.
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FOREST TREES, of every description.
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CONIFERÆ, including Yews, Green & Golden.
ORNAMENTAL TREES, for Street and Park Planting.

Also a very large Collection of ORCHIDS, STOVE and GREENHOUSE PLANTS, &c, &c.

INSPECTION CORDIALLY INVITED.

Five 1st Prize Medals recently awarded in open competition.



Five 1st Prize Medals recently awarded in open competition.

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HOTHOUSE BUILDERS and HOT-WATER ENGINEERS,

ROYAL HORTICULTURAL WORKS, MIDDLETON, MANCHESTER.

Vineries, Stoves, Greenhouses, Peach Houses, Forcing Houses, &c, constructed on our improved plan, are the perfection of growing houses, and for practical utility, economy, and durability cannot be equalled. We only do one class of work, and that THE VERY BEST.

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Plans, Estimates, and Catalogues Free. Customers waited on in any part of the Kingdom.

Our Maxim is and always has been—

MODERATE CHARGES. FIRST-CLASS WORK. THE BEST MATERIALS.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

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TODDINGTON ORCHARD CO., Winchcombe, R.S.O., Glos.

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MEW, Florist, Earlswood, Surrey.

Important to Mushroom Growers.

CUTHBERT'S SPÉCIALITÉ MUSHROOM SPAWN. Always alike; most productive. Hundreds of testimonials. Per bushel, 5*s.*
R. AND G. CUTHBERT, Seed, Bulb, and Plant Merchants, Southgate, N. Established 1797.

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GEO. FORBES, the largest CUT FLOWER SALESMAN in the North of England.
Best Market Prices returned for Consignments. Packing Boxes and Labels free. Cheques weekly.
N.B.—Prompt attention given to all orders for Cut Flowers by Letter, Telegram, or Telephone.
National Telephone, 1059. Established, 1878.

R. H. POYNTER, The Nurseries, Taunton, offers:—HOLLY BERRIES, ripe, clean; Dog-rose do.; Rose Stocks, 3 to 4 feet; Grifferaie Stocks, 2-yr; Dog-rose Seedlings, 1-yr., 2-yr.; Grifferaie and Manetti Stools, with Cuttings; Privet Evergreen Cuttings; do., 1-yr. rooted; Ampelopsis major, 3 feet; Christmas Roses, Bath var.; Hepaticas, single blue clumps; Paeonies, old crimson; Artichokes, Jerusalem; Shallots, large sort, English; Beetroots, true Pine-apple, selected for seed; Solomon's Seal Crowns; Violets, White Russian; Magnolia grandiflora, very best var., large stools, unique.

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MR. COOPER, F.R.H.S., is the largest grower in the kingdom of the above for sale. Plantations near Reading. Price Lists and Pamphlets on application to—
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RHODODENDRONS.

Best Kinds. Well Budded. Beautiful Foliage.
£7 10*s.* to £15 per 100.
F. STREET, Heatherside Nurseries,
CAMBERLEY, SURREY.

TO THE TRADE.



The Finest Dwarf Early Wrinkled Marrow Pea,
ENGLISH WONDER.
We are in a position to make advantageous offer of this Pea.

SHARPE'S QUEEN PEA.
Finest Blue Wrinkled Marrow.
Trade Price on application.

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To obtain the True Yellow-Fleshed Variety apply to—
CHARLES SHARPE & CO., Limited,
SLEAFORD.

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When you make out your SEED ORDER include the BEST and CHEAPEST INSECTICIDE for FUMIGATING, viz.:—

CAMPBELL'S ROLLS { Complete in themselves, without lamps or spirit. Ready for use at any moment. An improvement in process of manufacture enables us to reduce the old prices:—

No. 2 Rolls, for 500 cubic feet of space .. .. 5*d.* each. | No. 3 Rolls, for 1000 cubic feet of space .. .. 8*d.* each.
No. 4 Rolls, for 2000 cubic feet of space .. .. 1*s.* 2*d.* each.
Direct from us or from any Seed or Nursery Firm with whom you deal.

The fumes from these Rolls being of greater specific gravity do not pass away through the openings there may be in roofs, nearly so quick as vapour does, Insects are therefore exposed to their deadly influence for a longer time during the fumigation.

NO INJURY TO PLANTS, FLOWERS, or FRUIT.

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Half-pints, 1*s.* 6*d.*; Pints, 2*s.* 6*d.*; Quarts, 4*s.* 6*d.*; Half-gallons, 7*s.* 6*d.*; Gallons, 12*s.* 6*d.*

CLIBRAN & SON, ALTRINCHAM, AND 10 & 12, MARKET STREET, MANCHESTER.

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BEST WALTON HEATH LOAM supplied to Private Gentlemen, per truckload, on rail, at Banstead Station, at per ton. Also large quantities for Nurserymen, at reduced price. Also good MEADOW TURF, at per 100.
B. PENFOLD Garden Farm Burgh Heath, Banstead.

CHRYSANTHEMUMS.

Our NEW LIST for Present Season is just issued, and will be sent without charge, and post-free on application.

DICKSONS NURSERIES, CHESTER.

FRUIT TREES.

We hold a large and varied stock of the above, in first-rate quality, and at reasonable prices.
DESCRIPTIVE CATALOGUE ON APPLICATION.
S. SPOONER & SONS,
HOUNSLOW NURSERIES, HOUNSLOW

150 ACRES of TREES & SHRUBS. In the finest possible condition, for The Villa, The Mansion, The Plantation, or The Game Covert. All in vigorous, healthy condition, not stunted, starved, or closely grown and drawn. Carefully and frequently moved, and the roots consequently are a mass of fibre, ensuring safe removal when sold.

NEW CATALOGUE, with descriptions of above, and of many Rare and New Plants, post-free from—

CLIBRAN'S Nursery, Altrincham;

Also at MANCHESTER, BANGOR, and LLANDUDNO JUNCTION.

A Large Stock of
HORTICULTURAL BONES for SALE, In small or large quantities, suitable for all buyers.
Sizes:—1 inch, ½ inch, ¼ inch, meal; splendid analysis.
Apply to E. S. WILES & LEWIS, Bone Crushers, St. Albans.

THOMSON'S
VINE AND PLANT MANURE.

The very best for all purposes.
The result of many years' experience. Largely used both at home and abroad.

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Sole Makers:—WM. THOMSON AND SONS, LTD., Tweed Vineyard, Clovenfords, N.B.

Price Lists and Testimonials on application.
Analysis sent with orders of ½-cwt. and upwards.
SOLD BY ALL SEEDSMEN.

ORCHID PEAT.—Dry and prepared, 5s. 3d. per bag, on rail; 15s. per cubic yard, in 12-yard trucks. BROWN FIBROUS PEAT, 3s. 3d. per bag; 10s. per cubic yard.
WALKER AND CO., Poole, Dorset

ASTON-CLINTON STRAW MATS, the warmest coverings for pits and frames. Sizes, 6 ft. 6 in. by 3ft. 9in. at 2s.; 6ft. 6in. by 4ft. 6 in. at 2s. 2d.; 6ft. 6in. by 7ft. at 3s. 2d.—Apply to Miss MOLIQUE, Aston-Clinton, Tring, Bucks.

ARCHANGEL MATS are scarce and dear, but present high prices will not be maintained, as we expect a cargo in course of this month, when prices will be reduced. We are now supplying new 7 feet SIBERIAN MATS, which are superseding Archangel Mats, being thicker and closer woven. Low quotations for these and other kinds can be had on application.
J. BLACKBURN AND SONS, 4 and 5, Wormwood Street, London, E.C. Telephone No. 2377.

HILL & SMITH, BRIERLEY HILL, near DUDLEY;
And at LONDON & DUBLIN.

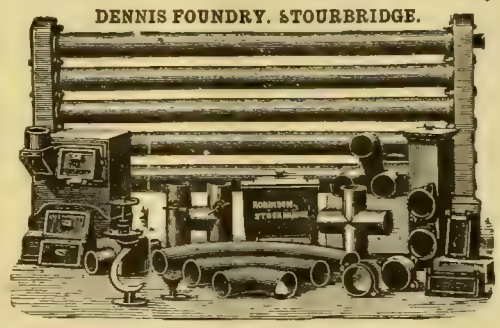


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The Maximum of Utility with the Minimum of Cost. Is a perfect protection against SHEEP, HORSES, or STOCK. It is made 6 feet high, by 12 inches square (in halves, which bolt together), of Barb Wire, attached to an Iron Frame.
Price, 9s. and 10s. each.



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DENNIS FOUNDRY, TOURBRIDGE.



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EXPANSION JOINT HOT-WATER PIPES.
SOCKET HOT-WATER PIPES.



STOCK SIZES—in inches.

2×10	14×12	18×12	16×14	20×14	20×16	24×16
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22×18
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21-oz. Foreign, of above sizes, in 200-feet boxes, 3rds and 4ths qualities.
English Glass, cut to buyer's sizes at lowest prices, *delivered free and sound* in the country in quantity.
PUTTY, WHITE LEAD, PAINTS, OILS, BRUSHES, &c.
GEORGE FARMILOE & SONS,
34, St. John Street, West Smithfield, London, E.C.
Stock Lists and Prices on application. Please quote *Gard. Chron.*

COAL! COAL!! COAL!!!
Mr. Pascoe is now supplying his Celebrated
LARGE ANTHRACITE
HORTICULTURAL COAL & 'COBBLES'
At Lowest Possible Prices for Cash.
Buy direct from the Producer, and Save Middlemen's Profits.
ENQUIRIES SOLICITED.
T. T. PASCOE, COLLIERY OFFICE, Swansea.

GARDEN REQUISITES.
COCOA-NUT FIBRE REFUSE.
6d. per bushel; 100 for 30s.; truck, loose (about 2 tons), 60s. Bags, 4d. each.
SPECIALLY SELECTED ORCHID PEAT.
LIGHT-BROWN FIBROUS PEAT, 5s. 6d. per sack; 5 sacks, 25s.; sacks, 4d. each.
BLACK FIBROUS PEAT, 5s. per sack; 5 sacks, 22s.; sacks, 4d. each.
COARSE SILVER SAND, 1s. 9d. per bushel; 15s. per half-ton; 26s. per ton, in ½-bushel bags, 4d. each.
YELLOW FIBROUS LOAM, PEAT-MOULD, and LEAF-MOULD, 1s. per bushel.
SPHAGNUM MOSS, 8s. 6d. per sack.
MANURES, GARDEN STICKS, TOBACCO CLOTH, RUSSIA MATS, &c. Write for Price LIST.
H. G. SMYTH, 21, Goldsmith Street, Drury Lane, W.C.

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ROBERTS'S (IMPROVED) PATENT.
Terra-Cotta! Portable! For Coal!
Pure and ample heat, 24 hours for about 1d., without attention.
For Greenhouses, Bedrooms, &c.
Pamphlets, Drawings, and authenticated Testimonials sent. See in use at Patentee's,
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VINES AND VINE CULTURE.
The most complete and exhaustive Treatise on Grapes and their Culture ever published.
Third Edition just out.
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7	„	..	0	4	6	18	„	..	0	10	0
8	„	..	0	5	0	19	„	..	0	10	6
9	„	..	0	5	6	20	„	..	0	11	0
10	„	..	0	6	0	21	„	..	0	11	6
11	„	..	0	6	6	22	„	..	0	12	0
12	„	..	0	7	0	23	„	..	0	12	6
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GARDENERS AND OTHERS WANTING SITUATIONS. 26 *words, including name and address,* 1s. 6d., *and* 6d. *for every additional line (about nine words) or part of a line. These Advertisements must be prepaid. This scale does not apply to announcements of Vacant Situations, which are charged at the ordinary scale.*

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Births, Deaths, and Marriages, 5s. each insertion.

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POSTAL ORDERS.—*To Advertisers, Subscribers, and Others.—It is very important in remitting by Postal Order that it should be filled in payable at GREAT QUEEN STREET, London, W.C., to* H. G. COVE, *as, unless the number of a Postal Order is known, and it has been made payable at a particular office, and to a particular person, it is impossible to prevent any person into whose hands it may fall from negotiating it.*

Advertisements for the current week MUST *reach the Office by first post, Thursday morning.*

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements,
41, WELLINGTON STREET, STRAND, W.C.

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All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months. Post-office Orders to be made payable at the Post-office, Great Queen Street, London, W.C., to H. G. COVE.

Subscribers who experience any difficulty in obtaining their copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint.)

WILLIAM COOPER'S
TENTH ANNUAL CLEARANCE SALE

RELIABLE BARGAINS.

NOW ON.

Offices:—755, OLD KENT ROAD, LONDON, S.E.

(The Largest Steam Horticultural Works in the World.)

NOT SECOND-HAND GOODS.

BEING at the end of the Season, we are again induced to offer our Stock on hand at ridiculously Low Prices, to make room for our SPRING STOCK, for SIX WEEKS ONLY, COMMENCING DECEMBER 14.

CONDITIONS OF SALE.—Goods are offered subject to being on hand on receipt of reply. Cash to accompany all orders, and prices to be strictly net. All orders will be executed in rotation, and carefully packed and put on rail, except those otherwise stated.

SEE THREE-PAGE ADVERTISEMENT IN LAST WEEK'S PAPER.

SEND FOR THIRTY-TWO PAGE ILLUSTRATED SALE CATALOGUE, POST-FREE.

THOMAS GREEN & SON, LTD.,

LEEDS and LONDON,

HORTICULTURAL ENGINEERS to HER MAJESTY THE QUEEN, call Special Attention to their Patent Municipal or Angular Chambered

HOT-WATER BOILERS,

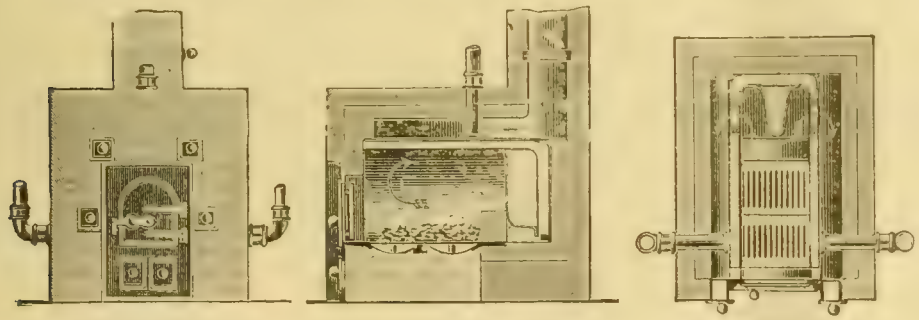
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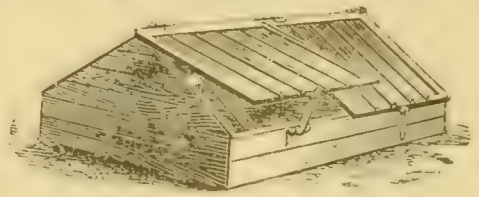
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THE

Gardeners' Chronicle.

SATURDAY, DECEMBER 19, 1896.

HELIGAN, CORNWALL.

THE history of the Tremaynes, of Tremayne, forms no inconsiderable portion in the long and interesting annals of the county of Cornwall; few families have more worthily maintained the leading position which they have held in the westernmost county from time almost immemorial.

The manor of Tremayne, situate in the parish of St. Martins-in-Meneage, on the banks of Helford-Haven, is said to have given name and origin to the ancestors of Perys or Peres Tremayne, who resided there, *temp.* Edward III. John Tremayne, of this family, who was sheriff in 1486-87, had a brother called Richard, who resided at Tregonan, and who is thus noticed by Carew: "At the adjoyning Saint Tue (St. Ewe) dwelleth master Richard Tremayne, descended from a younger brother, of Calocumb-house in Devon, who being learned in the lawes, is yet to learne, or at least to practise, how to make other proffit thereby, then by hoording up treasure of gratitude, in the minds-full breasts of poore and rich, on whom he, *gratis*, bestoweth the fruites of his paines and knowlege." Another distinguished member of the family, Lewis Tremayne, commanded a regiment of foot for Charles I., and was Lieutenant-Governor of Pendennis Castle.

The manor of Heligan was, at an early period, the property of the Heligans, from whom it passed by female heirs to the Tregarthians and Whitleighs; and from the latter by co-heiresses to the families of Grenville and Hals. One of the Tremaynes purchased the property at a very early date, probably during the earlier years of the sixteenth century. William Tremayne began to build Heligan in 1597, and first inhabited the house in 1604. Sir John Tremayne, Serjeant-at-Law, towards the latter part of the seventeenth century made some additions; the Rev. H. H. Tremayne considerably altered the house in 1809; and his son, Mr. J. H. Tremayne, subsequently improved upon these alterations. The house, from an architectural point of view, has very little that is either striking or beautiful about it—it is severely plain, but large and substantial. Standing, as it does, however, amidst exceedingly beautiful scenery, Nature has more than fully compensated for defects which are after all merely a matter of detail.

The gardens are among the most interesting in this part of the county, at least three generations of Tremaynes fairly claiming the distinction of being described as ardent horticulturists. The late John Hearle Tremayne, father of the present owner, introduced a great variety of new improvements in the gardens, and made the drive one of the finest in the county, in 1832. Heligan may be almost described

as the birthplace of Cornus capitata (Benthamia fragifera): Sir Anthony Buller, in the early part of the century (about the year 1825, it is believed), gave Mr. J. H. Tremayne some seeds which he brought home from Nepaul, it native habitat. In the genial soil and climate of Heligan they grew and thrived amazingly, and when Mr. Tremayne made the drive in 1832, he planted this splendid tree on either side, with the result that from early summer till autumn the drive is simply a dense mass of white flowers. Bamboos are a strong and exceptionally interesting feature at Heligan, where they thrive, for the most part, in the wildest profusion. The largest piece is B. Simonii, which was planted about the year 1871: B. nobilis is also in large clumps, and appears to have been first planted here in 1874. Mr. John Claude Tremayne, son of the present squire, and an enthusiastic amateur, has added all the varieties which he has been able to get in Europe during this last year or eighteen months, some of the rarer or less-known forms of this protean genus having been secured after much difficulty from a nurseryman in Italy.

The Indian Rhododendrons at Heligan are a great feature, and are well worth a journey all the way to Cornwall to see. The majority of the larger specimens were planted by Mr. John Tremayne some years ago. As the majority of these are figured in Sir Joseph Hooker's splendid folio, dealing with the Rhododendrons of the Sikkim Himalayas, it is most interesting to compare the plates in this work with the results of careful and intelligent culture in an entirely congenial habitat. The flowers are in nearly every instance finer, and the colours more brilliant. R. Griffithianum, syn. [Aucklandi], for instance, is an exceedingly fine plant, and the flowers, which measure from 3 to 5 inches and over in diameter, are, when first out, pinker than is usual with this species—in either its natural habitat or in other places. R. Thomsoni (Hooker, t. xi.), remarkable for the almost unrivalled deep blood-red colour and glossy surface of its flowers, is quite 25 feet high, and is probably the largest plant of this species in England. Sir Joseph Hooker describes this in its native habitat as a bush ranging from 6 to 10 feet high, "or in damp woods 15 feet high, but then spare and woody;" at Heligan it attains to tree height without being either spare or woody. Of R. Falconeri, of which an illustration from a photograph taken by Mr. J. Claude Tremayne, is here given (fig. 130, p. 749), there are two large specimens; the younger of these is about 15 years old; and in April and May of this year it produced a record total of 258 flowering heads—one of these heads was 36½ inches in circumference. This striking and distinct species, with its densely-packed flower heads, and beautiful Magnolia grandiflora-like leaves, is also figured by Sir Joseph Hooker; but the plate does not give an adequate idea of the extraordinary beauty of this species as seen at Heligan. R. Hodgsoni (Hooker, tab. xv.), found at an elevation of from 10,000 feet to 12,000 feet in all the valleys of Sikkim, also thrives exceeding well at Heligan; of the wood of this species, Sir Joseph Hooker states, cups, spoons, and ladles are made by the Bhoteas, and universally the little "Yak" saddle, by means of which the pack-loads are slung on the back of their animal. R. Campbelliæ now (referred to R. arboreum) (fig 134, p. 757) a flowering branch of which an illustration is here given, may be mentioned not only for its beauty, but for its free-flowering character; R. glaucum with its sweet-scented foliage, and R. formosum syn. Gibsoni, are all here, and all in great size. There are also two good-sized R. zeylanicum arboreum, but they have never flowered.

A fine specimen of Eriobotrya japonica came originally from the south of France, and has acclimatised itself exceedingly well at Heligan, where it does best in a bank not far from water. Another plant, half-hardy elsewhere outside Cornwall, Hedychium Gardnerianum, has been in its present place by the side of the stove-house for very many years: it fruited last year, and Mr. Tremayne raised several plants from the seed. Berberidopsis corallina is also quite hardy; Solanum jasminoides, which was actually touching the Berberidopsis, was killed two years ago, though other plants of the Solanum in other parts of the garden were not hurt. A very old plant of Camellia reticulata is still a profuse bloomer, and bears hundreds of huge flowers annually; this past season it was a red blaze. Lapageria rosea flourishes, and produces flowers in great abundance; whilst Tropæolum speciosum, a singularly beautiful plant, is equally hardy, and equally free flowering—essential points in its cultivation are plenty of room and a west wall.

There are about a dozen plants of Dicksonia antarctica in the open at Heligan; the largest was put in three or four years ago, and the remainder, which are comparatively small plants, were placed in the rockery a few months ago, and form an exceedingly charming addition to an artistic formation.

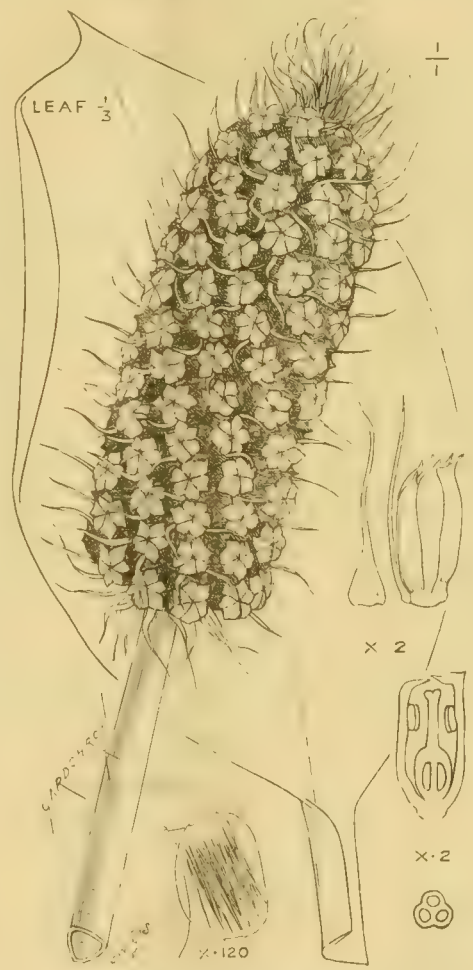


Fig. 129.—Gonioscypha eucomoides.
(Flowers green; bracts yellow; leaf reduced; floral details magn.; at the base is a large cell filled with raphides.)

These plants were brought over from Sydney by Mr. J. Treseder, of Truro, and, so far, have shown no ill-effects of their long journey. I may here mention an exceptionally fine specimen plant of Chamærops excelsa, which was planted by Mr. John Tremayne between 40 and 45 years ago, and is now over 20 feet in height; there are several other plants of this graceful Palm, but none so large or so old as the above-mentioned.

There are very many interesting trees at Heligan, notably Pinus Ayacahuite; this was given by Mr. J. Knight, of Chelsea, to the late Mr. J. H. Tremayne, over 40 years ago, apparently soon after its introduction into this country, as it was first brought to England in 1840 by Hartweg for the Royal Horticultural Society. The illustration (fig. 131, p. 751), from photograph taken by Mr. J. C. Tremayne, gives a very good idea of this very beautiful tree; this specimen is believed to be the finest in England, and it is quite hardy. The illustration of the cones of this plant will also be interesting (fig. 132, p. 753), as they are of rare occurrence in this country. There is also a good specimen of Pinus montezumæ, which was given to Mr. Tremayne by Mr. Jonathan Rashleigh of Menabilly a few years ago, and grown from seed saved by him. In a valley below the house is a very specimen of Abies nobilis, about 66 feet high, girth 3 feet from ground, 6 feet 10 inches, at base 8 feet. This valley was quite a wild orchard until the present owner of Heligan began planting some rarer kinds of trees there; it is now an arboretum of a most interesting character—indeed, it may be doubted whether there is a more successful garden lover in the county than Mr. John Tremayne.

Any reference to Heligan would be quite incomplete without mentioning the little enclosure known as Mrs. Tremayne's Garden. This is a very charming enclosure, of about a quarter of an acre, filled with all kinds of old-fashioned flowers, which produce a gay succession from January to December—

> "The daughters of the year,
> One after one, thro' that still garden pass'd;
> Each garlanded with her peculiar flower
> Danced into light, and died into the shade."

Mrs. Tremayne's garden more nearly approaches my own ideal of what an old English flower garden ought to be like than anything I have ever seen; it is certainly a most interesting and charming addition to the attractions of Heligan. *W. Roberts.*

New or Noteworthy Plants.

GONIOSCYPHA EUCOMOIDES.*

This is not a pretty name, and a good many people would give the same verdict to the plant that bears it. But though good looks cannot be claimed for it, it possesses what is more important—interest. The plant is near to Tupistra and Aspidistra among the Liliaceæ. Its general appearance is shown in the accompanying illustration (fig. 129), taken from a specimen that flowered recently in the Royal Gardens, Kew, to the authorities of which establishment we are indebted for the opportunity of figuring the plant. The leaves are broad, and emerge from a fleshy root-stock, from the top of which also emerges the cylindrical scape bearing the spike of deep-green flowers. The uppermost bracts are barren, deltoid, acuminate, yellowish, forming a tuft above the flowers, as in the genus Eucomis. The perianth consists of six obtuse fleshy hooded segments, united below the middle, concealing as many stamens. Ovary, three-lobed. The fruit is described as a "berry." It is a native of the Bhotan Himalaya, and was originally described by Mr. Baker. *M. T. M.*

Orchid Notes and Gleanings.

DENDROBIUMS GROWING UPON BONES.

A few days ago the opportunity was afforded me of inspecting the small and well-grown collection of Orchids formed by A. W. Wills, Esq., Wylde Green, and there saw what I should think is a remarkable instance of an Orchid growing upon the skull of a sheep, the species being Dendrobium Parishii, which from the size of the old pseudo-bulbs, was a very small piece when fastened to the skull. This is its second year of growth, and the length and stoutness of the new pseudo-bulbs, the extensive network of roots around the jawbones and teeth, in and out of the eye-sockets and other indentaions of the skull, show plainly that the bone suits its requirements. Equally luxuriant is a plant of D. pulchellum growing on the skull of a dog; where in general instances the bulbs usually attain a length of 3 or 4 inches, the plant under notice has this season made bulbs approaching 7 inches in length.

* *Gonioscypha eucomoides.*—Baker in *Journ. Linn. Soc.*, 1875, xiv., 581, t. 19; N. E. Brown in *Gard. Chron.*, 1886, ii., 744; J. D. Hook, in *Flora of British India*, vol. vi. (1892), p. 326.

This information may at the present time be all the more interesting as it will materially strengthen the arguments put forth by Doctor Kedzie, and published in the *Gardeners' Chronicle* of November 28, that the growth of epiphytal Orchids is stimulated by their absorbing mineral matter through the agency of their roots. *I. I.*

Dendrobium Wardianum at Highbury.

Under the fostering care of Mr. Burberry, the Dendrobiums at Highbury, Birmingham, have done exceptionally well this season. Out of the large number of D. Wardianum that are grown here, there are few new bulbs that have not attained a length of 4 feet, and promiscuously selecting one, I counted twenty nodes with flower-buds, which cannot fail in a few weeks' time of being a "show in themselves." *I. I.*

Masdevallia tovarensis.

In the cool houses of H. J. Stevens, Esq., Westmount, Kelvinside, Glasgow (gr., Mr. David Wilson), is a fine specimen of Masdevallia tovarensis, with fifty spikes of its paper-white flowers; each of these spikes will have from two to three flowers, and the effect is enchanting to an Orchid enthusiast. This pretty species, once scarce and dear, has become so plentiful as both to minimize its value and importance. However, well-cultivated plants, abundantly bloomed, command attention, and this being an individual plant, not made up, one looks to see how it has been grown. It is growing in a 7-inch pot, in peat and sphagnum-moss, in the ordinary way, so that it is evidently a question of climate that accounts for the successful flowering of the plant. There is no finer-grown lot of Odontoglossum crispum in Great Britain than the lot under the charge of Mr. David Wilson. The writer saw the collection in its earlier days, and the plants now are in specimen size, and the pseudo-bulbs rather increasing than otherwise, so that the coolish moist climate that grows these Odontoglots so well, does the same for the Masdevallia tovarensis. The leaves are broad, leaf-green, and without blemish, and the whiteness of the flowers, and the number of them, contrast well with even the great racemes of O. crispum itself. *J. A.*

Angræcum sesquipedale.

One of the best-grown pieces of this singular-looking Orchid is grown in a stove in Mr. Stevens' garden with marked success. The plant is about 2 feet high, and is furnished with leaves to the bottom with thirteen pairs of leaves, strong with that fine glaucous covering that provides the green which is so pleasing to the eye. It is showing four spikes of bloom of three flowers each. One can see that this species revels in the atmosphere strongly tropical among a host of Dracænas and Crotons, the moisture arising from them, independent of any subsidiary influence, contributing mainly to vigorous growth, and at the same time furnishing stamina for long life. Many tropical Orchids do best under similar circumstances as to miscellaneous fellowship. *J. A.*

Odontoglossum × Andersonianum Var.

A very pretty and distinct form of this extremely variable natural hybrid Orchid is in flower at Mr. F. C. Jacomb's gardens, Cheam Park, Surrey. The whole of the segments are broad; sepals, petals, and lip being rather more than half-an-inch wide. The sepals and petals are in colour of a cream-white, with irregularly formed reddish-brown markings on the inner halves. The column corresponds in colour with the sepals and petals; but in the labellum, which is nearly triangular, there is an unusual departure from the ordinary colour arrangement, it being wholly of a clear white, with a bright chrome yellow area at the base. The two-horned callus is also white, and the unspotted lip, contrasted with the brightly marked segments, make it an attractive flower. *J. O'B.*

Plant Notes.

Nepenthes × Dicksoniana.

Among the plants grown by Mr. George Russel, the gardener to J. B. Mirrilees, Esq., Redlands, Kelvinside, Glasgow, the collection of Pitcher-plants, and the method of culture pursued, have been notable for years; and there is no more striking species than Nepenthes × Dicksoniana, which is a seedling of Rafflesiana × Veitchi. There are several plants here in great vigour. It more resembles in the appendages N. Rafflesiana than N. Veitchi, but the leaves of the pollen-parent are discernible throughout. It has also the rather short joints of N. Veitchi in the leaves, which is an improvement on the Rafflesiana habit. Its pitchers are much elongated and handsome, the marbling of the body of the pitchers being like those of its seed-parent; and then the operculum, or lid, is very ornamental, the turned-down margin being beautifully and irregularly striped transversely with dull crimson.



Fig. 130.—Rhododendron falconeri (see p. 742.)

Nepenthes Rafflesiana remains one of the freest-growing and most prolific in pitchers of the strong-growing bulky section. The plants here are in perfect health, and one of the pitchers was large enough to hold the contents of a large soda-water bottle, which give those who drink, and those who do not, a fair idea of the capacity of an abnormal tendrilified leaf. The green and the brown forms of N. Mastersiana are well in evidence, and many other sorts.

The mode of propagation which Mr. Russel adopts with Nepenthes is to cut a piece off, widen the hole of a 3-inch pot, draw the cutting through it inversely, leaving the empty pot to do the callusing and rooting processes, placing these inverted pots in a frame in the stove, whence rooting takes place, without a single morsel of sphagnum-moss or foreign matter of any kind, in a comparatively short time, and with invariable success.

Adiantum Farleyense.

Amongst the many fine things to be found in the glass-houses of Sir John Watson, Bart., of Earnock, Hamilton (gr., Mr. J. Moir), the collection of Adiantum Farleyense stands out prominently. It evidently requires a moist climate and strong heat, and to be kept rather near to the glass. There are about a dozen specimens of this Fern in the Earnock stove, and each is as good as the other. No other Maidenhair can rival A. Farleyense for effect. Unfortunately, it will not stand use in a drawing-room, and even the fronds when cut from the plant soon shrivel; but as a specimen, its light fronds are admirable. Mr. Moir does not afford this Ferns large pots, and the fronds coming up at the present shows that it is a perpetual grower—otherwise evergreen. *J. A.*

The Deodar and other Conifers.

If Mr. Nicholson said or wrote that the Deodar was practically a failure generally in this country, he stated what may, in fact, be acknowledged as a truism. Earl William, grandfather of the present Earl Craven, planted Deodars largely alongside of a plantation, in various soils and in various sheltered situations. These were planted, as nearly as I can make out, about fifty years ago. Whilst young they grew tolerably well, so that thirty-five years later we felt encouraged to plant more. These, in turn, did very well, but of late years, on the visitation of severe frosts, branches were killed back a yard and more in length. The following spring these broke again strong from the live wood, but only again to be killed back, until the whole of our Deodars presented a most miserable appearance, a very different state of affairs to the healthy state the tree assumes in its native home, or in some of our more favoured districts. The failure of the Deodar here may probably be accounted for by our low altitude—250 feet above the sea-level; yet at the same level Larch planted at the same time, and on precisely the same soil and surroundings, are a decided success. Cedars, C. atlantica, planted side by side with Deodars, have grown into magnificent straight healthy trees, whilst the Deodars are only gnarled and sickly.

Of Wellingtonias I have a better tale to tell; in the grounds here we planted largely, and we can now boast of many very grand specimens, beautifully branched down to the ground—of these we planted an avenue in 1863. One of the rows on one side have tolerably good shelter, whilst the other row was exposed to the east wind, yet this row—if a difference can at all be made between them—presents the most symmetrical and healthy appearance. This I think worth noting, as it is generally understood that the Wellingtonia will not thrive when it is exposed to flogging winds.

Of Wellingtonias I have a little more to say: many years ago we planted a bank thickly with these, freely mixed with Cupressus Lawsoniana, Thuiopsis, &c., with the intention of thinning out and planting in the park; this, however, was never done, and the trees were allowed to grow thickly together, so that there was practically a race for existence, the fittest only surviving. To walk in and through amongst them is something akin to walking through a very miniature natural forest. The Wellingtonias being the stronger growing have kept their heads well above all the others, whilst their naked, branchless, brown bark stems is interesting to look at as compared to the full branched, isolated specimens on the lawn. The same description, but without bronze bark, is applicable to the Lawson Cypress, which have developed into beautifully straight stems.

Our low altitude does not seem to be inimical to the well-doing of Abies Pinsapo, for of these we have a very handsome avenue, as well as many magnificent specimens on our lawns; but the gale of March 24, 1895, blew down two of our oldest and finest specimens, which were over 60 feet high.

The Cedar of Lebanon does well here, but our grandest specimens have from time to time been broken by the wind, and are now little better than

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wrecks. These trees, unfortunately, are generally allowed to grow up with many rival stems, so that sooner or later they are bound to be blown to pieces; chaining the limbs together does not always ensure safety. Spruce Firs, Silver, Scotch, and Austrians, do well here; but as a complete failure, I am sorry to say, I am obliged to place the Araucaria in the same category with that of the Deodar. They were not so much injured as those at Chatsworth during the severe winter of 1860-61, where they were killed outright. Those here escaped with a partial browning of the lower branches. During the spring of 1863 I lifted a whole avenue of Araucaria, replanting them under happier circumstances; after that they did very well for a time, but the frosts which of late years wrought so much mischief amongst our Deodars, gave also, as near as possible, the *coup de grâce* to the Araucarias; true, they are shooting out at the extreme ends of branches, but what of this, when all the rest of the tree is as brown as a berry?

During the severe winter of 1894-95, when the thermometer here showed 14° below zero, a fine thirty-year-old Holly hedge, 7 feet high, was killed down to the ground, we had to cut the dead away close down; there is now two years' very good growth on it, and if we have no repetition of such low temperatures, the hedge bids fair to grow into as fine a one as before. Even hedges of the common Yew did not escape unscathed. The whole of the branches of Holly-tree, measuring over a foot in diameter, were killed, the branches having to be cut off, and the naked butt is now only making a very feeble attempt to branch forth again.

Those whose good fortune has led them to live comfortably in higher altitudes, or near to the sea, are to be envied, but in the low-lying levels of the midland counties during a severe winter they are to be pitied. At King's Norton, seven miles beyond Birmingham from here, and at 600 feet altitude, I think I heard Mr. Pope say that on the same night as that on which we had 14° below zero, their glass only showed 24° of frost. *W. Miller, Coombe Abbey.*

CHRYSANTHEMUMS IN PARIS.

By way of continuation to our previous notes on the Paris show, we may draw attention to a few of the most interesting features from an English standpoint. There was much to see besides Chrysanthemums, but it is chiefly with these that we propose to deal. M. Ernest Calvat staged, in addition to new seedlings, a most imposing display of cut blooms in a large oval basket, tied up with broad orange-coloured silk bows, quite unlike anything we see in England, but which are familiar [but unsightly] objects in the windows of the florists' shops in Paris. The most effective flowers for the purpose were Captain Chauré, Madame Calvat, M. Hoste, M. Chenon de Leché, and Fée du Champsaur. Hairy varieties, as already mentioned, were numerous throughout the show, and in most of the groups there were varieties quite unknown to us. Popular favourites seemed to be Hairy Wonder, which was uniformly good; Louis Bœhmer, Enfant des deux Mondes, William Falconer, and Chrysanthémiste Delaux. Others less well known in England were Madame Sckareck, a Japanese incurved, with narrow-grooved florets, curly at the tips, very pale blush in colour, shaded yellow in the centre; Mdlle. Henriette Berloz, very large for a hairy variety, also Japanese incurved in form, but having rather thin, narrow florets, colour silky-blush; Abbé Pierre Arthur, silky-bronze, a Japanese, with florets of medium width; Beauté Lyonnaise, Japanese incurved, colour dull carmine, golden in the centre; Belle des Gordes, a good flower, also of the same type, colour pale blush; Gloire Lyonnaise has very long drooping florets, and of good size, colour rosy-pink; Souvenir de Nicolas Belisse, a very pretty terra-cotta shaded golden-bronze, with gold reverse. Raphael Collin is another excellent sort as staged at the Paris show; it is of Japanese incurved form, with florets of medium width, and is of a beautiful shade of golden-bronze, with a silky reverse. Maurice Boissard is another one unfamiliar to us; it has rather broad florets, deeply grooved and pointed, colour pure golden-yellow. Frère Jovinus was striking on account of its peculiar lustre; it has narrow, grooved, incurving florets, colour golden chestnut-bronze. Dragon might best be described as a hairy Edwin Molyneux.

In the Japanese proper, Madame Carnot was nearly always good; Lord Brooke, the well-known Japanese incurved, seemed particularly amenable to French treatment, as did also Rose Wynne, W. H. Lincoln, Etoile de Lyon, Mrs. C. Harman Payne, Waban, Col. W. B. Smith, Calvat's Australian Gold, Madame Calvat, Héroïne d'Orleans, a large white Japanese; Lilian B. Bird, Le Colosse Grenoblois, Good Gracious, Louise, M. Chenon de Leché, Reine d'Angleterre, W. Seward, and several other sorts well known to English cultivators. Incurved varieties of the old show type were not often seen, excepting perhaps Globe d'Or, C. H. Curtis, and C. B. Whitnall.

Messrs. Vilmorin, Andrieux & Co. were undoubtedly the most important contributors to the show. Their exhibits almost entirely filled one large room 160 feet by 40 feet, and consisted of two large collections of cut blooms, shown on a sloping stage, covered with black velvet; and on the other side of the room a collection of cut blooms with long stems and foliage. In addition to these, Messrs. Vilmorin showed four large groups, each 45 feet in length by 6 feet in width, containing a fine lot of freely-flowered dwarf plants, about 2 feet to 2 feet 6 inches in height, all carrying good average-sized blooms. A large number of prizes were awarded to the firm for the various exhibits. In the middle of this room a very artistic group, by way of relief, was set up by M. Vouette, consisting of Palms, Araucarias, &c., edged with green moss, in the centre of which was a large trumpet-shaped vase, containing a huge bouquet of cut Chrysanthemum blooms.

First-class Certificates were awarded for the following new seedlings: to M. Ernest Calvat, for Calvat's Distinction, afterwards re-named Mdlle. Lucie Faure, a capital large white Japanese incurved; Czarina, a large Japanese incurved, of a pretty shade of rosy-amaranth; Lawrence Zédé, a big solid-looking Japanese incurved, rosy-amaranth, with silvery-pink reverse; Madame Bergier, a Japanese, with great length of floret, colour white, shaded and streaked pale pink, with yellow tips; Madame Deis, a Japanese, colour white; Xavier Rey-Jouvin, a Japanese incurved, colour deep rosy-pink; and for Werther, also of the same type, but having broad florets, colour white, shaded amaranth reverse, silvery-white, tipped yellow. First class Certificates were also awarded to M. Scalarandis, gardener to the King of Italy, for Louis Sirtori, a golden-bronze-coloured Japanese; Madame Thérèse Charvet, a very pretty soft pale-pink Japanese; and Piémont, a Japanese incurved, colour white, streaked pink. Similar awards were made to M. Heraud, for Madame Filleul Broy; to M. Nonin, for M. Pierre Cattant; to M. Quétier, for Lévcadie Gentils, a pale yellow sport from Enfant des deux Mondes; and to M. de Reydellet, for Ernest Verdet.

In the groups there were but few varieties of English origin, by far the greater number being American, Italian, and French. One variety called Fratelli Cattaneo, a Japanese of medium size, but of a beautiful shade of bright rosy-amaranth, was largely in request, and did good service in many of the groups of pot plants.

The best and most imposing collection of cut blooms from our point of view was the one staged by M. Oudot, gardener to M. Victorien Sardou. They were all big massive solid-looking exhibition flowers, rather rough in appearance, and staged in glass bottles. Had a little more attention been bestowed upon them, and the ordinary show-board used, the flowers would have made a much more effective display. Especially fine in this collection were Le Drac, Phœbus (grand), M. Robt. Whitaker (very large), Héroïne d'Orleans, Calvat's Australian Gold, C. B. Whitnall, Lilian B. Bird, and J. P. Kendall. The same exhibitor also gave evidence of his skill in culture by setting up a fine collection of dwarf plants in pots. A Gold Medal and a Silver-gilt one were very properly awarded to these exhibits.

Messrs. Lévêque & Son were also exhibitors of plants and cut blooms, the latter being most effectively staged in a bed on the floor; the receptacles for the blooms were covered with green moss. A display of Carnations also came from the same firm.

Chrysanthemums were shown by no fewer than fifty exhibitors, some of whom entered in several classes. Among prize-winners not mentioned in our former notes should be mentioned MM. Duval et fils, Bernard, Courbron, Deperier, Launay, &c. Cyclamens were shown by MM. Bourgoin, Jobert, and Lequin, and there were also exhibits of other flowers.

There was also a considerable display of fruit and vegetables, and also of horticultural books and serial publications.

THE ROSARY.

IN THE ROSE GARDEN.

Although it is only here and there that a bloom can be culled, and these far from good representatives of the variety, there is a good deal of seasonable work to be done, and the Rose-garden should be receiving as much attention as during the summer months. Unless we get severe frosts, it is often allowed us to cut a few Roses up to the end of November; but the excessive rain of late, and the frosty mornings, together spoilt our chance of doing so the present season.

A bush of Stanwell Perpetual, an old Scotch Rose and the only perpetual-flowering variety, afforded a few fragrant blooms very late in the month. Each time as the planting season comes round, we find amateurs in doubt as to what stock is best suited for them. To a great extent this depends upon the nature of the soil, and the varieties which will be cultivated. This question of stocks is rather intricate. One cannot say that all of any one class need a certain stock; and, although the majority of Bourbons, hybrids of Bourbons and Chinese, and almost the whole of our Hybrid Perpetuals, will thrive well upon the Manetti, there is a number in each class that either absolutely refuse to do upon it, or merely linger on for a few years in an unsatisfactory condition. I would recommend that all inexperienced amateurs should leave the question of stocks to the nurserymen; at all events, till they have found a certain stock does not suit it in their soil.

In a small garden of mine, Xavier Olibo has repeatedly refused to thrive upon the Briar, but a neighbouring plant upon Manetti has grown well for the past four years. Yet the majority of growers would say it must be on the Briar stock. Early in the seventies, when the dwarf Briar was at last attaining popularity, it was claimed by some that the smooth-wooded Roses—of which Comtesse d'Oxford, Horace Vernet, Louis Van Houtte, Victor Verdier, and Reynolds Hole may be mentioned as examples—positively must have the Briar stock if they were to succeed. But we have, and had then, many very far from smooth-wooded varieties which needed the Briar even more. As a rule, the dwarf Briar, in the form of seedlings or rooted cuttings after the manner of Manetti, and De la Grifferaie, will be found the most trustworthy stocks for all sorts of Roses and soils.

No time should be lost in planting seedling Briars and the standard stocks obtained from the hedgerows. The latter may be trimmed much harder than is generally practised, and advantageously in the matter of root formation. Dwarf stocks obtained from cuttings I would still leave in the ground. A severe winter affects the bark of these after a whole winter and summer under-ground, especially in the case of Manetti. How often we find the latter stock dead after a hard and wet winter long before the Rose worked upon it has shown serious injury from frost, and yet the wood was more exposed. Upon a light soil I like the Manetti very much for many varieties, but it is by no means so hardy a stock as our native Briar.

PLANTING OF ROSES, &C.

The more rapidly the planting of all outdoor Roses can be pushed on the better. At the present time

the wood is in excellent condition, and under general circumstances November is the best month of the twelve for planting; but if December be mild, there is no objection to planting in this month. A fairly rich soil, followed by frequent mulching, seems to give the best results. At the present time I am pruning away a considerable lot of wood, that would otherwise have to be removed in the spring. This allows of more efficient ripening, and does not leave so much comparatively useless growth to protect should an exceptionally hard frost set in. All dwarfs will be earthed-up, and then slightly mulched with stable-manure. Those carrying long growths will be secured against swaying and chafing, and mostly fastened about one foot from the ground line. Should the winter require protection, this can be afforded in a short time by placing bushes and twigs among them, as in the case of more delicate and dwarf-growing Teas. Even a light sprinkle of dry litter will be an immense help under such conditions, whereas neither could be used upon an emergency when growths of from 4 to 10 feet are left in an upright position. Advantage of fine weather may be taken to slightly trim out Roses upon walls; to cut-back budded standard Briars, &c. Because we do not find the same sources of delight in the rosary now as during the end of June and July, is no reason why it should be so neglected as we often find. Nor shall we get the same good results in the future as would accrue from a little seasonable work during November and December. *A. Piper.*



Fig. 131. Pinus Ayacahuite. See p. 748.

COMMERCIAL FIBRES.

Dr. D. Morris, C.M.G., Assistant Director of the Royal Gardens at Kew, delivered an interesting lecture at the London Institution, on November 30, on the subject of "Recent Researches in Commercial Fibres." The lecture was illustrated, and Dr. Morris, with his usual ability, set forth a large mass of valuable information in regard to the various classes of fibres.

After a brief review of the progress made in the production of fibres more or less familiar to European commerce, attention was directed to a floss yielded by the silk-cotton tree, known as Kapok. This has already formed an article of considerable export value in Java, and more recently it has been taken up in Ceylon and India. It is too short for textile purposes, but forms an excellent stuffing material, superior to everything except the best sorts of feathers, wool, and hair. The silk-cotton tree (Eriodendron anfractuosum) is one of the most striking features of the vegetation in some parts of the West Indies, especially in Jamaica. If the silk-cotton now wasted in the latter island were carefully collected, it is probable that it would yield annually 3000 bales, of the value of several thousand pounds. In the other islands it might be worth while to plant waste places with this tree, which begins to bear in the fifth year, and without further trouble would yield yearly crops of an article evidently in increasing demand at fairly remunerative prices.

The recent developments in the singularly interesting fibres known as China-grass and Ramie were then touched upon. These have hitherto been regarded as at once the most attractive and elusive of fibres, and as having not only raised the greatest expectation, but also led to the most lamentable failures. The lecturer gave a sketch of their history, and stated that as the results of efforts extending over fifty years, these fibres have at last been placed within reach of manufacturers in this country, and utilised for textile fabrics inferior only to silk. Considerable stress was laid on the fact that there were two plants concerned, viz., the China-grass (Boehmeria nivea), a native of temperate China, and the plant known in Assam as Rhea, and in the Malay Islands as Ramie (B. tenacissima), a native of the tropics only. It was useless to attempt the cultivation of the former except in moderately warm countries, while the latter required specially hot conditions. Remunerative crops could only be grown from these plants in well-drained soils of exceptional quality and fertility. A plentiful rainfall, well distributed over the year, was also necessary, as well as a high and uniform temperature. Under favourable conditions it had been shown that two or three crops of stems, weighing, in the aggregate, 15 to 20 tons per acre, could be yielded in one year, and as the plants were perennial, successive crops could be produced from ratoons, as in the case of the Sugar-cane. From the quantity of green stems above mentioned there would at least be yielded ribbons or raw fibre of the value (at present prices) of £8, and filasse (the finished product) worth about £14. According to returns from reliable sources, the cost of the cultivation in favourable localities, on an average of years, would be at the rate of £4 per acre.

Provided there was a careful selection of suitable sites for plantations, the cultivation was regarded as likely to prove advantageous in some parts of the West Indies, especially in the warm fertile valleys of Dominica, parts of the humid parish of Portland, in Jamaica, and similar localities in Trinidad, British Guiana, and the southern districts of British Honduras. Dr. Morris spoke hopefully of the future prospects of the cultivation in the West Indies, but was careful to point out the conditions essential to success; and strongly advised that only experienced and capable planters should attempt to start the industry, which, in their hands, might go a long way to relieve the people in the West Indies in their present difficult task of making both ends meet in the cultivation of the Sugar-cane. "*Colonies and India*," *December 5.*

FLORISTS' FLOWERS.

AMONGST FLORISTS' FLOWERS IN DECEMBER.

A quiet walk round the garden shows us that even in this dull month something can still be done, and there is something to interest the cultivator, be he amateur or otherwise. The Auricula is one of our choicest favourites, and I happened to visit two gardens this week where large and choice collections are grown. In one, the decayed leaves were lying thickly on the surface of the soil attached to the plants; in the other, all dead and decaying leaves had been carefully removed, and the Auriculas were neat and presentable, the plants in their white and cream-coloured foliage being very pretty. There are no flowers known to me which present so many differences in the foliage as Auriculas, and an expert can easily tell the names of most of the varieties from their foliage alone; and one cannot greatly admire their December beauty if the dead and decaying leaves are not removed. This should be attended to periodically, say, once in three or four weeks during the winter; and a word of caution here is necessary, for in the removal of decaying leaves much mischief may be done. If they are removed before they are sufficiently decayed, the main stem of the plant may be injured; on the other hand, rotten decayed leaves will also engender decay. Although the autumn has been wet, and the weather is now not at all favourable, we have had no losses amongst our plants. What is required is free ventilation, so that the foliage be kept dry. Moderate dryness at the roots is another point to be observed; the plants may not need water oftener than twice in a month, and then not during severe frost. Of course, I am writing under the assumption that the plants are in cold frames.

Small seedlings want looking to frequently, and precautions taken against injury by slugs; also to remove the tiny outer leaves as they decay. Trusses in their incipient stage should now be showing in the axils of the leaves of some varieties; indeed, if they do not show now in such varieties as George Lightbody, Mabel, Richard Headley, &c., the best sort of flowers will not be produced. The trusses gradually develop during the winter, but the corollas will not open until the middle of April; the exhibitor soon learns to value and care for these early winter developments. It is better to put the seed-pans into a house from which frost is excluded, as the seedlings continue to appear all through the winter and spring months. Next in importance to the Auricula are the —

CARNATIONS AND PICOTEES.

These truly beautiful and sweet flowers have been very greatly improved during the last few years. An old florist called upon me the other day, and as I talked to him about the beauties of many self and fancy Carnations, he reminded me that in our early years the selfs and fancy varieties were thought nothing of by the florists; their great aim being to produce handsome, well-formed, well-marked bizarres and flakes in Carnations, or well-marked Picotees in their various colours. This, as we know very well, is quite true; but where there were ten growers of Carnations in the old days, there are now ten hundred, perhaps, and amateurs in these days do not care to be bound by the rules of the fanciers. Carnations are sufficiently hardy to withstand the severest frosts of our British winters: but I have always recommended growing a few plants of each variety in flower-pots, and preserving them in cold frames during winter. Even when it is not intended to flower any plants in pots, it is well to take this precaution, so that there may be a reserve wherewith to fill up any gaps which may occur during our uncertain winters. Exhibitors who wish to compete for prizes at flower-shows must cultivate the greater number of their plants in pots; and of course these were all potted-up before the end of October, so that they might be well established before severe frosts set in; and here, as we carefully examine the plants in the frames of two different cultivators, we find in one the plants clean and healthy, all dead and decaying leaves removed, no weeds left in the soil, and the surface loosened where green-mould had begun to grow. Green fly had also been destroyed, for notwithstanding all the diseases we read about, this pest, if not excluded, does more mischief than any other. Let us examine the other collection, and point out to the owner as we walk along the work requiring to be done. Most of us know his answer. It is want of time; but he means to have them all put right some day. The fact is, his work is all done by fits and starts, hurried over, and not with the careful touch of the true florist. Like the Auricula, the Carnation-frames require plenty of ventilation, the glass-lights to be drawn quite off in fine weather, and there is no need to be alarmed if the soil in the pots is frozen quite hard. The leaves of the Carnation show no appreciable injury from severe frosts, but the outer leaves of the Auricula plants do suffer—at least, many of them decay after the frost disappears, from its effects; but this does not touch in the least the vitality of the plants. I may add that green-fly will live both on Auricula and Carnation plants during severe frosts, and the pest can only be removed by fumigating or dipping the plants in soft-soapy or tobacco-water; but this treatment does not suit Auriculas, and altogether I think it best to fumigate. The Carnation plants must not be allowed to become dust-dry at the roots, and in this respect they suffer more than Auriculas.

In the open borders the Carnations are supposed to take care of themselves; but it is necessary to look to them, to see that they are not loosened and thrown out by frosts—it is best to look over the plants, and press them into the ground after frosts. Keep the ground clear of weeds, watch for slugs and the leather-coated grub; and where sparrows are plentiful they do much damage to the leaves. They can be kept off by straining cotton-threads over the plants; this seems to deter them, as they do not care to go under the threads, but frequently they will peck the plants if the threads do not reach quite to the outsides of the beds. *J. Douglas.*

NOTICES OF BOOKS.

VEGETABLE CULTURE.*

This is another of those small manuals, the issue of which has been frequent during the last few years, which seem to be called for by the increased attention now being paid to *la petite culture*. It is written by Mr. Alexander Dean, a very old correspondent of this journal, who has made the cultivation of vegetables as well as that of hardy fruits a life-long study. Needless to say, it is replete with valuable information upon vegetable culture, conveyed in simple language. It is illustrated by numerous woodcuts, and arranged under convenient headings. The writer begins at the beginning by affording excellent directions for draining, manuring, trenching, and digging soils, contrasting good with bad methods. We fail, however, to note any allusion to that boon to cottagers, the dry earth-closet system, with its excellent sanitary conditions, and its valuable results in the form of an odourless manure of great efficacy in the kitchen garden. The value of lime in Potato-culture is remarked upon, but we find no notice of superphosphate of lime in this connection; and yet it was patent from the Dalmeny experiments, allusion to which was made in a recent issue, that the weight of crop was greatly increased by its use. A telling illustration is given of protective and non protective earthing-up, which should render intelligible to a person of ordinary capacity the advantages of the former over the latter in the protection of the tubers against disease. The list of varieties of the Potato is a select one of moderate length, and it might be still further reduced by the excision of merely show varieties. The list of Peas needs the same kind of pruning as regards the very tall-growing varieties, which no one will contend are suited for cottagers or allottees.

* It is published by Messrs. Macmillan & Co., at the price of 1s.

THE FLORA OF BRITISH INDIA. By Sir J. D. Hooker, K.C.S.I., &c. (Reeve & Co.)

The twenty second part now issued completes (with the exception of the index) a book which can only be compared, in its scope and completeness, to the *Flora of Australia*, though the *Indian Flora* is of necessity much more complex and varied. Both works have mainly been wrought out at Kew. The Australian work, prepared by Mr. Bentham, could not have been satisfactorily completed but for the constant co operation of the late Sir Ferdinand von Mueller. The monumental work before us is due to the energy, activity, and clear perception of Sir Joseph Hooker. The first part was published in May, 1872, so that a quarter of a century at the least has been devoted to the elaboration of this great work. Seventeen years previously to the issue of the first part of the *Flora*, a fragment by Sir Joseph, in co-operation with the late Dr. Thomson, was published, which bid fair to be the finest and fullest exponent of the classificatory and morphological science of the day. It was conceived on too vast a plan, and even the indefatigable energy and zeal of Sir Joseph Hooker were not adequate to its completion on such a scale. When Sir Joseph first began the preparation of the present work, he was Director of the Royal Gardens, Kew, remained so for many years afterwards, fulfilling at the same time many other public and official duties. That in spite of so much interruption, Sir Joseph should have been able to complete his gigantic labour is a matter for as much gratification as astonishment. During the last few years the work has been carried on at the same time that a general, and by no means perfunctory, superintendence has been maintained over the preparation of the *Index Kewensis*. In the earlier volumes Sir Joseph had the assistance of numerous contributors, who relieved him of some of the details; and again in later years the assistance of Mr. C. B. Clarke, of Dr. Stapf, and others, has materially served to expedite the progress of the work, and to add to its value. Nevertheless, from beginning to end, the editing of the whole book has fallen to Sir Joseph, who, moreover, is responsible for the larger portion of its contents, including in these later days the Orchids and the Grasses! Botanical readers will appreciate the significance of that note of exclamation. The later volumes are more fully elaborated than the earlier ones, and among the grasses from a half to a quarter of a page is often taken up with synonyms alone. The Bambuseæ are taken from Mr. Gamble's *Monograph of Indian Bambuseæ*; and some notes are added from Mr. Freeman Mitford's observations.

ICONES ORCHIDEARUM AUSTRO-AFRICANARUM.* Vol. I., Part II.

No better work of its kind has been undertaken by botanists in recent times than that which has been sent forth by the talented and painstaking author of the work under notice. In 1888, his *Orchids of the Cape Peninsula* appeared, in which many species of much beauty were described and illustrated, a work that was received with delight by everyone who was interested in the subject. Then followed Part I. of *Icones Orchidearum Austro-Africanarum*, or Figures with descriptions of extra-tropical South African Orchids; the continuation of which, in Part II., we now receive, which appears to be even more carefully prepared and worked out than its predecessor. It contains fifty partly-coloured plates, prepared from very accurate drawings made by the author, whose work at every point bears evidence of his intimate knowledge of the structural details of subjects so little known to any but himself, and who has had the great advantage of studying many of them in their native habitats. Among those illustrated and described are eleven species of Disa, most of them of purely botanical interest, although some of them are well worthy of cultivation, and notably the blue Disa purpurascens, several specimens of which have flowered in England; the white D. schizodioides, the small red-coloured D. sanguinea, and the pink D. nervosa. Satyrium sphærocarpum, S. longicauda, and others among the species of Disperis, Habenaria, Angræcum, Mystacidium, Pterygodium, and Brachycorythis, are pretty enough for garden plants, if they could be induced to grow in a satisfactory manner; while all from their very remarkable structure are interesting in the highest degree to the student and the botanist. Of Eulophia, Pachites, Zeuxine, and Schizodium, a single species of each only given, the last-named being a most singular species with insect-like flowers. In his remarks, Mr. Bolus has something of interest to tell about most of the subjects. Especially interesting are the illustrations of his Pterygodium Newdigatæ, and its singular variety P. N. cleistoganum. We are pleased to welcome this new publication, and wish Mr. Bolus every success in his very useful if laborious task.

DICTIONNAIRE ICONOGRAPHIQUE DES ORCHIDÉES.

A second instalment of the beautiful illustrations of Orchids, made by M. A. Goossens, and descriptions by M. A. Cogniaux, the talented director and editor of the work, is just to hand, and proves equally faithful, useful, and interesting, as those which have previously been received. The present issue comes in portfolio, labelled Cattleya, and some of the contents relate to that genus, of which C. Warscewiczii, C. Victoria Regina, and C. Hardyana, are admirably rendered. The preambles of the genera Dendrobium, Cypripedium, Selenipedium, and Lælio-Cattleya, are also furnished, and several very good examples of each, forming a commencement for their respective portfolios, are given. Of the Dendrobiums, D. nobile, D. n. Cooksonianum, D. × Ainsworthii, and D. × Cassiope, are illustrated and described; of the Cypripediums, C. Stonei, and Selenipedium × Sedeni; the Lælio-Cattleyas being represented by L.-C. Nysa and L.-C. × Proserpine.

We remark that the sign of hybridity (×), which is so useful at a glance to determine which are acknowledged species, and which are hybrids, is omitted; and as in many cases it forms part of the original description quoted or referred to, its omission seems to form an unnecessary departure from a very general practice.

* *Icones Orchidearum Austro-Africanarum extra tropicarum*, or Figures with descriptions of extra-tropical South African Orchids. By Harry Bolus, F.L.S. (London. William Wesley & Son, Strand. 1896).

PRUNING SHRUBS.

There are two or three elementary rules which are to be observed when the production of flowers is primarily desired. Shrubs which blossom early in the spring form their flower-buds the year before, and ingeniously protect them during the winter with a warm covering, so that they are ready to open with the early days of spring sunshine. Anyone who will cut off the twig of a Peach-tree in the winter, or of an early-flowering Spiræa, and put it in water, will understand this, for the flowers will expand in a few days after it has been brought into a warm room. Obviously, if the branches of such shrubs are cut hard back in autumn, all the flower-buds are cut away, and there is no bloom in the spring. If, however, the branches are cut back immediately after the flowering season is over, this will encourage the growth of new shoots from buds near the base of the branch, and these will grow rapidly to take the place of the part that has been lost, and cover themselves with flower-buds for another year. Another class of shrubs, like the Hydrangeas, Althæas, and certain Tamarisks, which flower in late summer or autumn



Fig. 132. Shoot and cones of Pinus Araucana (see p. 748.)

from buds which have developed on the wood grown during the current summer, should be pruned in late autumn after flowering, or, at least, before the wood starts in the spring, so as to encourage abundant summer growth, and flower-buds for the next autumn. But these are the simplest elementary rules, and relate solely to the production of flowers. Shrubs are useful for many other purposes than merely to display their blossoms. They are beautiful all the year round. Even in the winter the variously coloured barks of many of them add a singular charm to the landscape. We therefore prune them not only to promote the production of flowers, but of wood, and foliage, and fruit as well, to ensure grace or symmetry of outline, and to make them vigorous and healthy.

The simple cutting-in of flowering wood in spring or fall is thus a small part of the art of pruning, and where there is a large variety of shrubs there is no time of year when something in this direction cannot be done, and it is especially useful when it is continued throughout the entire growing season. If surplus wood is to be removed, a clean cut in mid summer will heal over much more readily than it will in cold weather, and there is no better time for removing superfluous branches, or for shortening-in over-vigorous shoots which interfere with the symmetry of a specimen. Some trees and shrubs whose branches bleed when cut in spring will heal over quickly if pruned while in full leaf. If the strong branches are pinched back in summer, the wood will ripen into such a sound condition for withstanding cold that trees naturally tender have been known to endure our winters fairly well when their branches had been properly stopped. This summer pinching is especially useful in wet seasons, when otherwise the wood keeps growing late in autumn, and is caught by freezing weather in a soft and sappy condition. It also discourages upward growth where this is undesirable, and tends to develop fruit-buds, so that shrubs and trees will bear fruit at an earlier age when they are properly pinched back. For the same reason shrubs will ripen their fruit more perfectly when the stronger shoots above it have been stopped.

Just how much to cut is a matter to be learned by experience. Sometimes the best way to renovate a shrubbery is to cut many of the plants to the ground and let them start anew. In others a very severe pruning is often advisable. If every annual shoot of the large-panicled Hydrangea is cut back in autumn or early spring to a couple of eyes, the growth next year will be very vigorous, and even after the new shoots start, if all the weaker ones are rubbed out, enough will remain, each one carrying an immense flower-head at its extremity, to completely cover the shrub with bloom. But it should not be forgotten that too much pruning weakens plants. When florists began to sell long-stemmed Roses they soon discovered that they were selling the vitality of the plant as well as the flowers, and they learned to give a long period of rest to the weakened plants which were to produce another crop, so that they might recuperate their exhausted energies. Every one has observed how abundantly the foliage starts out from the stump of an amputated branch of a Silver Maple, for example, but this is not a proof of increased vigour. In reality it is a signal of distress, and shows that the tree has aroused itself to an extra effort to supply the places of the organs of nutrition of which it had been robbed. A young plant carefully pruned when it is set out in good ground, with room enough to grow in, will sometimes need, as it grows, to have interior branches cut away for the admission of light and air, and the over-strong shoots pinched back in midsummer, and dead wood carefully removed. Little more will be required, as a rule, except to shorten in judiciously the flowering wood after bloom, and under this treatment shrubs will develop into their best form, and flower abundantly year after year. *Garden and Forest.*

METHODS OF PROPAGATION BY MEANS OF LEAVES.

(*Continued from p. 687.*)

Some plants are easily propagated from leaves. I remember being in a café opposite to the Botanical Gardens at Brussels with one of the staff, and seeing a leaf suspended from the ceiling by a thread looped so that it should hang suspended in a plane with the horizon; on closely examining it, I found it a leaf of a member of the numerous House-Leek (Sempervivum) family, Bryophyllum calycinum, which, when suspended in the manner indicated, soon produces minute plants at the angles of the crenulations. These throw down minute roots, and eventually develop leaves on the upper surface. By cutting up the leaf therefore, each one of these will develop into a plant. This fact was noted and hinted to me, that plants of a like nature, viz., so called succulents, could all thus be increased simply by using their mature leaves.

Now, Echeverias, Sempervivums, and plants of a like nature, being required in their thousands for use in the neat but monotonous systems of carpet-bedding, any rapid means of increasing them must of necessity be welcome. First, take care to use old plants, and pull, not cut, off their leaves, which will be more easy after the plants have been allowed to get dry in their pots. Lay the leaves aside in the shade for a day or two, and then proceed to prepare some propagating pans or trays, by first putting in a good layer of drainage consisting either of finely-broken crocks or well-washed gravel. On this place some sandy loam, or light mixed soil, finishing up to the edge of the pan or tray with fine sand. Water well with a fine rose-pot to consolidate the soil, and when all superfluous moisture has drained off, begin to dibble in the leaves by the heel, as I call the lower part which attached it to the parent plant. Take great care not to bruise the soft leaves, either at base or top, or they will rot and destroy the whole batch; and continue to dibble in till the tray or pan is full. Give all a good shake as soon as finished, to fix the soil around the leaves close and firm, and then put the trays on a warm and dry shelf.

This operation may be begun as soon as the days begin to lengthen, and if done at this period, in a month or six weeks little plants will appear at the bases of the succulent leaves, when a little sprinkling of water may be given, but not much. In a month the minute plants are large enough to prick off into store boxes or pans, in which they may be allowed to grow till wanted for bedding. The denuded stems of



Fig. 133. Example of the Propagation of Plants by Means of Leaves.

the plants being put aside on a dry shelf will soon develop many little plants at the point where the leaves have been removed (fig. 133), and may be utilised to still further increase stock. The time for this depends greatly upon what plants you have to associate with them, ranging from the middle of June to the first week in July in the north, but a little earlier in the south and west. If, however, the groundwork of the contemplated beds is Alternanthera in variety, this period will be found quite early enough for safety; for I have known Alternanthera browned and spoilt by frost as late as June 24. This plan of leaf-propagation, as I call it, is applicable to all species of succulent plants, such as Echeverias, Sempervivums, Kleinia, Pachyphytum, Leucophyton, as well as the more noble flame-flowered Rochea falcata. Other plants, far removed from these, are also propagated from their leaves, and I scarcely think I should be romancing if I were to assert that all thick leathery leaves will at some period or other of their growth, notably when they attain to their proper period of complete growth, are capable of producing young plants of their kind, favourable treatment and circumstances being secured,

Gloxinias.

For instance, the leaf of the Gloxinia may be laid upon the surface of the soil, a splint of deal placed upon it at the base and another at the apex, and these kept down by Verbena pins, so that all parts of the leaf are in close contact with the soil; or the leaf may be divided into three or more pieces, by a sharp knife, and these cut portions bedded into the soil in a tray edgeways, or pan prepared as directed for Echeveria, and then plunged in a warm but not too humid pit in cocoa-nut fibre refuse or warm tanner's bark, when a number of little pea-like tubers will form at the edge of the crenations, and at the angles of the crossing venation, which will in time develop into small plants. These being cut carefully away from the remainder of the leaf, and potted singly into thumbs, or pricked out into pans or propagating-trays, will furnish good useful plants. *Experience.*

(To be continued.)

The Week's Work.

PLANTS UNDER GLASS.

By Jno. McIntyre, Gardener, Woodside, Darlington.

Now that, late in December, the propagation of stove plants has almost ceased for the year, the opportunity is afforded the gardener to increase his stocks of some of the more useful plants that are employed in quantity for forming groups, and for the decoration of apartments. Foremost among these is Anthurium Andreanum, an effective species, which is easily increased if proper means are taken. At Woodside some dozens are grown. Those plants that were raised last year will probably have become lanky and thrown aërial roots, similar to those of the Vanda; therefore, to lower them, it is necessary to merely take off the tops and place them singly in 4½-inch pots in a compost of sphagnum-moss and fibrous peat, and put them in the propagating-case till established, when they may be taken to the stove. A period of three or four weeks in the propagating-case will suffice. The stools from which the tops have been taken should be placed in the warmest house or pit the gardener has, to "break," and usually they will throw two or three shoots, which will serve for increase if detached and inserted similarly to the tops of the plants, say, in the months of March or April. They make nice small plants, which usually carry spathes the same year. Anthurium Scherzerianum in the full specimen form is an excellent plant for the exhibitor and for furnishing spathes for indoor use, but it is not of so rapid growth as A. Andreanum. The aged plants should now be examined, and if a number of medium-sized plants is required for filling vases, &c., and for such use it is a very suitable plant, the spathes lasting in good condition for three or four months, and a specimen plant can be spared, it may be simply split up into single crowns, each of which if placed singly in 4½-inch pots, in a compost consisting of two parts good peat, one of charcoal, and one of sphagnum-moss, and placed in the propagating-case till established, will make nice plants. After establishment, move them, like the first-named species, to a moist stove to make their growth. The present is a good time to afford exhibition specimens of these plants a re-potting, and to put them in order for another year. In re-potting specimens it is well to keep the crowns raised above the rim of pot, packing the materials up around them in the manner adopted with some Orchids.

Chrysanthemums. The flowering season being now over, the places occupied by these plants must be filled with others. Azaleas, if they were given a warm-house last month, will now be opening their flowers, and may be substituted for the Chrysanthemums. Spiræas should be pushed on with heat, and supplied abundantly with water at the roots. Azalea mollis in quantity may also be placed in the forcing-house, and the imported plants afford good returns in cut flowers if well managed. After being started into growth in a warm-pit, they should be removed to an intermediate-house to open their flowers, keeping them there till they are fully in flower. The flowers of this variety last but a short time when cut, and in that respect they are disappointing, unless the plants have stood for some days in a cool house. The same holds good to a certain extent with the plants.

Cinerarias.—The earliest batch is now coming into flower. As is generally well known, the Cineraria will not bear forcing; and if early bloom is required, seed has to be sown early, and the plants allowed a proper amount of time to grow. Here there is a fine lot of healthy plants in 5 and 6-inch pots just showing for flower in a cool Peach-house from which the frost is merely excluded; they were raised from seeds sown at the end of March. Before they are removed into the conservatory they will receive several fumigations with tobacco.

THE ORCHID HOUSES.

By W. H. White, Burford, Dorking.

Epidendrums.—Epidendrum Endresii is a lovely Orchid of small growth, and those who possess it may be assured that it is a species worthy of their best attention. It is not however possible to grow it satisfactorily with the same kind of treatment meted out to most of the Epidendrums, for although of small growth, it dislikes to be suspended near to the roof-glass, and prefers a rather damp, shady corner of the house. Red-spider forms its chief foe, and in spite of a plant being kept always in a damp position, these acari will infest the undersides of the foliage, and if they are not quickly cleaned off with a sponge, it will soon change colour and fall off; and the leaves gone, the plant rarely recovers. E. Endresii should be well supplied at all times with water at the root, and a little more than usual is beneficial when the flower-spikes are showing; these are produced on the apex of the newly-made growth. After flowering, growth soon recommences, when, if necessary, the plant may be repotted, the rooting-material used consisting chiefly of sphagnum-moss, with a few pieces of fibry peat, and the drainage should be perfect.

Epiphronites × Veitchii, now sending out its pretty spikes of flowers, requires identical treatment with Epidendrum Endresii. It is a plant which grows very freely, often producing young plants from the old flower-stems; and such small pieces, as soon as they begin to put forth roots, may be removed with a portion of the stem attached, and potted in the smallest possible pots, using sphagnum-moss only; and in a very short space of time the pots will be found filled with roots, at which time repotting should be performed. The better-known Epidendrum Endresio-Wallisii ×, and the charming E. elegantulum, a hybrid between E. Wallisii and E. Endresio-Wallisii, are plants which thrive when accorded the same kind of treatment as E. Endresii.

Odontoglossum Warscewiczii, now better known under the name Miltonia Endresii, is the rarest of the genus, and it is one that should be kept continually in the intermediate-house, and in a cool and very shady part of it. At the present time there are at Burford some plants that are now sending up their flower-spikes, which must be closely watched for small yellow thrips, which quickly destroy the inflorescence.

Miltonia Schroderiana.—Plants of this distinct and handsome species are starting to grow, and any repotting needed had better be seen to forthwith. A compost of one-third fibrous peat, and two-thirds sphagnum-moss, with plenty of small crocks intermixed, suits it. During growth it should be kept slightly warmer than ordinary, although on the completion of growth an intermediate house is the best place for the plant.

Cattleya-house.—Those plants of the pretty Vanda Kimballiana which have passed out of flower, should be kept drier at the root, and as a guide to the state of the compost in this respect, if the surface-moss becomes white and crisp, no heavy application of water is needed, but only a slight sprinkling with a fine rose watering-can. Its congener, V. Amesiana, in bloom at the present time, if it be kept without water at the root, the flowers, which are very fragrant, will last for several weeks in good condition. It should be placed in a light and dry position.

Intermediate house.—Epidendrum inversum and E. cochleatum, now flowering in this house, are interesting and curious plants. E. Frederici Guilielmi is a fine showy species, which should be more commonly found in collections. The young growths have made considerable progress, and fleshy roots are pushing out from their base. This is a critical time for the plant, for if much water be afforded before the roots have taken a firm grip of the compost, they soon turn black at the points, with the result that the growths make no further progress.

General Work.—Advantage should be taken during mild weather to clean the houses inside and out, so that light may be freely admitted to the plants. At the same time the plants should be carefully examined for insect-pests, and the foliage cleaned with warm rain-water; also wash pots, stages, &c., and white-wash the walls.

FRUITS UNDER GLASS.

By W. Pope, Gardener, Highclere Castle, Newbury.

The Early Vinery.—The Vines which were started at the beginning of the month of November, having now their buds in a forward state, should have the warmth of the vinery slightly increased, not, however, exceeding 60° to 65° by day by artificial means, so long as the leaves are not put forth. If a bed of fermenting materials is not in use, the inner border may be copiously afforded water at a temperature of 90°, for although root-growth will not have become active, the degree of warmth thus imparted by the water will hasten root-action and thereby the production of foliage. For old Vines the use of warm liquid-manure is more advantageous as a stimulus than clear water. Attend to the often turning and renewing of the hot-beds at present in use in the vineries, the warmth and moisture arising from these being of great service at this stage; economising fire-heat, and lessening the need for frequent syringing. Young Vines which have not been previously forced early should have the rods laid horizontally till they break regularly their entire length.

Pot Vines.—If the earliest crop of Grapes is taken from Vines in pots, and these are surrounded with fermenting materials, great care is needed in guarding against any excess of heat in the dung-bed, at the same time additions of new well-prepared leaves and stable-litter must be made from time to time, as the heat is found to be declining. It may not exceed 70° to 75°. As the Vines break into leaf, raise the warmth of the air by degrees to 60° for night, 70° to 75° by day—the latter by sun-heat. Admit a small quantity of air from outside by opening the upper ventilators when the inside thermometer indicates 70°. Disbudding may be commenced as soon as it is possible to discern the bunches, and carried out gradually, reserving the finest bunches for a crop. The laterals ought to be stopped at the second joint beyond a bunch. Those who use evaporating-troughs (many gardeners do not like them) may now fill them will liquid-manure or weak guano-water, and sprinkle the floors, &c. with the same at closing-time.

Young Pot Vines.—If these are to be grown into fruiting size for the purpose of being forced next year, the canes should now be cut-back to two buds, and the cuts dressed with styptic or knotting. They may be started early next month. Vine-eyes may now be prepared for striking in hot-beds, inserting them in small pots filled with turfy loam made very firm, with the bud level with the soil. Preparatory to placing them in a hot-bed, place in a cool house or pit for a few weeks.

Strawberries in Pots.—With the appearance of the bloom-trusses on the plants, the temperature by day should be advanced a few degrees, though it will be well to be guided by the weather, not attempting to push them on much when it is cold and dull. Examine every plant once a day, affording water to those requiring it; syringe them all lightly in fine weather, and sufficiently early for the foliage to get dry before nightfall. Keep a sharp outlook for aphis, fumigating thoroughly on two successive evenings if any be noticed. A night temperature of 50° to 55° should as yet not be exceeded, and in frosty weather it may fall to 45°. Guard against a muggy atmosphere by having a small amount of air admitted at the top of the house. A batch of plants to succeed these may be got under cover, cleaned, and top-dressed, and brought into, say, an early Peach-house during the next week. Plants in the open should be protected in frosty weather with a light covering of Fern or bast-mats.

THE FLOWER GARDEN.

By Hedley Warren, Gardener, Aston Clinton, Tring.

General Remarks.—The bed occupied by Iberis, Wallflowers, Alyssum saxatile, Polyanthus, Saxifraga, Polemonium, Aubrietia, Honesty, small shrubs, and the like, should have the beaten soil lightly stirred on drying days. Those beds which are occupied by bulbs and plants should be similarly stirred with a fork or rake, and never with a hoe, otherwise damage may be done to them. With regard to these

beds, it is always advisable to afford a mulch when the planting of the bulbs is finished, using cocoanut fibre refuse, or sifted leaf-soil, in which case the stirring of the soil is unnecessary.

Winter Aconites and Daffodils are already making their appearance on established plants, and care must be taken not to injure them when stirring the surface. The former makes an excellent carpet-flower, where, under deciduous grasses and other plants it cannot be made to grow satisfactorily. The Tenby Daffodil is excellent for planting in clumps in similar places on a lawn or in a shrubbery; and where these are planted in places sheltered from the north or east, flowers will appear some weeks earlier than in exposed positions, thus prolonging the Daffodil season.

Ivy Edgings.—Ivy makes suitable edgings and verges where turf will not grow, or has to be removed every year; and Irish Ivy is a very suitable variety, it being of quick growth and pleasing aspect. The most suitable season for planting Ivy is the present. In doing this, spread out the shoots and peg them down to the earth so that they may be able soon to push the roots into it, and grow and make a thick carpet of foliage.

Skimmia japonica is an attractive berried-section which is not grown so extensively as one might expect. It thrives in smoky towns, and although it delights in a fairly moist soil, and a partially shaded position, yet, if water be stagnant in the soil, the plant will give no satisfaction. Skimmia Fortunei and S. japonica (oblata) are useful as window-plants, and readily increased by seeds or cuttings, but being of a somewhat slow growth, it is advisable at the first to purchase fair sized plants from a nursery, making sure that you get a few males among the females, Skimmias being dioecious.

Garrya elliptica, a beautiful evergreen shrub, is useful alike when planted in the shrubbery, in an isolated position on the lawn, or against a wall. As a bush it should not be restrained, but allowed to grow naturally, it being then seen to the greatest advantage. It bears pruning with impunity, if this be called for by its position in the garden, quickly refurnishing itself with new growth.

Hardy Fuchsias.—The old Scotch variety, Riccartoni, and the species F. gracilis, make excellent groups on the lawn, or in conspicuous places in the shrubbery borders, affording a good display of bloom in summer and early autumn, and they are very effective when used in combination with variegated Maize or the Eulalias. Established plants of either may be hard-pruned when the foliage has fallen, the stools being well mulched with half-rotted manure, as a protection against frost, and an aid to growth. The plants are raised by striking the tops of the soft or half-ripened shoots; the former is preferable—in sandy soil, in a slight hot-bed, during the spring or in early summer. Where a large quantity is required, a good plan of getting plenty of shoots is to place an old root or two in a house that is slightly heated.

THE HARDY FRUIT GARDEN.

By G. Woodgate, Gardener, Rolleston Hall, Burton-on-Trent.

The Raspberry Quarters.—The staking and securing the canes should not be longer delayed. In the first place, cut away every old cane which bore fruit last season, and lay in their place four to six of the strongest and best ripened canes of the current year's growth from each stool; the others being cut away close to the base. If trellis be used, fasten the canes at an equal distance from each other, and if these are bent over and secured to a stake, placed midway between the stools—the canes should be twisted slightly round each other so as to form a strong bow, and fastened to the stake at from 2½ to 3½ feet from the ground; or they may be laid against the stake and kept in position by a couple of ties, one near the top, and the other half-way down it. In this case the canes are shortened to within 6 inches of the top of the stake or trellis, which are generally about 5 feet high. All usable suckers growing in the alleys should be grubbed out, also large weeds; then afford the plantation a dressing of fresh lime, and spread a mulching of rich manure 2 inches in thickness over the whole. Raspberries are not liable to many insect pests; but at the least there are two which commit a great deal of injury to the plants if means are not taken to rid the latter of them. The Raspberry-mite (Phytoptus rubi) feeds on the immature buds causing them to become abnormally large, and incapable of expanding in the spring. The mite is readily discerned if the buds are examined occasionally during the winter, especially the lower buds, these being the first to be attacked. Every infested bud should be removed and thrown into the fire. The Raspberry-beetle (Byturus tomentosus) feeds on the pollen and stamens, and thus prevents the fertilisation of the flowers. The larvæ hide under the loose bark of the canes, and where untrimmed wooden stakes are in use under the bark of these as well; also in cracks and crevices in the stakes. In such places it changes to the pupa stage, and the beetle emerges in the following spring. These remarks show how very necessary it is to be careful in collecting every bit of old Raspberry-cane, and burning it forthwith. The bark should be removed from the stakes used, and all that have cracks should be made into a bonfire, and thus numerous insects will be got rid of. Raspberries for fruiting in the autumn should not be cut down at this season, but left till February, when all the canes must be cut away at the bottom.

THE KITCHEN GARDEN.

By Charles Herrin, Gardener, Dropmore, Maidenhead.

French Beans.—Those plants which now are coming into flower should be afforded a temperature of 60° to 65°, and not much moisture in the air. The present is the worst time of the whole year for the setting of French Beans, and more especially in localities much visited by fog, involving great care on the part of the cultivator. The paths, walls, &c., may be damped once or twice daily in order to counteract the dryness that is due to the use of artificial heat, but overhead syringing will not be required for the present. A sowing may always be made for succession when the plants from the last sowing show for blossom, using 8-inch pots, which is a convenient size for placing on the shelves and ledges usually found in Pine and Cucumber pits and houses. Good varieties for present sowing are Syon House and Ne Plus Ultra. In preparing the pots place a large hollow crock over the hole, and on this some rough sifting of loam, dung, or leaf-mould, and on these place sufficient rich loamy soil to reach three-quarters of the depth of the pot, make moderately firm, and sow seven or eight seeds equi-distant from each other near the sides of the pots, cover with 1 inch of soil, which should not be pressed, but merely shaken level, this will leave plenty of space for holding water, and a top-dressing of a light kind if this be thought necessary. Some gardeners do not mould up these early sowings, believing that it causes the decay of the stem.

Mushrooms.—Continue to prepare short stable-dung for forming new beds. If a good-sized bed be made up every three weeks or a month, the Mushroom supply will be well maintained. Assuming that a crop of Mushrooms was obtained from the earliest autumn bed, and its removal, owing to its still producing Mushrooms, is not yet desirable, the surface, if dry, may be afforded a moderate quantity of warm water, into which salt, at the rate of one handful to every three gallons, is dissolved; then, if the spawn be not quite exhausted, a second crop of the esculent may be obtained. Non-success in Mushroom culture may with truth be sometimes attributed to the unsuitableness of the places in which it is attempted. The air in a Mushroom-cellar or shed should be moist and genial, never harsh and dry; the beds, before they have borne a crop, should rarely need to be afforded water to wet the soil, but the conditions should be such as to prevent to a very great extent the evaporation of moisture from the beds. Our Mushroom-house is provided with a flow and return pipe located in a drain under the floor, whence they pass to a house beyond; sufficient warmth being obtained from the beds by covering the roof and walls with bracken to the depth of 1 foot. By these methods we secure an even temperature day and night of about 55°, and only in very cold weather do we find it necessary to make use of the hot-water pipes. But little syringing or watering of the beds is required in houses of this description.

Radishes.—If early Radishes are required, a bed of fermenting material should be made up, consisting of equal parts of tree-leaves and stable litter, and when finished, a frame of one, two, or three lights placed on it. If the hot-bed be 2 feet in depth it will suffice for getting a crop of Radishes. Like hot-beds for other uses, it should be made firm, and the longer strawy parts kept at the sides, so as to prevent the leaves from falling out, as they will when this is not done. Fill the frame with the more leafy parts of the materials to within 10 inches of the glass, and afford soil on this to the depth of 4 inches. When, in the course of a few days, it has become warmed, press it evenly and firmly, and broadcast the seeds thinly, pressing them into or merely covering them with earth. The varieties, French Breakfast and Earliest Frame Radishes, being quick growers, should be chosen for frame-work.

Carrots. Similarly a bed for early Carrots may be made up, making it 1 foot higher, Carrots being of slower growth than Radishes. Soil it to the depth of 6 inches, sifted sandy loam and leaf-mould. The seeds may be sown broadcast or in lines, and kept in darkness till germination has taken place. The variety, Parisian Forcing, can be recommended for very early sowing.

Tomatos.—If fruits fit for use in April are expected, seed may now be sown, and thin sowing is of very great importance, whether in pots or boxes. The young plants, until they are potted off, should always stand clear of each other. If the seed-pots or pans can be plunged in a hot-bed, germination will take place after the lapse of a few days, when the pots, &c., should be taken out and stood in a light position in a house or pit, with a temperature of 60° to 65°. Pot off the seedlings into 3-inch pots as soon as large enough to handle conveniently, and continue to grow them in the same degree of warmth, keeping them near to the glass.

THE APIARY.

By Expert.

Numbering Hives.—Since writing about this a short time since a fresh method has arisen, and seems to me to be a good one. The old plan of numbering is certainly not as good as this, because, as the hives require painting, the old number in time is not distinct enough to be seen; and besides this, if you wish to remove a hive from one place to another, the numbers must get mixed up. The new plan is as follows:—Get some old zinc, oxidised by exposure; cut this up into small tablets, about 6 by 4 or 5 by 3, each having a hole punched in the top, this hole having a narrow slot cut upwards. Into the back of each hive drive an ordinary clout-nail; this is driven almost home, the round hole in top of tablet passed over the head of the nail, then by its own weight it drops, and the shank of the nail passed into the slot. No wind can blow it off. With a lead-pencil I write any particulars upon the tablet, which, being oxidised, takes the lead as does a slate when a slate-pencil is used; the weather will not affect the marks, though exposed for a twelvemonth, yet they can easily be erased with a piece of wet flannel. Supposing hive No. 2 has been removed to hive No. 13, the labels can be altered, and you have your numbers correct; and you can also see from the tablet what No. 13 did as No. 2, and reason for moving it, &c.

Super Clearers.—A word, perhaps, about this will not be out of place, as a good many bee-keepers, and I should like to see more, get their stuff ready in the winter for the summer use. Do not have a clearer with more than one exit, as I am perfectly convinced that one exit is much better than two, three, or more. A good many bee-keepers use the smoker, and wonder why the bees sting so badly sometimes; but if they would try the clearer, and use it properly, they will find the risk of being punished is very materially reduced, seeing firstly that the clips in the escape are in working order.

Wells' Hives System.—First try the ordinary bar-frame hive, "Cowan's" is the simplest; master this thoroughly first, and then, if you choose, try a Wells.

Naphthaline.—Great care must be exercised in using this, as several complaints have reached me where large quantities have been placed in the hives, and in consequence the bees have been driven out and starved to death.

Stores.—Where this is possible from the top of the frames, a glance will tell you whether more candy is required or not, but in no case attempt to interfere with the frames; if food is required, place a cake of candy on the top, and close up as quickly as possible, or the bees will get chilled, but in cases where you are certain there is an abundance of food, leave them alone entirely.

Royal Botanical Gardens, Manchester.—We are informed that the Council of the Royal Botanical and Horticultural Society of Manchester have appointed Mr. P. Weathers of Isleworth to fill the joint offices of Curator and Secretary, rendered vacant by the death of Mr. Bruce Findlay.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the PUBLISHER.

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

APPOINTMENTS FOR THE ENSUING WEEK.

SALES.

MONDAY,	DEC. 21	Roses, Lilies, Dutch Bulbs, &c., at Protheroe & Morris' Rooms Clearance Sale of Plants, Orchids, Garden Tools and Effects, at Brook House, Southgate, by order of F. C. Brachi, Esq., by Protheroe & Morris. Border Plants, Hardy Bulbs, Liliums and Imported Orchids, at Stevens' Rooms.
TUESDAY,	DEC. 22	Orchids in Flower and Bud, also Cypripediums, from a Private Collection, at Protheroe & Morris' Rooms.
WEDNESDAY,	DEC. 23	Continental Plants, Roses, Japanese Lilies, Dutch Bulbs, &c., at Protheroe & Morris' Rooms. Roses and Fruit Trees, Palms, Liliums, Bulbs, Border Plants, &c., at Stevens' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—38·9°.

The "Constitution" of Plants.

IT is not necessary to attempt to define what the constitution of a plant is. The meaning is clear enough for our present purpose. What we would point attention to now is that in our daily use of this expression, as in so many other cases, we constantly make use of bare assumptions—a practice which if at present unavoidable, is certainly not scientific. In Mr. EASLEA'S prize essay on the Hybridisation of Roses, for instance, p. 7, we find it stated that if we sow a bushel of seed from General Jacqueminot, not one of the seedlings will be an improvement on the parent; "whereas in the past (before the constitution of Roses was undermined by excessive propagation, this good old variety was the parent of Duke of Edinburgh," and various others. Note, the author speaks not of this particular Rose only, but of "Roses" in general. Mr. EASLEA here is doubtless in conformity with the usual belief, and no one will be inclined to question his facts. A similar complaint is rife in the case of the Champion Potato. It is the interpretation or exegesis to which we would draw attention, and we would inquire what grounds there are for the belief that rapid and extensive propagation can undermine the constitution of a *variety?* We are not thinking of an individual plant, but of a "variety," and we are dealing with the propagation by means of budding, not by interbreeding. The assumption seems to be that the high cultivation required to induce the plants to produce a large number of buds in as short time as possible undermines the constitution of the variety, and renders it incapable of giving rise to other varieties. The individual plant may, it is true, be enfeebled by over-cultivation, and the buds produced may at first partake of the general enfeeblement, and a "variety" is only a collection of individual plants. Of course, if the bud be kept in a feeble condition by adverse circumstances, it may be conjectured that the feebleness will become "fixed," or innate, if we may use such an expression of a plant propagated by budding. But supposing the conditions to be favourable, is it not the case that the weakly bud will soon outgrow its original frailness, and so there will be no permanent undermining of the constitution. The debilitating effect on the parent stock may and does undoubtedly operate upon the first generation of buds that it produces, but is that effect continued into future generations, when once the exciting cause is removed? We think not. The question is essentially one for the practical man to work out, as it is a most important one from his point of view; whilst it is most interesting from the stand-point of the physiologist bearing directly on the question of the inheritance or otherwise of acquired characters.

London's Lungs.

ANOTHER "lung" has been secured to the public through the agency of the London County Council. This will certainly prove to be an added charm to a neighbourhood which boasts the vicinage of the Crystal Palace. Small parks, freely distributed and plenty of them, has always been our recommendation on sanitary grounds; and had it been possible to make two out of the twenty-two acres at Deptford, all the better would it have been for the present and future population of that district. It may, however, be possible to cut out a six or eight acre recreation ground by-and-by, and hand it over to that great caretaker, the London County Council. As to the expense—the few following figures from the last report of the General Purposes Committee of the body in Spring Gardens may not be out of place here. The report says:—"The following is a comparative statement of the number and area of the parks and open spaces, churchyards and playgrounds under its control at the time of its accession to the government of London, with those at the end of March, 1896, showing also the out-door permanent staff, and the annual expenditure on maintenance at the same periods: 1889-90, 40 places; acreage, 2,656; out-door permanent staff, 333; maintenance, £52,751. Compared with 1895-96, number of places, 79; acreage, 3,686; staff (outdoor), 737; maintenance, £105,365." The increase in cost of maintenance is evident; it is to be hoped that some means may be found of achieving greater economy without decreasing efficiency. Bedding-plants and other ornamental plants requiring care in the winter, might be solicited as gifts. The ratepayers should hardly be called on to defray the cost of luxuries.

Beckenham Horticultural Society.

THIS Kentish gardening body is distinctly entitled to rank as somewhat above the status of ordinary horticultural societies, seeing that not content with providing shows at which members compete for prizes, and which if displaying the beauties of garden products, do sometimes, indeed not infrequently, display also the weaker aspects of human nature; the executive have assimilated the work commonly conducted by gardeners' associations, and have engrafted upon the mere exhibition work of the society much that is essentially educational. Not only is there provided in a large room at the Public Hall a weekly winter lecture on some gardening subject, or else a discussion, but little shows of produce are held also, and rare is the meeting at which some meritorious objects are not exhibited. But the executive have gone further, and having, through the kindness of the local clergy, had placed at their disposal at nominal cost a large room in the new Churchhouse, which is in a very central position, have through the agency of their indefatigable hon. secretary, Mr. T. W. THORNTON, of the High Street, recently established a capital gardening library, the bulk of the books being new and purchased. The shelves contain about 230 volumes, and a neat little catalogue of them has been prepared for the use of the members. Mr. M. WEBSTER, of Kelsey Park Gardens, has kindly undertaken to act as librarian, and the room is open for consultations on Friday evenings. The borrowing members of the Society have to pay 6*d.* for the privilege of taking out books for the season; and it is interesting to learn that although the first issue began in October last only, yet thirty-one persons now take books. It is also very gratifying to learn that the best class of books seem to be most in request, the members evidently being anxious to obtain wider knowledge of the higher branches of horticulture. There is yet ample room to add standard works to the library; but all the same, a capital start has been made, and there can be little doubt but that the books will be much more appreciated later. All the horticultural papers also are taken weekly, every one being purchased; whilst some of the better-to-do members place second copies on the reading-table frequently.

This educational aspect of the Society's work has secured wide support from the gentry of the district, as it commands their hearty sympathy. No doubt there are numbers of isolated gardeners in the kingdom who envy the privileges thus possessed by their brethren of Beckenham. The usual weekly lecture of Friday last was delivered by Mr. A. DEAN, of Kingston-on-Thames, who took the subject of "Apples, and their Culture for Home and Market Uses," covering, in an address of some ninety minutes duration, a very wide field. A very hearty vote of thanks was accorded to the lecturer. Messrs. J. LAING & SONS, of Forest Hill, kindly sent a superb collection of twenty-four dishes of Apples, and some high-class Cyclamens. Mr. M. WEBSTER put up four fine pieces of Calanthes Veitchii and alba, splendidly flowered in 6-inch pots.

OUR ALMANACK.—Secretaries of Horticultural Societies and others, are earnestly requested to forward *immediately*, the dates of Show Fixtures and of Meetings of Botanical and Horticultural Societies of any kind for 1897, for insertion in the Almanack, to be published in our issue for January 2.

THE COUNCIL OF THE ROYAL HORTICULTURAL SOCIETY.—We may remind our readers that any nomination of fellows to serve upon the Council of the Royal Horticultural Society will be invalid unless sent to the secretary before January 10. Nominations to fill vacancies, that occur annually, may be made by any fellow. Gardeners have therefore the constitution of the council largely in their own hands, and must blame themselves if it is not a reflection of their wishes.

GARDENERS' ROYAL BENEVOLENT INSTITUTION.—We understand that Lord ROTHSCHILD has fixed Wednesday, May 26 next, for the holding of the fifty-eighth anniversary festival dinner of this Institution at the Hôtel Métropole, and at which his Lordship will preside. The day selected is that also upon which the Temple Show of the Royal Horticultural Society will be opened to the public.

NATIONAL CARNATION AND PICOTEE SOCIETY, AND NATIONAL AURICULA AND PRIMULA SOCIETY (SOUTHERN SECTION).—A meeting of the United Committees will be held at the Hotel Windsor, Victoria Street, Westminster, on Saturday December 19, at 6 P.M., to consider the following matters:—Place of exhibition for 1897, and schedule.

YORK "GARDINERS."—"Brother,—You are desired to meet the Fraternity of the most Antient Art of Gardening at the annual Feast of the Royal Society of Gardiners and Lovers of a Garden within the City and County of York: kept this Year at Mr. SIMMONS' House, in St. Helen's Sq^r, December 22, to dine with them at 6 o'clock: where you will be earnestly expected and kindly received by yo^r humble serv^ts, J. E. Wilkinson, J. Pilmoor, J. C. Milburn, Stewards."

"THE GARDEN ANNUAL."—This is the first of these indispensable gardeners' directories to come to hand. It is replete with the kind of information which we are accustomed to find, and is useful to editors, gardeners, nurserymen, and other business men. We notice a welcome addition in the present issue of a list of the principal horticultural and botanical societies in the United Kingdom, in which we should have liked to have seen included Ireland. The new plants, fruits, and vegetables which have received Certificates from the Royal Horticultural, Royal Botanic, and National Chrysanthemum Societies from Nov. 20, 1895, to Nov. 17, 1896, are mentioned, together with the names of the raiser or exhibitor.

THE LATE ANTHONY WATERER.—ANTHONY WATERER, says *Garden and Forest*, had many correspondents in the United States. His connections here date from the time of DOWNING, who imported plants from Knap Hill for the Capitol grounds at Washington. After Downing's death the unpaid bill for these plants was found among his papers by his executor, HENRY WINTHROP SARGENT, of Fishkill. Mr. SARGENT was a classmate of CHARLES SUMNER, and through his assistence he succeeded in obtaining from Congress an appropriation to pay this bill. From this sprung the friendship which existed for years between Mr. WATERER and Mr. SARGENT, who for many years was one of the principal horticulturists of the United States. From this friendship others sprung, until gradually all the principal cultivators of hardy trees and shrubs in the United States became friends and clients of ANTHONY WATERER, who of late years has devoted special attention to breeding Rhododendrons capable of supporting the climate of this country. In 1876, when the Knap Hill Nursery may a special exhibit of Rhododendrons in Philadelphia, Mr. WATERER visited the United States. A man of the highest integrity, rough in manner, but kind of heart, Mr. WATERER was a type of the English cultivator of the old school not often seen now. We all owe him a debt of gratitude for the plants he has produced for us, and those who have had the advantage of his friendship will never forget his strong and interesting personality.

WINCHESTER GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—On Tuesday, the 8th inst., Professor GILCHRIST (of the University Extension College, Reading), gave a lecture on "Manures," being a continuation of the previous lecture on "Soils and Manures." Professor GILCHRIST began by speaking of the experiments which were carried out by Messrs. SUTTON & SONS, Reading, last season, and spoke of the use of lime on some kinds of soils, and the mode and best time to apply it. The lecturer then took up the subject of artificial manures, mentioned the sources whence they were obtained, and what substances they consisted of, advising those who wished to use these manures, to first find out what the crop it would be applied to most required, and not to buy the mixed manures, these being the more expensive ones, which might not give the desired results. A discussion took place at the close.

LINNEAN SOCIETY OF LONDON.—On the occasion of the meeting of this Society on December 3, Mr. C. B. CLARKE, M.A., F.R.S., Vice-President, in the chair, Messrs. A. B. Freeman Mitford and Edward Step were admitted; and the following were elected Fellows of the Society:—Messrs. W. H. Butts, E. J. Beckford, F. Escombe, R. N. Lyne, F. Roper, F. G. Sinclair, and Hon. Walter Rothschild. Mr. R. Morton Middleton exhibited and made remarks on specimens



FIG. 134.—RHODODENDRON ARBOREUM, CAMPBELLIÆ. (SEE P. 71[illegible]

of Acer dasycarpum strangulated by Aristolochia tomentosa. He also exhibited examples of Helix Cumberlandiana, an extremely local land mollusc from the carboniferous limestone of Tennessee. Mr. E. M. Holmes exhibited specimens of Liebmannia major, a seaweed not hitherto detected in Britain, and, so far as is known, recorded only from Finisterre. The specimens were collected at Lossiemouth in August, 1896. He also showed Bonnemaisonia hamifera, collected in May last by Mr. E. George, and in August last by himself. In 1895 living specimens of this seaweed, a native of Japan, were found at Falmouth by the late Mr. T. H. Buffham; and during the present year other examples had been found at Shanklin, Isle of Wight, showing that the plant had apparently become naturalised.

The Rev. George Henslow, M.A., &c., then gave the substance of a paper entitled, "Does Natural Selection play any part in the Origin of Species among Plants?" After defining a species from the point of view of the descriptive botanist, viz., that it may be known by "a collection of (actually or presumedly) constant characters, taken from all parts of the plant," the author showed by examples that many recognised specific characters are either useful (as the runners of Ranunculus repens); indifferent or useless (as the numbers 4's and 5's in a flower), or injurious as the hindrances to fertilisation in most Orchids); and that all specific characters were the direct results of a responsive action on the part of the living protoplasm to the influences of the physical environment, and in the case of flowers to the methods of fertilisation of insects, &c. The question of the origination of varietal characters, he thought, should be considered as quite distinct from "the struggle for life," and "the survival of the fittest," which determine the distribution of species in time and space. The only two sources of "indefinite variations," as Darwin called them, out of which natural selection was supposed to select the best fitted to survive, and so originate species, was shown to be either inadequete or fallacious; for the one consists of the so-called "individual differences," by which term Darwin and Wallace signify the slight differences seen among individuals of the same species, so that no two are ever absolutely alike. Mr. Henslow proved by examples from Nature and cultivation that dwarfs and giants among plants show no tendency to die, as Wallace maintains they should do, if the dimensions of any organ fall short of or exceed certain limits beyond the average. These fluctuating differences in the size of leaves, flowers, &c., are simply due to the inexact laws of growth, and depend on different amounts of local nourishment. They do not give rise to varieties (as recognised by systematists) unless the surrounding conditions be altered, as by migration. Thus, Ranunculus Ficaria has produced no variety in England, but assumes the form calthæfolia along the Mediterranean. Darwin and Wallace assumed as necessary conditions for natural selection (1) a large number of individuals, so that a struggle could arise; (2) infertility with the parent form, so as to avoid the crossing of the offspring; but such is not known to exist. Mr. Henslow showed that (as a rule) plants remarkable for growing in large masses, as Heaths, Daisies, Blue-bells, Caltha palustris, are just those of which varieties are not recorded. On the other hand, many others vary greatly, but only when on different soils, &c., as Polygonum aviculare (as described by Hooker in the *Student's Flora*). Instead of "changed conditions of life" happening to the plants without their migration, as by some geological catastrophe (as Darwin and Wallace appear to require), it is migration which really supplies them; and instead of a struggle being required with the parent-stock or other plants, it was the avoidance of the deteriorating effects of struggling which was most beneficial; and new varieties arise best where there is no struggle at all. Such conditions are precisely what cultivators aim at. Changed conditions of life are supposed by Darwinians to supply the second source of indefinite variations for natural selection, for Darwin thought that they induced the offspring to vary in all sorts of ways, so that natural selection selected the one or few most suitable for the new conditions, all the rest perishing; but as Mr. Henslow showed by illustrations both from Nature and cultivation, that changed conditions of life always produced what Darwin called a "definite action," the result being that all the seedlings varied alike and in adaptation to them. The result is that (as Mr. Romanes said, if "indefinite variations" did not exist) "Darwinism is destroyed *in toto!*" The relative persistence or non-retention of specific characters was discussed, and it was shown that the permanency and heredity of acquired characters required time, five years being perhaps the average under cultivation. Permanency was only a relative term, all plants being liable to change again—hence arose improved varieties of long-fixed races of cultivated plants. Lastly, the author showed that Darwinism, or "the origin of species by means of natural selection," was based on a series of *à priori* arguments or deductions which had not as yet been verified, and did not appear to be capable of verification. On the other hand, new characters under changed conditions of life were to be seen everywhere, both in Nature, under cultivation, and to be induced to arise by experiment; so that adaptation to new conditions was proved inductively to be the true cause of the "origin of species." This was Mr. Herbert Spencer's view in 1852, when no thought of "natural selection" as a "means" had been suggested. After criticism by the chairman, a discussion followed, in which the following gentlemen took part:—Mr. A. W. Bennett, Dr. D. H. Scott, Prof. Mivart, Mr. A. O. Walker, Prof. J. B. Farmer, Mr. J. T. Cunningham (late of the Marine Biological Association, Plymouth), Mr. H. Groves, Mr. A. B. Rendle, Mr. N. E. Brown, and Dr. Havilaud.

THE BEST METHODS OF PRESERVING FRUIT.—Parisian salesmen complain, says the *Revue Scientifique*, that often fruits which have a satisfactory appearance on arrival soon become spotted and mouldy, and consequently are much deteriorated in value. The *Gazette Agricole* gives the report of interesting experiments made to test the value of various methods used to ensure the preservation of fruit before it is sent into the towns. The following is the result of these trials:—1. Fruits wrapped in tissue-paper kept perfectly to the end of the trial; they ripened steadily, the fruits continued excellent in flavour and appearance. 2. In wood-wool, a new product consisting of fine shavings, very long and narrow, from Fir or Popular. The Pears and Apples were well preserved, but inferior to those of the preceding lot. 3. In Barley-straw the fruit had neither spots nor a disagreeable scent, but it had lost its freshness, and maturity was more advanced than in lots 1 and 2. 4. Pears and Apples kept in hay had a pronounced flavour of it; they became spotty and rotten. 5. Sawdust yielded very bad results; the fruits were spotted, withered, smelt of the wood, and were, in fact, unsaleable. 6. In fine Wheat-straw the Pears kept fairly well; the Apples, on the contrary, withered—all were mouldy in taste. 7. In dry leaves Apples kept fairly well, but withered a little; Pears became very spotted and withered. 8. Fruits left on a fruit-room shelf were in moderately good condition; but, placed in a warm-room, this lot suffered most from decay. 9. Specimens packed in sand were perfectly preserved, but ripened less than under any of the other conditions; this is the best method where fruits have to be kept for long; before burying them in the sand it is advisable to wrap them in tissue-paper.

THE WELSHPOOL HORTICULTURAL SOCIETY.—The statement of the Welshpool Horticultural Society, read at the annual meeting held recently, is satisfactory in every way. If there is not added a large surplus to the balance carried forward from last year, it is proved that the annual show is increasing in favour with the outside public. It was said at the meeting that the Society was formed for the benefit of the town; and to give some tangible proof of this, a sum of £50 was voted to the building fund of the Welshpool Intermediate Schools—a very opportune donation.

NATIONAL CHRYSANTHEMUM SOCIETY.—A meeting of the general committee was held on the 14th inst., when Mr. C. HARMAN PAYNE presented a full report of the proceedings of the various continental Chrysanthemum shows recently visited by the deputation appointed. This report will be printed in the Report and schedules for 1897. It was resolved that the early Chrysanthemum and Dahlia show should be held on September 7, 8, and 9, a little later than usual, in the hope of obtaining a better display of Chrysanthemums. Those meetings of the Floral Committee which will not fall on show days, will take place on Mondays at 3 p.m., and, as far as possible, on the days when the general committee meets. The exhibition on October 12, 13, 14, November 9, 10, 11, and December 7, 8, 9, together with the early show in September, to take place at the Royal Aquarium. A strong sub-committee of growers was appointed to take into consideration the classification of certain incurved varieties of Chrysanthemums which are regarded as of doubtful character, and report to the general committee. J. W. THOMAS BEVAN, the chairman of the Floral Committee was requested to act as the chairman of this committee, which consists of Messrs. E. Beckett, C. Gibson, H. J. Jones, J. Lyne, W. H. Lees, Geo. Langdon, W. Mease, G. Stevens, J. H. Witty, J. Wright (Temple), R. Owen, E. Rowbottom, G. Gordon, J. W. Moorman, C. H. Payne, and R. Dean. It was resolved that Gold Jubilee Medals, and an illuminated address, be presented to the two Hon. Secs., Messrs. R. Dean and C. Harman Payne, for their services to the Society in connection with the Jubilee celebration. Eight new members, including two Fellows, were elected, and the Leyton and District Chrysanthemum Society was admitted to affiliation, the Secretary reporting that since January 1, thirteen Fellows and 188 ordinary members had been elected, and twenty-seven societies admitted to affiliation.

THE HORTICULTURAL INSTITUTE.—The need of a Central Home for all the existing horticultural societies is admitted on all sides. Is there any chance that this need can be supplied? Mr. J. L. WOOD, whose scheme we publish in our present issue, is of opinion that it can. "As many as are of that opinion be pleased to signify the same in the usual manner."

THE NATIONAL AMATEUR GARDENERS' ASSOCIATION.—On Wednesday, the 16th inst., was held, in the Throne Room of the Holborn Restaurant, the annual dinner of this flourishing combination of amateur horticulturists. A company of nearly 100 ladies and gentlemen was present, and the chair was taken by Mr. T. W. SANDERS, the President of the Society, who, in proposing the toast of the evening, made some interesting remarks upon the aims and purposes for which the Institution was established. The success that had attended the efforts which had been put forth was so satisfactory, that it more than justified its existence, and proved conclusively the need that existed for such an association. The chief benefits that had at present been secured to its members were those resulting from the means the Society had given them to meet together at frequent intervals in a fraternal manner to exchange notes and experiences, to hear lectures upon subjects of importance to ladies and gentlemen engaged in horticulture upon a more or less limited scale, and to exhibit and see exhibited the best results of horticultural practice that had followed the members' efforts in the garden. At each of the monthly meetings "points" were awarded to exhibitors, who upon obtaining a certain aggregate were awarded valuable medals, and other souvenirs. The total membership now amounted to 528, and an increase had been made during the current year of 157. In addition to the central body, there were branches at Cape Town and in New Zealand. There were affiliated societies also in the provinces, and thus the Institution exerted an influence tending to the fostering and encouragement of gardening over a much larger number of persons than the actual membership indicated. In regard to the future, the president's

remarks were distinctly aggressive, and urged each of the members to endeavour to make the society more powerful and useful, by securing an increased membership. Since its formation six years ago, its growth had been phenomenal, and this satisfactory state of affairs must be maintained. The assistance that had been given in the past by the various officers, was cordially acknowledged. During the evening the presentation took place of the various trophies, medals, and prizes that had been won during the year; some of these which had been offered by members of the trade representing considerable value. Many other speeches were made, and the proceedings enlivened by songs and music; indeed, the programme arranged was so long, that we would suggest it would be better in the future to curtail it, or to meet at an earlier hour in the evening.

PLANT PORTRAITS.

Aspidium simulatum, *Garden and Forest*, December 2.

Delphinium Zalil, *Garden*, November 28. See *Gardeners' Chronicle*, Aug. 29, 1896, p. 247.

Drimys Winteri, *Bull. della R. Soc. Toscana di Orticult.*, December.

Gladiolus Lemoinei Pall Marguerite, *Illustration Horticole*, t. 70. Flowers whitish, two lower petals deep carmine.

Lælia autumnalis var Fournieri, *Revue Horticole*, December 1. Flowers larger than the type, brilliantly coloured

Prunus pendula, *Garden*, December 5.

REMOVING AND TRANSPLANTING FRUIT AND OTHER TREES.

At the present open season nurserymen are still busy in most districts executing orders, although, as everyone knows who has been engaged in planting, the work can be better done in November. My father used to say, "Plant before Christmas, and you can command them (trees, shrubs, &c.) to grow, but after you must ask them to do so," and I fully endorse this maxim.

But nursery stock is of such a peculiar nature, that when it has been grown, another important operation has to be performed ere it can be put on the market—as they say in New York: for before it can be delivered to the purchaser it must be dug up, and the more efficiently this work is performed, so much the more likely are the plants to thrive when planted in their new home. In many nurseries it must, I fear, be confessed, this kind of work is roughly done, but nowhere more so than in American nurseries, which, to follow the rule of all Yankee matters, are "big things," the quarters of fruit and other trees very extensive, and the length of the rows "prodigious," a mile long, I have heard, which, with trees, say, 6 inches apart, would give over 10,500 to the row; again I can but exclaim, with the Dominie—"prodigious."

To deal with such, ordinary European methods would be comparatively useless, so space is left between every third row, down which a horse or a tandem of mules may draw a peculiar foot-plough, ploughing out the poor trees, quite regardless of their roots, or limbs—indeed, going ahead, regardless of heads or tails, taking only into account the quantity, not the quality, of the work done. It must follow, therefore, that many of the young trees are ruined by this very rough treatment.

English and Scotch nurserymen would hesitate to get up even forest stuff or hedgerow plants in such a cruel fashion; but it must be borne in mind that at the season when such work is possible, days are short, and orders pressing, so that some excuse must be made for the seemingly careless manner in which this important work is done in some nurseries. It may be some satisfaction to know that across the "Herring-pond" they do it no better. In dealing with fruit trees first, the stocks are, as a rule, "nicked" in—that is, planted on the side of a trench which has been cut straight, and the soil added as the work proceeds by another man, who at the same time fixes the stock firmly by trampling the soil. It follows, therefore, that the larger proportion of the roots are on one side of the trench, viz., that on which the fresh soil is placed. In the lifting (getting up) process, therefore, a trench is dug on this side of the row, and then another man with a draw-spud, which is a heavy solid tool, with a long iron-shod handle, drives it down at a slight angle as far into the soil as he deems necessary, and then uses it as a lever virtually to lift the tree out of the soil. This is neither a difficult nor a dangerous operation where pyramidal trees are concerned, as both the Paradise stock for Apples and the Quince stock for Pears have a wholesome tendency to produce roots on the surface, or just below it, and such trees come, as we call it, freely; carrying, as a rule, nearly all their roots, and what is of more consequence, their rootlets or finer fibres.

When, however, we have to deal with standard Apples on the Crab, or Pears on the Pear stock in the same form, such trees must necessarily have been three or more years in the ground, and if the soil be stiff and clayey, they will, in this time, have developed long and stout tap-roots. Then, indeed, it is a question of a long pull and a strong pull, and a pull altogether, and not infrequently the tap-root suddenly gives way, and with laughter, and sometimes I fear with rough language, the workmen come to the ground in a *mêlée*, and the root remains broken in the subsoil. Unfortunately, this tree may be a "marked one," for in many nurseries customers are allowed to chose their own trees, marking them with a piece of bast, or a label attached. No doubt they should do this if they wish to secure the best and most fit trees for their purpose, and will plant only such. However, as a tree with scarcely any roots can hardly be sent, the broken and torn roots are cut cleanly off, and it is replanted, and another as nearly like it as possible substituted. Such accidents are among the many minor troubles a nurseryman meets with in his business. *Experience.*

TRINIDAD ORCHIDS.

Gongoras.—Grisebach's Flora of the West Indies records Gongora atropurpurea, Hook., as indigenous to Trinidad. Hooker's *Exotic Flora* relates that a plant was sent in 1825 to the Liverpool Botanic Garden from Trinidad by Baron de Schach. The *Kew List* (1896) gives it as a native of British Guiana. Dr. H. H. Rusby's late expedition to the delta of the Orinoco found it fairly plentiful there, so that it will probably be found in the greater part of the tropical regions of South America on the Atlantic slope. It is a plant that flowers freely every year at the gardens, growing upon blocks of wood or bark without covering of any kind at the root. Gongoras, like several other Orchids, have when in good health two classes of roots. First, the main or clinging roots, and secondly the upright or vertical. These upright or vertical roots are found in Gongora, Coryanthes Catasetum, and Epidendrum, and always commence growth during the moist season, having the green and growing point exactly vertical. On this point are to be seen in damp weather radiant globules of moisture. In dry weather the green and growing point entirely disappears by gradually tapering away into a needle-shaped point, when it becomes covered with the white covering common to the clinging roots, and becomes practically non-absorbent.

These roots are similar to those exhibited by Mangrove and other swamp plants. If the surroundings to lagoon plants are examined closely it will be found that, proceeding from the roots which are below the surface of the mud or water, there are countless thousands of tips which are exactly perpendicular. That these roots perform some function, important both to Orchids and to Mangroves, &c., is clearly apparent, as where they are most abundant the plant and the tree is most vigorous and in the most robust health. But what that function is exactly, is not yet clear to us, but the feature is such a notable one, that it is fully deserving of further close enquiry.

Besides Gongora atropurpurea we have Gongora maculata, Lindley, which is given by some as a synonym of Gongora quinquenervis, Ruiz and Pavon. This is a much prettier Orchid from a florist's point of view than the first mentioned, and flowers more freely.

Beside these, we have another Gongora which has a straw-white flower, and is distinguished by lighter coloured pseudo-bulbs, but for the present we place this with the last-named as a variety. Whether the two latter are deserving of specific distinction is a matter for specialists to settle, but the variation shown in the form of the bulbs, and the colour of the flower leads to the belief that the three are merely forms of the one species indicated by the flower being almost identical in form, no matter what colour is assumed or what shape is put on by the pseudo-bulb.

Whether they are eventually proved to be species, or mere varieties, it still remains that there are three forms of Gongora native to Trinidad:—1st, the dark purple; 2nd, the spotted; and 3rd, the straw-coloured; all of which are easy of cultivation at or near to sea-level in positions sheltered from the wind. *Trinidad Bulletin.*

FOREIGN CORRESPONDENCE.

CYCLAMEN BUDS NOT DEVELOPING.

The various correspondents who have complained of having trouble with Cyclamen buds not developing, are suffering from a trouble that has been quite prevalent here during the past few years. We had no difficulty in growing good plants, and advancing them to the point where great expectations were eventually doomed to disappointment. It seems that as long as plenty of moisture was present in the atmosphere and about the plants as in the growing season outdoors, all went well, but as soon as all were housed for the winter, and fire-heat was necessary to keep out cold, the buds with few exceptions failed to develop, and those that did flower were mere abortions. Examination under the microscope I have no doubt will reveal to English gardeners, as it has to us, the fact that the injury is due wholly to the minute white thrips, and it will probably be found that the whole surface of the undeveloped petals has been eaten over in the bud stage, as can be readily seen on the few flowers that have developed at all. We have found that there is no remedy so effective as tobacco; it has come to be necessary for us to keep the plants enveloped in tobacco from their youth up, using tobacco-stems between the pots all the time, and a frequent dusting in the centre of the plants at intervals after the buds have begun to develop with good strong tobacco-dust.

After having failed for the past three years to flower well-grown Cyclamen, and being fairly sure of the reason—for our plants are this season the best we have ever grown, it may interest growers at home to learn of this experience, the more so as it has been quite general in this state among gardeners. It is just possible that in English gardens, where the stem or mid-rib of the tobacco-leaf is not available, as it is here, it may be found that some one of the several good fumigating preparations may do the work. XL All ought to be very efficient if it is as I am led to suspect, that thrips are at the bottom of the trouble. *E. O. Orpet, South Lancaster, Mass., U.S.A.*

MEXICAN ECONOMIC PLANTS.

(*Concluded from p. 719.*)

Chicle.—The Zapote tree, or Chico Zapote, is one of the sources of the Chicle chewing-gum, indeed, it is said to be the most abundant new important source. It is the Achras Sapota, and is found growing wild and cultivated over a large area. Two kinds are known, the red and white, the latter producing more gum than the former, the yield being as much as 6 lb. per tree, while the red furnishes not more than 3 to 4 lb. The white forms a taller tree, and the red a greater diameter of trunk and a thicker bark. The fruit is spherical, sometimes 2 to 3 inches long, the edible or pulpy portion is white, and when ripe it has the taste of a Pear.

A warm moist climate is necessary for the successful growth of the tree, if large crops of gum are expected. Higher than lat. 22 N. it will not grow at all, and north of Vera Cruz city it will not do well

in the mountains above 2000 feet; however, south of 19 N. lat. it is cultivated at altitudes as high as 3000 and 4000 feet above sea-level—yet it will thrive best at elevations between 150 and 1200 feet even in these latter regions. The Zapote can be propagated from cuttings, suckers and layering, but the tree grows readily from the seed, and that system has been adopted by those who plant it. Nursery beds are prepared in the usual manner in a half-shaded space close to a stream. The hard, shiny seeds may be placed in warm water for ten or twelve hours and then sown 6 to 8 inches apart, and at a depth of 1 inch in the soil. This can be done in the months of October and November, if mist and slight rains follow, otherwise in July, or in the regular rainy season. When the seedlings are 18 to 24 inches high, they must be transplanted. A good site having been selected in forest-land, in the month of May, all undergrowth must be cut down, as well as young trees up to those of 8 inches in diameter. Here and there a large tree should be felled so as to open up the land to some of the rays of the sun, as the Zapote is partial to sunshine and air. The trash may be forked in or allowed to rot on the ground. In the latter part of June, or in the beginning of the rainy season, holes 1 foot or 15 inches deep, and 1 foot 6 inches wide, are then to be prepared at distances of 12 feet, if the Zapote is to be planted alone. But as Coffee or Rubber trees are staple trees, requiring the same climatic conditions, and can be planted between the Zapote, in such case each kind of plant must have a distance of 12 feet apart, thereby having 302 Zapote trees and the same number of Coffee or Rubber trees to the acre of land. Surface soil is then filled in, and the seedlings are set in the holes when the moon is on the wane, but they must not be planted too deep or they will rot off. As the tree is a hardy one, the expense of keeping the plantation clean is small, one or two light weedings a year being all that is necessary. At the fourth or fifth year after transplanting the tree it may be tapped, but it is best to wait until the sixth or seventh year, or when they are 12 to 15 inches in diameter, wherein better results may be obtained. The tree lasts over 100 years, and then or before its fine wood can be utilised for the manufacture of first-class furniture or for durable timber. The gum is produced from the leaves, fruit, and bark. From the fruit it is extracted in the months of March and April before it becomes ripe. When gathering the fruit, the stem is allowed to remain on it, but subsequently taken off to admit of the juice running out. This is collected in a shallow vessel, permitted to solidify, washed in warm water to collect and clean, and then boiled down to evaporate the water, set aside to cool, and, lastly, formed into blocks to be thus marketed; 3200 Zapote fruits produce 1 lb. of gum. The fruit is also sold at about one cent a piece in Vera Cruz, Puebla, Oaxaca, Orizaba, and other large cities, and latterly has been exported to the United States. In September and October the gum is extracted from the leaves. The process is the same as that of the fruit and the yield alike.

After the rainy season is over, generally in October, the trees are tapped once a year. The custom of the natives, the "Chicteros," is to climb the tree, often 40 feet, make three diagonal cuts by a double oblique blow of the machete on either side of the tree, and join the wounds at their lower ends. A shallow tin vessel is tied on to the tree below the wounds to collect the juice. The operator then leaves the tree and proceeds to tap another. He performs the operation in twenty minutes, and it takes three-quarters of an hour for the tree to bleed itself. One man will tap from twelve to sixteen trees per day, each producing from 3 lb. to 6 lb. of juice. This is collected in gourds holding 12 pints, and it is heated in an iron pot until it boils up, when it is stirred with a stick, quickly and continually until the foaming gum subsides and has been reduced to half; when cool, it is washed in water and formed into blocks of 2, 4, 6, and 12½ lb. each. The present system of tapping, it is suggested, might be improved upon, and the juice strained before being boiled down. Enormous quantities of this chewing-gum are sent to New York.

Canaigre.—The notes on the cultivation of sarsaparilla, jalap, and liquorice are of a character more familiar to us on account of recent publications; so that we omit any further notice of them for the sake of giving fuller details to what is a comparatively new introduction to the tanner, namely, the Canaigre (Rumex hymenosepalum). It is found within the valleys and depressions of Western Texas, Arizona, New Mexico, Mexico, and California. It is found for the most part on sandy loam, and is most luxuriant in moderately moist localities. The root contains from 23 to 33 per cent. of tannic acid, and has been fully demonstrated as a fine material for tanning leather. It has also some reputation among the Indians and Mexicans as a medicine, acting as a purgative when taken in large quantities. The roots or tubers of the Canaigre-plant have the general external appearance of Sweet Potatos, there being from three to a dozen to each plant, varying from 2 to 18 oz. in weight. Though for years Canaigre has been used by the Mexicans, both medicinally and for tanning purposes, it has but recently attracted the attention of the outside commercial world as a valuable tanning substance. Numerous analyses, both in Europe and America, have proved this, and the result of these investigations has been to create a great demand for it in the tanning trades of Europe, and more recently in the leather-making centres of the United States. The only supply now to be obtained is from the wild plants growing along the rivers and valleys of Western Texas, New Mexico, and Mexico. Careful estimates show that an acre of Canaigre, properly cultivated, will yield from 20 to 30 tons of green roots, equal to 7 to 10 tons of the dried material ready for shipment; at the lowest estimate of both yield and price, an acre of Canaigre would bring 175 dols., but probably 225 dols. would be a safe and reasonable estimate of the value per acre.

It appears in February, just after the rainy season, ripens rapidly, and is ready to harvest at the end of May. Sometimes it begins to grow in the autumn, continues growing during the winter—of course, in countries where the winter is not severe, and gives in the spring a very strong plant. The plant produces its seeds, but it is reproduced from the roots, because no experiments so far have succeeded in doing much with the buds. The old roots, as hard as wood, and almost black, are especially rich in tannic acid. The stalks, stems, and leaves, also contain tannin in sufficient quantity to pay for harvesting. Age adds to the roots an excellent colouring matter. The one-year-old roots yield from 20 to 25 per cent., the older roots 25 to 40 per cent. From 6 centners, or 1112 lb., of fresh, 2 centners of dry, or 1 centner of extract is obtained. By taking the extract from roots and leaves where the plant grows, much money might be saved, and losses due to transport spared. The refuse could be used to burn, or as cattle-fodder, for which purpose it equals straw.

In extracting the tannin, it is best to cut up the roots, and to use a diffusion-method similar to that used in extracting sugar from cane or Beetroot. It is necessary to use copper kettles, as the Canaigre influences, and is influenced by iron. It is well also, when extracting by means of lye, and when steaming, to use vacuum-pans, otherwise the tannic acid runs the risk of becoming gallic acid. By steaming under small pressure, there is no loss of tannin, and an excellent extract of a bright colour, easily soluble in water, is obtained. As is well known, most American leathers are tanned with Oak and Hemlock-barks, and even America, with its almost boundless forests of Oak and Hemlock, imports tanning materials in large quantities, so that all the world over there is a large and increasing demand for these substances. Some of the advantages of Canaigre over other materials is, that it gives to leather a full, smooth, and good grain, and a soft bright colour. It is especially suited to uppers, saddles, and fancy leathers. It is said to have been used by the Jesuits in Lower California some 200 years ago, but as it was thought to contain too much tannin, and its proportions were scarcely understood, it did not become generally used. *J. R. Jackson.*

PROPOSED HORTICULTURAL INSTITUTE.

PART I.—THE PROMOTION AND FORMATION.

1. *The Need.*—The need for a metropolitan horticultural institute has been recognised for years, each succeeding year accentuating the need, until this year we find from all parts of the country letters and suggestions for its early establishment.

2. *The Opportunity.*—No better monument can be raised to perpetuate the memory of Her Majesty's beneficent reign than the establishment of a "Home of Horticulture," a "Victoria Palace," or "Queen's Home of Horticulture." The present is the time for its inauguration, and all that is required to carry out the scheme is united effort.

3. *The Start.*—The first step appears to be the formation of a body of trustees, to be elected from the Councils of the Royal Horticultural Society and other Societies, whose co-operation is, of course, essential; and it is confidently hoped that a sufficient number of gentlemen of influence may be induced to act as trustees. These gentlemen, and others, should be solicited to give the start, and also to appoint the treasurer, secretary *pro tem.*, and banker.

4. *Second Step: Deputation to the Right Hon. the Lord Mayor.*—A deputation from the trustees should wait upon the Right Hon. the Lord Mayor, and lay before his Lordship the needs of horticulture, and request that a meeting be held at the Mansion House to consider the desirability of founding a Metropolitan Home of Horticulture in honour of the sixtieth year of Her Majesty's reign, and to decide upon the most suitable site for it. If possible, H.R.H. the Prince of Wales should be approached respecting this meeting.

5. *Third Step: Rose Festival and Banquet at Mansion House.*—The Rt. Hon. the Lord Mayor should be waited upon at an early date and petitioned to give the first impulse to the movement by holding a Rose festival in the Egyptian Hall, upon the same lines as those so successfully held during the mayoralties of Sir J. Whitaker Ellis and Sir David Evans. If convenient, this would be about June 20, 1897. The Rose festival to conclude with a banquet in aid of the funds.

6. *Fourth Step: Provincial Rose Festivals.*—That all the Horticultural Societies in Great Britain be communicated with, and urged to take a prominent part in the scheme for the establishment of the Home of Horticulture by holding Rose festivals (Victoria Rose Festivals) about June 20, or other most convenient date, on behalf of the institution. No more appropriate exhibition can be held on that day than one of Roses (our national emblem), but the details of these exhibitions would be left to the respective committees. These floral festivals might all conclude with a banquet to augment the funds. To the gifts already promised, and special large donations expected (and I would add with the earnest trust that my wish may be acceded to, the invaluable support of the horticultural papers) may there be added the Nation's affectionate tribute in commemoration of our beloved Queen's glorious reign. I hope the horticultural Press will open their columns for subscriptions, however small, with a kindly word from the pen of a ready writer. By their aid in this united effort, I feel confident success will be ours, with a balance to spare to enable us to add to the tribute by a gift to the benevolent societies.

7. *Life Governors.*—Every society remitting £50 from its Rose or other floral festival should be represented by one Life Governor, who should be elected by the members of the contributing society.

8. *Associates.*—Every society remitting £25 from its Floral Festival to be represented by one associate, who should be elected by the members.

8A. *Financial Statements* to be prepared, audited, and signed by the Trustees, a copy being sent to each contributing society.

9. *Fifth Step.*—Meeting of the Trustees should be

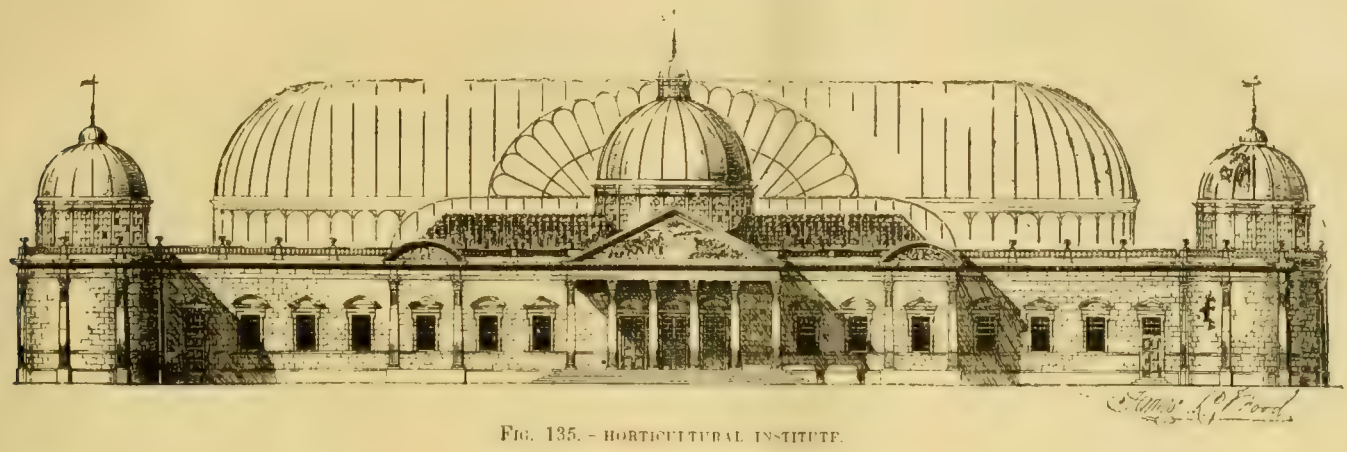


Fig. 135.—Horticultural Institute.

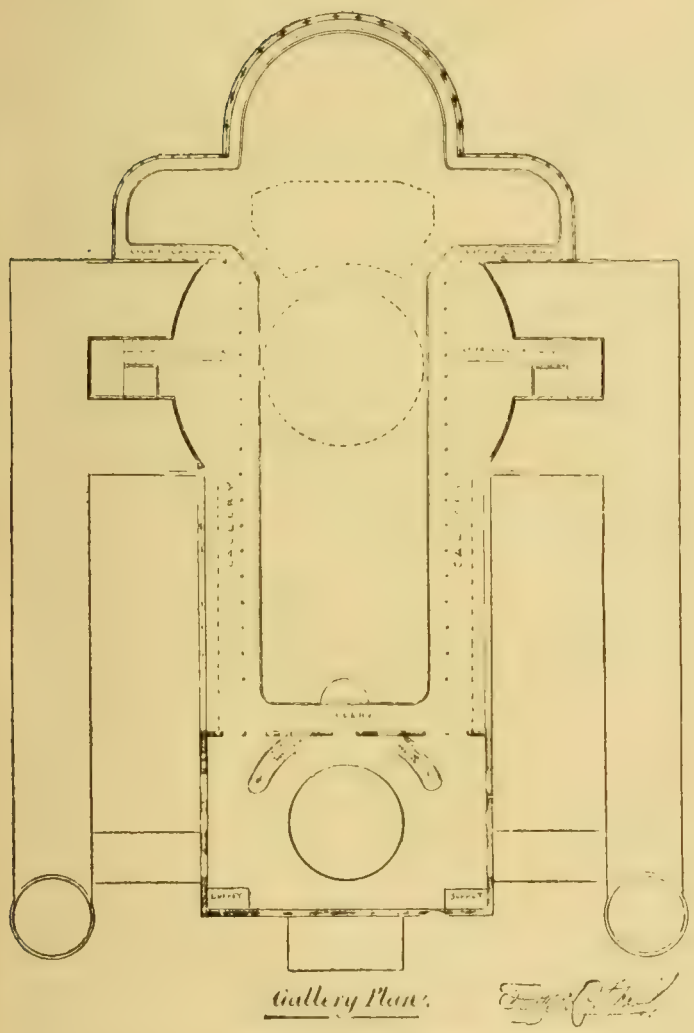


Fig. 136.—Gallery Plan.

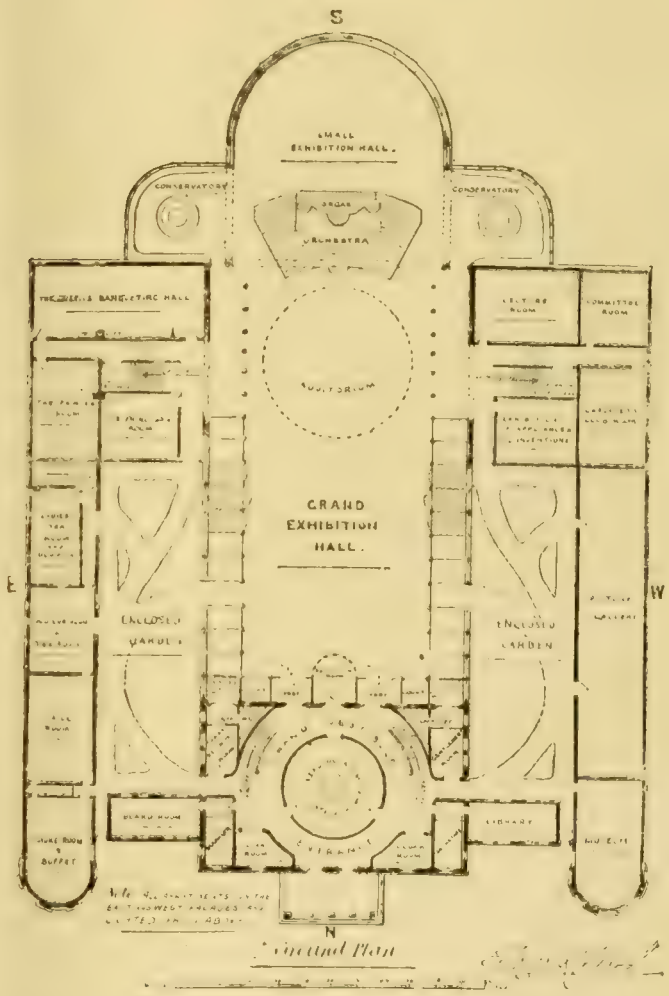


Fig. 137.—Ground Plan.

The Basement Plan is not given here; it contains Kitchen, Engine-rooms, Store rooms, and other Offices. Of course, the Plans may require modification according to site.

held to receive the Secretary's report of the result of the Rose and other floral festivals, and to appoint delegates.

Part II.—The Establishment.

10. *First Step.*—The Secretary to summon a meeting of the General Council, which should be composed of the Treasury Board (Trustees), Life Governors, and, as an ex-officio member, the secretary, to consider the financial position.

11. *Second Step.*—The Secretary would summon a meeting of the Committee of "Ways and Means" to report procedure. The "Ways and Means Committee" should be composed of Associates and Life Governors and Secretary.

12. *Third Step.* The start having been made by the Rt. Hon. the Lord Mayor, the Royal Horticultural Society, and the 400 horticultural societies, as representing horticulture, a deputation should be appointed to wait upon the Masters of the several Livery Companies of the City to solicit their co-operation, and the appointment of a Life Governor to the General Council from each City Company, contributing at least £50.

13. *Fourth Step.*—The General Council should be further strengthened by the admission of head-gardeners at half the usual qualification fee for Life Governors, viz., £25.

14. *Fifth Step.*—The Ways and Means Committee should be strengthened by the admission of head-gardeners at half the usual qualification fee for Associates, viz, £12 10*s.*

15. *Sixth Step.*—The executive body having been fully constituted, a general meeting should be called by the Secretary to formulate rules, determine procedure, and to appoint a chairman and secretary for the General Council, and also for the Ways and

Means Committee. It will be seen that, by these means, we should secure a thoroughly representative constitution, in which all interests would have fair consideration.

Part III.—Revenue.

16. *First Step.*—The financial statement having been sent to each contributing society or body (Clause 8A), the Secretary shall forward copy of rules as formulated (Clause 15) to each society and body, soliciting the support and co-operation of every individual member upon the following basis :—

17. *Fellows.*—Any lady or gentleman can be enrolled a Fellow of the Institute upon payment in advance of an annual subscription of Two Guineas. This entitles to free admission to every horticultural meeting held during the year (except the Benevolent Festivals, and such others as may from time to time be found necessary by the Council), with two passes to reserved seats for each, and free access to the Library.

18. *Members.*—Any lady or gentleman can become a member of the Institute upon payment in advance of 21*s*. The membership gives free admission to all horticultural exhibitions during the year with the exceptions above alluded to.

19. *Subscribers.*—Any lady or gentleman who subscribes 10*s*. 6*d*. per annum (in advance) should be furnished with a coupon admitting to fifteen ordinary horticultural exhibitions in the year.

20. *Contributors.*—Any lady or gentleman who contributes 2*s*. 6*d*. per annum (in advance) should receive a voucher admitting to three ordinary horticultural exhibitions in the year. Ladies and gentlemen resident 50 miles and beyond from London should have the same privileges on reduced terms.

21. *Admission to Public.*—The admission to the public is fixed at 1*s*. each person every day excepting on special occasions.

22. *Gardeners' Privileges.*—All accredited gardeners should be permitted to participate in any of the above privileges at one-half the usual charge for Fellows and Associates, and have also the use of the Gardeners' Club-room, where refreshments might be supplied to them at a reduced tariff.

22A. *Exhibitions.*—It is contemplated that prizes should preferably be either money or useful articles, together with special awards for meritorious exhibits which have not obtained prizes, to encourage cottagers and others. Shows of wild flowers, exhibits representing bee culture, and all similar country industries, to be periodically arranged.

23. *Trade Support.*—The co-operation of the horticultural trade should be solicited, 500 feet run in the galleries being reserved for their use at a moderate rental; and where attendants are not necessary, the letter-boxes would be cleared daily by the secretary, and all communications be at once forwarded by post to the exhibitors. Collecting-boxes would be supplied to the trade on behalf of the Gardeners' Benevolent and Gardeners' Orphan Funds, such boxes being collected by the secretary seven days before the annual Benevolent Festival.

24. *Stewards* (*Benevolent*).—The stewards for benevolent festivals would be members of the horticultural trade, and be elected from those whose contribution-boxes yielded the best results.

25. *Stewards* (*Horticultural*) would be elected by the general council in recognition of special services rendered, preference being given to gardeners.

26. *Refreshments.*—The refreshment department would be let out to some well-known first-class caterer by yearly contract.

27. *Music.*—Musical arrangement would be made with the executive; only those of the highest class would be considered.

28. *Picture Galleries.*—The picture gallery would be rented, and every facility given by the staff for the sale of pictures and statuary at a fixed percentage.

29. *Exhibition of Appliances.*—This department would be under the control of the executive; space being charged for, and assistance given to further the interests of inventors and manufacturers at a fixed percentage.

30. *Horticultural Papers* be solicited to open their columns for donations.

31. *Exhibitions.*—As far as possible there should be a continuous series of exhibitions, high-class concerts, conversaziones, lectures, debates, &c., so as to fully utilise the premises.

32. *Royal Courts.*—The patronage of Her Majesty to be solicited.

32A. *Loan Collections.*—Six courts being reserved upon ground-floor (shown in section lines upon ground-floor plan) for the reception of a Loan Collection if members of the Royal Family should be pleased to entrust one to the Institute.

33. *City Courts.*—Thirteen or more courts should be reserved upon the ground-floor for the City companies, who would be asked to furnish them with exhibits illustrative of their several trades; or these courts might be let to leading manufactures, or others—every facility being given to them for furthering their business. These courts, it is estimated, would let at an annual rental of £50 each.

34. *Hospital Courts.*—Certain courts should be appropriated by the City charities at a reduced rental, donation boxes being placed in each.

35. *Charity: Three Days' Festival.*—Apart from its expository uses as an exhibition hall for everything pertaining to horticulture, metropolitan, and other trades and charities, the Institute would be further dedicated to the cause of charity, as periodically special efforts would be made to augment the funds of the Gardeners' Benevolent and Orphan Societies, a three days' festival being organized every year for this purpose.

36. *Sale of Work: Children's Help.*—The co-operation of everyone would be invited, lady secretaries being appointed to further the work amongst children by interesting them in plants and flowers, and by encouraging them to make articles for the sale of work held at the festival. Anyone sending goods of the value of 2*s*. 6*d*. to the festival for this sale of work should be admitted free on each day.

37. *Distribution of Flowers and Fruit after Shows.*—All flowers and fruit sent for exhibition should be distributed by the lady secretaries at the close of each show amongst the metropolitan charities. Exhibitors be specially asked to consent to this as far as possible in aid of the suffering and poor.

38. *National Festivals.*—On St. Andrew's, St. Patrick's, and St. David's days respectively, special concerts might be given, and as far as possible exhibitions be held representative of Scotland, Ireland, and Wales. On the occasion of grand concerts all the courts would be concealed by drapery, red curtains being drawn across the front of each.

39. *Railway Arrangements* would be made with the railway companies for special trains at reduced rates, so as to afford facilities for our country friends to visit the metropolis, and at the same time to help the funds of the charities by contributing to the appeals which would be made to them during the three days of the festival.

Having briefly outlined the formation, establishment, and maintenance of the Institute, it now remains to put the project "upon its mettle," and as it is imperative that action should be taken at once—and someone must take the initiative—I propose to wait upon certain representative gentlemen and submit the scheme to them, and in doing so, I am prepared to find that some of my proposals may require to be more or less modified.

The main points I firmly believe are attainable, and I look with great confidence to the results of the Victoria Rose and other floral festivals held simultaneously all over the land as giving expression to the nation's loyalty to our Queen, and show its love of horticulture.

Here is an opportunity for everyone, from the cottager to the nobleman, to give expressions of fidelity to our beloved Queen. Such a gift would find a welcome in the heart of the greatest living mother.

That considerable organisation is involved is obvious, but no work of such magnitude was ever accomplished without it—"United we stand, divided we fall." If we sink every other consideration and join hand in hand, the Horticultural Institute will surely be founded.

Horticulture has advanced and prospered during her reign, and how could her children more expressively "rise up and call her blessed" than by establishing a permanent Home for Horticulture in grateful memory of her glorious reign. *James L. Wood, Oakleigh Park, Whalstone.*

P.S.—I purpose dealing further with the financial aspect of the scheme at an early date, probably in your next issue. *J. L. W.*

Home Correspondence.

Flavour in Apples and Pears.—It seems a pity that the competitions for the prizes so generously offered by Messrs. Veitch and Sons, carried on at each of the Drill Hall meetings, should be narrowing down so appreciably that just about three gardeners keep the competitions alive. Of late the contention has been between Messrs. Woodward, Herrin, and Wythes chiefly, and if these fell out, they may collapse. So far, interesting as these classes have been, they have revealed nothing. Early Apples gave little of merit so far as flavour is concerned, but when Cox's Orange Pippin and Ribston Pippin came on to the scene, then they monopolised the prizes for several meetings. It is noteworthy, however, that Cox's Orange Pippin seems usually to be rather better than Ribston Pippin, and without doubt it is our premier Apple for flavour, having also good appearance, and soft, smooth-eating flesh. But the competitor who has won a prize with a variety cannot take the same prize with it again; hence, if the competitors do not change or increase, both these fine Apples will be presently excluded from the competition. Having so far proved themselves so good, no doubt that is enough. But what will follow? We have yet to be tested later varieties, and it is in connection with these most of interest should be found. There is Scarlet Nonpareil, Winter Pearmain, Court Pendu Plat, Cockle Pippin, Brownlees, and Aromatic Russets, Sturmer Pippin, and others to follow, but so far there has been no new or revealed variety, neither does there seem to be any late one unknown or in reserve that is not already well known. I fear at the time when the prize-list expires next year, we shall have to say that we know only just so much in relation to flavour in Apples as we knew before. If there be gardeners or amateurs anywhere who have varieties not hitherto known or recognised as of good flavour, especially if they be good keepers, now is their time to send them along to the Drill-hall, and let them be fairly and freely tested. It is worthy of note that, in connection with these competitions, the appointed tasting committee have their decisions more severely and practically discussed than is the case, probably, anywhere else. Pears seem to be in very much the same boat as Apples. Doyenné du Comice has proved itself so far to be the finest-flavoured Pear, but then we all knew it previously. Beurré d'Anjou, Marie Louise, Thompson's, and a few others have proved to be fairly good, but the first-named is much the best. Pear competition for flavour is fast narrowing down to but two or three of any merit. So far, Seckel and Winter Nelis have made little show. Presently we may see Ne Plus Meuris and Glout Morceau presented, and perhaps Easter Beurré; but unknown good-flavoured keeping varieties seem to be looked for in vain. If any have such, they would be cordially welcomed. No doubt had the prizes been open to competition by trade growers, we should have seen those who doubtless hold yet the best new varieties of Apples and Pears, that is, if there be such, sending them along; though there is the possibility that the doing so might have but exposed lack of quality, and thus have discounted the prospects of the variety at once. But if they have some good new things, it seems as if no harm would be done in sending samples along for trial, even if they may not take prizes. We want to know which are the best, let who will have them. *A. D. Nov.*

Waste of Valuable Fertilisers.—Judging from its chemical composition, it would appear that the ash from wood and coal must be of very great value as a fertiliser, and that many thousands of tons are annually wasted. I am unable to find any reliable data as to the practical value, or the kind of land and crops this waste is suited for, and if the subject has been dealt with by any expert, I should

be very pleased to get all possible information. The fine ash, cleared from cinders, should be well worth collecting. We have recently commenced to use the waste wood from our local country wheelwright as a fuel, instead of coal, and have kept all the ash as a fertiliser; but, having no experience to guide us, it is desirable that we should know what has been done, and what is known on the subject, and as the ash from coal is practically the same as from wood, the matter is one worthy of serious consideration. *Thos. Fletcher, Grappenhall, Cheshire.*

CLEARING LAND OF COUCH-GRASS.—E. Cadman, whose enquiry regarding this matter I noticed in a recent issue of the *Gardeners' Chronicle*, should not employ piece-work to clear his ground of Couch-grass, as it will only end in disappointment. If day-work can be afforded, it is certainly better, trenching the ground about 2 feet deep, and picking out by hand every particle of Couch-root. Another method which I have found suitable for clearing Couch from large tracts of land, and which I have found to answer very well, is to plough the land very deeply, then work it with a large grubber, afterwards harrowing it with the ordinary small-tined harrow, finally chain-harrowing it, and gathering all the rubbish together, and burning it in small heaps on the land. If repeated after frost, E. Cadman will find the last method cheap, and very successful. Heavily manure the land after clearing, if it should stand in need of this, and is not too soft to carry the carts. *J. D. Robertson.*

—— To clear land of Couch grass, in answer to Mr. E. Cadman, the best and cheapest method is to turn it up with a 12-inch broadsheare point at once, if not too wet, and leave it "brock" until March; then, if it sets in dry, harrow it on the cross, and burn in small heaps, or cart away. Afterwards broadshearing again the other way, and harrow it and collect the roots, &c. After you have got it clean, plough it, and put in Swedes, with some artificial manure, then feed off with sheep, and put in Barley, you will then very likely have some good malting Barley! the Swede, during summer, will have to be set out and hoed two or three times, which will all be in favour of cleaning. If you have no sheep of your own, take some in to keep, on the condition that they are fed with chaff and corn, which will be to the benefit of the land. If the land is wet, wait for dry weather before you begin operations, and always let it be dry work, otherwise the cleaning will be badly done. *Wm. Lewis, East Sutton Park, Staplehurst, Kent.*

PEAR HUYSHE'S VICTORIA.—Referring to Mr. Miller's comment and question on p. 729 of *Gardeners' Chronicle* of the 12th inst., we have here a young fan-trained tree on a south wall, from which I gathered fruits at the end of last October, these being almost ripe at that time, the earliness of our fruit being due, probably, to the warmth of the situation. The variety has all of the good qualities mentioned by Mr. Miller, is a middle-sized fruit, well worthy of general cultivation. Doyenné d'Hiver is another good variety here, coming in at the present season, and on that account very acceptable. It is a larger fruit, with a melting flesh. *G. F., West Park, Salisbury.*

—— I agree with that which Mr. Miller says in the *Gardeners' Chronicle*, at p. 729, regarding the goodness and usefulness of this variety in the present month. It is one of the best Pears that we have, being satisfactory from pyramid-trees, and from a tree trained on a west wall, the fruit from the latter being finer, and the flavour superior. As Mr. Miller remarks, it requires to be left on the trees as long as possible, otherwise it will shrivel after gathering. The soil of the garden at Poltimore is heavy and wet, therefore cold; and many other varieties of Pears crack, but Huyshe's Victoria never does. As most of our readers will be aware, it originated in Devonshire with the Rev. J. Huyshe, of Clyst-Hydon, a place only a few miles distant from here. *T. H. Slade, Poltimore Gardens.*

—— In answer to Mr. W. Miller's question, I may say that we have a tree of this variety on a south-west wall here, whose roots are beneath a plot of turf. Its age is about eighteen years. This tree is horizontal-trained, healthy, showing a nice lot of fruit-buds, and having the appearance of not being in need of root-pruning to make it fruitful, and yet for the past five years it has not produced six fruits a-year. The tree was at one time shaded a little, but last season I removed this shade, and every alternate branch has also been removed, to enable the wood to ripen. I think so little of it, that it is not included amongst the young trees that have been planted here recently. Glou Morceau is a variety that does well in these gardens, and some large and old trees of the variety are trained against high south-east walls. It is one of our most useful late varieties, and one that keeps till January. Pears of all varieties this year are ripening fully two weeks earlier than usual. *John Lambert, Powis Castle Gardens.*

THE FRUITING OF LAPAGERIA ROSEA.—There is nothing unusual in this, as the Editor justly remarked in the *Gardeners' Chronicle* of Dec. 5. We have several plants on the roof of the orangery at this place, and I have noticed more or fewer seed-pods every year. In fact I have raised several plants from the seeds, and have some planted out, but they are not large or old enough to flower. I have noticed the occurrence in other gardens, but so far I have not observed the white variety bearing seed, and assume that it is of rarer occurrence. I counted to-day, Dec. 1, ten seed-pods on one of our plants. *J. Mayne, Burton, Devon.*

—— Some nine or ten years since, we had two very vigorous plants of L. rosea superba and L. alba, each of which produced several fruits without the aid of artificial fertilisation. So far as my memory serves me, the fruit did not arrive at maturity the same year in which the flower was fertilsied, but in the following one When the fruit was quite ripe, a quantity of seed was taken out and sown. Nearly every seed germinated, and in a very short time, considering its somewhat hard nature, with the result that a number of strong healthy plants were produced that made rapid growth. Several of them flowered when they were from four to five years old. The flowers were larger and more highly coloured than the forms of L. rosea that have come under my observation, but none of them was equal to the parent. I was most interested in discovering whether the plants raised from seed of L. alba would produce white flowers, because it is looked upon as being merely a form of L. rosea or a sport from that variety; and my experience goes to prove the correctness of that view, as all of the seedlings from L. alba, which flowered while under my care, produced rose-coloured flowers. It would be interesting and instructive to have the history of the parentage of L. alba, which is said to have been introduced from Chili in the year 1854. The Lapageria is probably the handsomest, and for decorative purposes one of the most useful of cool greenhouse climbers; a free and vigorous grower under suitable conditions, and its cultivation does not present any difficulty to an experienced gardener, and yet it is frequently to be met with in anything but a healthy condition. *W. Neild, Cheshire.*

—— Having read the articles in the *Gardeners' Chronicle* regarding fruiting of this plant, and the raising of plants from seed, I wish to record my experience with it. I may say that I lived at Porter's Park in 1853 and 1854, and knew the plant referred to by your correspondent "M. D." in the issue of the *Gardeners' Chronicle* for December 5, but I do not remember seeing any fruits on it, or many flowers. The plant was, however, exhibited at Kew when in flower in the latter year. In 1856 I received two plants from Messrs. Veitch & Sons of Chelsea, which I planted against the back wall of the conservatory here. They grew vigorously and flowered abundantly, the stronger shoots being perfect wreaths of flowers, and we obtained dozens of fine pods of seeds, which, when ripe, became yellowish-green, and may have contained 100 seeds each. These seeds have the appearance of small grains of Wheat, and they germinated quite freely. One of the plants did not produce such fine flowers as the other, nor did any of my seedlings come up to the best plant. I planted one out-of-doors which stood one winter, but did not grow much afterwards. I think the Lapageria is a plant which does not like much sunshine. *John Barnett, Decker Hill, Shifnal.*

—— It is pretty well known to gardeners that Lapagerias frequently bear seeds under cultivation. We have here a good plant of L. rosea and L. r. alba, one on each side of a portion of a span-roofed conservatory, and both plants produce ripe seeds every year. Would the seed be at all likely to produce flowers of various tints? [Yes, flowers with slight variations from the type, and probably inferior flowers. ED.] I send for your inspection what I consider a very prolific growth cut from the L. alba growing here. It is 10 inches long, with twelve fully-developed flowers thereon. *Jas. Hornby, Heslington Gardens.*

—— It may interest many to know that L. rosea was sent to the Royal Gardens at Kew in 1847 by R. Wheelwright, Esq., an American gentleman, who had been instrumental in establishing steam navigation in the Pacific, and incidentally improving the means of transport to this country. The year following, Mr. Thomas Lobb introduced it for Messrs. Veitch & Son from Chili. It was named in compliment to Josephine Lapagèrie, wife of Napoleon Bonaparte, who rendered great service to botany. About 1854, Mr. Richard Pearce introduced alba from the same country for Messrs. Veitch & Son, but I believe a plant was sent to the Jardin des Plantes at Paris by M. Abadi before that which was figured in the *Botanical Magazine*, in 1856; the red one had been previously figured, viz., in 1849. Lapagerias, both white and red, have fruited in many gardens to my knowledge, and I have seen hundreds of seedlings raised from and ripened in this country. The process of raising plants is however very slow, and it is much more convenient to raise them from layers. Some three years ago both the red and white varieties growing in the Botanical Gardens, Birmingham, produced dozens of fruits, and Mr. Latham was enabled to raise numerous seedlings; as did also Mr. Nicholas at Ashe Gardens, some of which had distinct pale rose-coloured flowers. One of the largest, and also the deepest coloured varieties that I know of, is the Nash Court variety, which was purchased from the Victoria and Paradise Nurseries, Upper Holloway, many years ago as the rosea variety, and which is now growing luxuriantly in the conservatory at Nash Court, Faversham, under the care of the gardener, Mr. Humphrey. I have also seen the plants mentioned by Mr. Burbidge at Straffan House, which are grand examples of cultivation. *A. Outram, F.R.H.S.*

GROS COLMAN GRAPES (see p. 728).—In 1893, I exhibited at the Birmingham Chrysanthemum show, three bunches of this variety, the largest being a little over 6½ lb. It is not unusual for berries on vigorous Vines to average 4½ inches in circumference. For the last sixteen years these Vines have carried an average of 38 lb. each. It would be interesting to know how long this variety lasts in market establishments where large weights are taken annually. *John Bates, Stone.* [The communication was accompanied by a photograph showing three fine bunches of this Grape. ED.]

CEDRUS DEODARA.—I see in your pages a discussion as to the merits of Cedrus Deodara. I am glad to hear of its growing so finely at Wortley, but it does not do so generally in Yorkshire; and the notion that it would have made a profitable plantation, even there, is quite a mistaken one. The Cedar of Lebanon, and still more so, the Mount Atlas Cedar, are both of them hardier and healthier in most places than the Deodar, but they have never been planted successfully in woods, or produced in England timber of any value, although, like the Deodar, on their own mountains, the timber is valuable. Forty or fifty years ago, the East India Company imported into England several tons of Deodar seed, thinking that so valuable and hardy a timber-tree ought to be planted extensively in England. I have never heard that any valuable timber has been the result of that importation, and I never expected that any such would be the result. I think that it would be very difficult to grow any of the Cedars successfully in plantations; and there is no evidence that even if they were so grown successfully, the timber would be worth anything, and it is my belief that it would have very little, if any, value—certainly nothing like as much as that of Larch, or even of Scotch Fir or Spruce. *C. W. Strickland.*

—— As a proof of the hardiness and adaptability to exposed situations, twenty years ago we planted several groups of these in a portion of New Park, four and five being put in each group in a very high position, exposed to the north and north-east winds, which comes across the Chantry Hills with force sufficient to cut their heads off. Notwithstanding this supposed drawback, they are thriving amazingly, whilst others which had been planted in sheltered nooks have been cut out on account of their sickly growth. I consider that these species might be more extensively planted in parks than is the case. At Peper Harow Park, Surrey, large numbers of them may be seen in the woods, of great age and size, thus showing that they will thrive under forest treatment. *W. Wiles, Unsted Park, Godalming.*

VEGETATION IN CORNWALL.—As showing the effect of the mild weather in Cornwall, there are plants in flower in our garden of Sweet Alyssum,

double-flowered Pyrethrums, Mignonette (very full), Candytuft, Chrysanthemum frutescens, Limnanthes Douglasii, Antirrhinums, white Daisy, Veronica variegata, Primroses, and Campanula cæspitosa. The common Snowdrop is peeping through the soil. *J. Maeers, Marazion, Dec.* 14, 1896.

PEAR NOUVELLE FULVIE.—This is a very excellent Pear at the present season, although I fear it is one that is not much known. I find that it is mentioned in several catalogues as being an excellent variety. The fact, perhaps, that it is of rather poor appearance may account for its not being much grown. I have had two or three dozen fruits of it this year, and when I say that it ranks next to Doyenné du Comice, readers of this note will perceive that this means a great deal. It is a much better Pear than Passe Colmar, which it greatly resembles, but is larger, and of better flavour. The fruits require much thinning, and liberal treatment afforded the tree, and a place against a wall. The fruits should be allowed to hang on the trees as long as possible, otherwise they shrivel. Writing of Pears, I think it would be interesting to your readers if Mr. Divers, of Belvoir Castle Gardens, would kindly give a few particulars of that excellent Pear that he exhibited for flavour, and took a 1st prize with against Winter Nelis and Josephine de Malines. I was very much surprised to see these two beaten for flavour, but having tasted all three, I can speak of the superior flavour of the Belvoir Pear. *Geo. Woodward, Barham Court Gardens.*

GLASSHOUSE CROPS IN GUERNSEY. — The writer of your article on the "Glasshouse Crops in Guernsey," must evidently have obtained his information—or rather, I should say, a portion of it—from some unreliable source. Though not hailing from that island, I am perfectly cognisant of the Guernsey system of culture, and know well that Tomatos are not grown in the primitive, haphazard manner therein described. On the other hand, the leading growers pay great attention to the saving of seed, and do not delay till December; but fruits for the purpose are specially chosen during the summer months, shape of fruit and habit of plant being duly taken into consideration. Secondly, the seed is not put into the soil of a greenhouse a few inches deep, but is carefully sown in seed-pans or boxes, which at that season are placed on bottom-heat. The seedlings, when showing two or three rough leaves, are pricked off into other boxes; and in many establishments, when the plants are strong enough, they are carefully lifted and potted in 4 or 5-inch pots, so as to get them of extra strength before being planted out or placed in their fruiting-pots (10-inch), as the case may be. Pot-culture is the system adopted for early work—as for example, when fruit is required early in the month of April. As to the statement that "the growth of Grapes is remarkable, and is becoming more and more popular every year," I am sorry indeed to have cause to refute this, the very opposite being the case, as the Grape trade, owing to the steady decline in price during the past few years, is fast on the wane, and in fact, is done for, so far as the Channel Islands are concerned. Vines are being rooted up to make way for the better-paying Tomato crop. The very price quoted in the article in question tells its own tale, as 3*d.* to 4*d.* for Hamburghs, and 5*d.* to 6*d.* for Alicantes in September are not paying ones, for bear in mind these prices are those realised by the salesman, and such as carriage, commission, and other incidental charges have to be deducted; so much so, that the price as received by the grower is a totally different one. Tomatos at 3*d.* and 3½*d.* per pound pay infinitely better, as the second crop is ready in September, the first crop having been cleared by the first week in June. It is rare, by any system of renewal, that the plants bear a second crop. Carriage for Tomatos is very much less than for Grapes—something like one-half, which is an item of consideration. Many Guernsey growers do not even find the Tomato crop satisfactorily profitable, and why? They will stick to the Old Red—though, be it said, for an early crop it is still useful, setting as it does more freely in the early season; but for a mid and late-season crop, better shape must be had if anything like a price is to be obtained. Like everything else in these days, the crops must be heavy, and the fruit of first quality, for cultivation to be remunerative. This latter the Guernsey grower is beginning to realise. *P. F. Le Sueur, Jersey.*

COMPARATIVELY TENDER SPECIES OF SHRUBS IN SCOTCH GARDENS.—Seeing your leading article describing the mild climate that seems to exist round the residence of the Earl of Annesley, co. Down, Ireland, I would like to draw attention to the West of Scotland, and to the seat of H. J. Younger, Esq., Benmore, Argyllshire. Need I state that many of the shrubs mentioned to be at Castlewellan can be found growing in rugged health in this favoured spot. But not so much as to them, as a few are of recent introduction there to my knowledge, but to a much hardier class much could be said in praise of, namely, the fine specimens of Picea that are to be found in the picture of health. Few places, indeed, in Scotland can boast of such a fine collection of ornamental woods; and the stranger who pays his first visit in the month of May or early summer, will surely find a treat in store, and to the lover of this class of wood needless to say he will find much to interest him for a day. *J. Murray, Gardener, Auchincruive, Ayrshire.*

MR. W. G. HEAD.—Many gardeners and others will doubtless have received a circular during the last few days containing the sad intelligence that our friend Mr. W. G. Head, of the Crystal Palace Gardens, is dangerously ill with a most painful malady; and it is proposed to collect a sum of money in order to assist in paying the heavy surgical and other charges attendant on such severe cases as his, but it is not possible to reach all by circulars. Mr. Head is well known to a great number of the visitors and exhibitors at the Crystal Palace shows, and as a manager of shows; and I may venture to say that as such he is without an equal. But I will base my plea on higher grounds than this, and ask all to come to the assistance of a friend and brother in distress, as now is the time to help and cheer him in his long and painful illness, and that is best done by sending our mite at once to the Hon. Secretary, Mr. John Laing, Forest Hill Nurseries, London, S.E., or to the Hon. Treasurer, Mr. H. J. Veitch, Royal Exotic Nurseries, Chelsea. *W. H. Divers, Belvoir Castle Gardens, Grantham.* [We trust that such help as can be given will be as freely accorded as it is sorely needed. Ed.]

A NEW HYBRID LAVATERA.—Allow me to inform your readers of a hybrid Malvacea which grew spontaneously this year in my garden, and is of some interest. This plant is a fine bush, about 60 inches high; the first flowers appeared in July, and the last were only stopped by the frost in December. It is most likely the result of a cross between Lavatera maritima and L. trimestris, both cultivated in the neighbourhood, the pollen originating from the former. Of L. maritima, the hybrid has the glaucous, velvety leaves, the flower largely opened and flattened. Of L. trimestris, it has the calyx and bracteoles of the involucre, and the colour of the petals. The ovules seemed well formed, but no seed ripened. I have got some cuttings, and if the plant prove really hardy, it may be worth while to introduce it in gardens. *M. Micheli, Geneva.*

LAW NOTES.

THE BUSHEL-BASKET CASE.

We learn, after all, that the question of trade custom involved in the "Bushel-basket" case, wherein the Brentford justices decided that market gardeners must sell market produce by denominated weight and measure, and not by local or reputed measures, such as "sieves" or "local bushels," will not come on for argument. The justices, as will be remembered, consented to state a case for the opinion of the Queen's Bench Division. The solicitor for the defendant, Mr. Reffell, drew up a case, in which he made points that the purchaser selected one particular basket out of several, and that he particularly indicated the basket he took in the expression—"How much are them baskets?" To this statement the solicitor for the County Council, Sir Richard Nicholson, could not agree, declaring that nothing of the kind was stated in evidence. In view of this disagreement upon the facts to be set out, the solicitor for the defendant has intimated to the Court that it will be impossible to go further.

SHREWSBURY NURSERYMEN AND THE AGRICULTURAL RATING ACT.

A special Sessions was held at the Shrewsbury Police Court on Tuesday for hearing appeals under the Agricultural Rating Act. The Mayor (Alderman E. C. Peele) presided, and the other magistrates present were—Major-General the Hon. W. H. Herbert, Messrs. J. Cock, J. Evan Jones, and G. Evans. Four appeals were down for hearing in respect to Shrewsbury nurserymen, viz., Messrs. Pritchard & Sons, Mr. E. Murrell, Mr. Myers, and Messrs. Jones & Sons. The appeals were made on behalf of Mr. Kitton, Surveyor of Taxes, against the decision of the Assessment Committee of the Atcham Union in confirming the statements of the overseers in reference to the rating of certain market gardens and nurseries in the occupation of the persons mentioned, in the Atcham Union, the ground of appeal being that the hereditaments had been wrongly entered as agricultural land, thus securing the partial relief of the ratal under the new Rating Act.

Mr. Everest opened the case, and from his statement it appears that the contention of the surveyor of taxes was that market gardens were divisible into two properties—buildings and land. On the other hand, the Assessment Committee contended that market gardens for the purposes of the new Act were not divisible, but one whole, and the point involved was whether land covered with glass (greenhouses) was market garden land. The new Rating Act provided that occupiers of agricultural land should be liable in the case of every rate to which the Act applied to pay one-half only of the rate in the pound payable in respect of buildings and other hereditaments. Agricultural land meant any land used as arable, meadow, or pasture-ground only, cottage gardens exceeding one quarter of an acre, market gardens, nursery grounds, orchards, or allotments; but did not include land occupied together with a house as a park, gardens, other than those described, pleasure grounds, or any land kept or preserved mainly or exclusively for the purposes of sport or recreation, or land used as a racecourse. He submitted that so far as market gardens and nursery grounds were concerned the effect of the clause was that they were included in the words agricultural land in the orders of the Local Government Board, and in reading that Act it was correct to say when the words "Agricultural land" occurred, also including gardens or nursery grounds. Mr. Everest cited the case "Purser *v.* Worthing Local Board," decided in the Court of Appeal in 1887, where the appellant, a market gardener and nurseryman, was the occupier of a piece of land upon which were built sixteen greenhouses, or glass-houses, which practically covered the surface of the land. They were built on brick foundations, and were used by the appellant for the purpose of growing fruit and vegetables for sale in the course of his business. The case was decided under the Public Health Act. In giving judgment for the appellant Mr. Justice Day said, "This ground ought to be assessed at one fourth of its net annual value; it is used for gardening, that is, for the production of fruit and vegetables on a more or less small scale, as distinguished from agricultural use on a large scale; and in my judgment it is a market garden . . . ." Mr. Justice Wills said he was of the same opinion, and remarked: "In arriving at our decision we should look at the state of things which was in existence before the Act was passed. There were then market gardens and nursery-grounds all over the country, and in the majority of them a very large and substantial portion was covered by glasshouses. Gardening operations were carried on in them, and the cultivation of hothouse and greenhouse plants is no less essential a part of these operations than the cultivation of plants which grow in the open air. These are places where operations in the nature of gardens are going on, and these houses are parts, and necessarily so, of them. I think that such pieces of ground are very properly included under the head of market-gardens or nursery-grounds." Then when the case was taken to the Court of Appeal, Lord Esher, Master of the Rolls, said:—"I am of opinion that the judgment of the Queen's Bench Division must be affirmed. There can be no doubt that the respondent used the whole of this plot of land as a market-garden—for the purpose of growing fruits and vege-

tables for sale. I think that the land is not the less used as a market-garden because these glasshouses have been placed upon it." Mr. Everest contended that the Public Health Act and the new Rating Act were both relieving Acts; therefore, what applied to the one, would apply with equal force to the other.

After hearing arguments from Mr. Williams, Mr. Bowdler, and Mr. Lethen, the Mayor said the magistrates were quite unanimous in their decision. They felt bound by the case quoted, and must dismiss the appeal. If they had been guided by their own judgment the result would have been the same. *Shrewsbury Chronicle, December* 11.

Decisions in Commercial Law.

The Niagara District Fruit-growers' Association v. *Walker.*—An agent was engaged by the plaintiffs from year to year for four years to sell fruit on their behalf on commission, one of the terms of the engagement being that all moneys received by him on behalf of the plaintiffs should be paid in from day to day to their credit in a named bank. The agent made default in this respect, and a large balance was due by him to the plaintiffs at the end of each of the first three years, and the plaintiffs at the end of each year took his note for the amount due, payable in the next year. In each year he gave a bond to the plaintiffs to secure the faithful performance of his duties, and the prompt payment of moneys received The defendants were the sureties in the bond given in the fourth and previous years, and entered into the contract of suretyship without making any enquiries from the plaintiffs. This action was brought against them to recover the balance due. A Divisional Court decided that the plaintiffs should have informed the sureties of the previous defaults and not having done so could not enforce the bond *Monetary Times, Toronto.*

Claim by Messrs. Carter & Co.

Disputed Liability.—In the Westminster County Court on Monday, his Honour, Judge Lumley Smith Q.C., had before him the case of Carter v. Webb & Co., in which the plaintiffs, Messrs. Carter & Co. of High Holborn, sued defendant to recover payment of an account in respect of a quantity of seeds supplied to him whilst carrying on the business of a nurseryman at Newington Green Road. Plaintiffs' representative said the goods were supplied to Webb & Co., with whom they had done business for some years, and the defendant was the only person they looked to for payment. The defendant was called, and said he never ordered the goods in question, and as a matter of fact he had left the business prior to the time when they were supplied. He disposed of the concern to Messrs. Edwards & Co., but the old name was still over the shop.

The present owner of the business said it was he who ordered the goods, and he was perfectly willing to pay for them.

His Honour told him that the sooner he did so the better, but as the thing stood at present, he (the Judge), should give judgment against the present defendant with costs.

SOCIETIES.

ROYAL HORTICULTURAL.

December 15. The last meeting of the Committees for the present year was held in the Drill Hall, James Street, Westminster, on Tuesday last and was a fitting close to the very successful series of meetings that have taken place since the close of last year. Orchids made a good display, and secured several Botanical and other Certificates. Berried plants were not present in great quantity, but the few exhibited included some capital plants of Skimmia Fortunei. There was a group of pot Roses which bore numerous creamy white flowers; and Poinsettias were shown well. Two perpetual-flowered Carnations were recommended Awards of Merit; and, although the date was a late one, a similar distinction was granted to a Chrysanthemum. A fine group of Cyclamens was exhibited, which included plants from English and from German seed. Fruit was by no means scarce, there being several very commendable collections present.

Floral Committee.

Present: W. Marshall, Esq., Chairman; and Messrs. Jno. Fraser, H. B. May, H. Herbst, R. Dean, Robert Owen, Geo. Stevens, Jas. Hudson, Geo. Nicholson, W. Bain, Thos. Peed, J. D. Pawle, C. E. Shea, J. W. Barr, H. Turner, H. Cannell, Geo. Paul, J. T. Bennett-Poe, Chas. Jeffries, R. M. Hogg, Geo. Gordon, Ed. Beckett, and Jno. Laing.

From Messrs. H. Cannell & Sons, Swanley, was shown a collection of sprays of zonal Pelargonium blooms in variety; some of these are exceeding bright in colour, and of large size—King of Crimsons, Jno. Ruskin (scarlet), Zenobia (salmon-rose), Princess Alex (pink), Lord Newton, and Sherlock Holmes (both purple-crimson), A. F. Wootten (white and pale red), Soldier's Tunic (very bright scarlet), and Snowdrop (white), represent some of the best. Double Primulas were likewise shown well by Messrs. Cannell, the varieties Earl of Beaconsfield (pink), Marchioness of Exeter (white), King of Purples, and Annie Hillier being represented by well-flowered plants (Silver-gilt Banksian Medal).

Mr. Thos. S. Ware, Hale Farm Nurseries, Tottenham, London, showed a few Bulbocodiums in flower in pans, Iris Vartani, also Iris alata, Saintpaulia ionantha, S. i. cœlestis, pale blue, and S. i. rubra, reddish purple. A large plant of Hellebore was extremely well flowered (Vote of Thanks).

A group of Rose-trees in pots, of the variety Enchantress, was exhibited by Messrs. Wm Paul & Son, Waltham Cross Nurseries, Herts. It is described as a winter blooming and bedding variety, being a hybrid between a China and a Tea-scented Rose. The plants were very freely flowered, and the blooms were very pale creamy blush, passing to white (Silver Flora Medal).

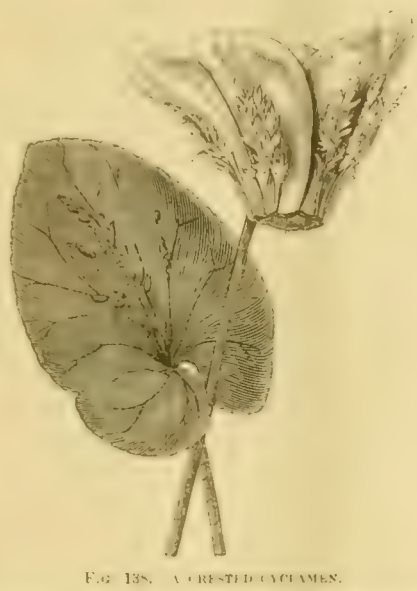


Fig. 138. A crested cyclamen.

See Report of Royal Horticultural Society—Floral Committee—Messrs. Low's exhibit.)

An exhibit of a seasonable character was a group of Orange-trees (Citrus sinensis) and plants of Skimmia Fortunei, shown by Messrs. Wm. Cutbush & Son, Highgate Nurseries, London, N. The Orange-trees were in 6-inch pots, and were well fruited. In similar pots the Skimmias bore a profusion of their well known decorative berries (Silver Banksian Medal).

A circular group of plants of Euphorbia pulcherrima (Poinsettia), shown by Mr. W. Farr, gr. to A. Pears, Esq., Spring Grove House, Isleworth, was remarkable for the good culture evidenced. The plants possessed plenty of healthy foliage, and the bracts were large and good in colour (Silver Flora Medal).

The only exhibit of Cyclamens was one from Messrs. Hugh Low & Co., Bush Hill Park, Enfield. This included a batch of plants representing a capital English strain, and others were from seed obtained last season from Germany. The latter were decidedly inferior in most respects to those we are accustomed to see. Some of the white varieties, however, possessed a little perfume, a quality that is almost lost in our English strains. A white-flowered variety named Bush Hill Pioneer had singular flowers. From the exterior of each petal was produced a fan-like crest, as in fig. 138. Another plant, Majestic, had flowers possessed of ten petals in place of the usual five (Silver Banksian Medal).

A group of small plants of Crotons was shown by Mrs. Wingfield, Ampthill House, Herts (gr., Mr. Empson). These were of good colour; and in addition to a few miscellaneous plants, there was a very well flowered specimen of Lælia anceps (Silver Banksian Medal).

Messrs. Jno. Peed & Sons, Roupell Park Nurseries, Norwood Road, London, S.E., exhibited a group of fine foliage plants consisting principally of well grown Cordylines (Dracænas), &c. (Bronze Banksian Medal).

Messrs. Laing & Sons, Forest Hill, London, S.E., exhibited a few well-grown fine foliage plants, as Dracæna Lindeni, Livistonia rotundifolia, Abutilon Souvenir de Bonn, a pretty variegated kind; and Dracæna Doucetti. There were well-berried plants of Solanum capsicastrum, &c.

Messrs. Young & Dobinson, Stevenage Nurseries, Herts, made a display with Chrysanthemum blooms, a large number of these being shown (Bronze Banksian Medal).

Mr. W. Wells, Earlswood Nurseries, Redhill, exhibited a collection of Chrysanthemum blooms, many varieties being in very commendable condition for such a date (Bronze Banksian Medal). A number of Chrysanthemum blooms was also contributed by Mr. R. Owen, Castle Hill Nurseries, Maidenhead. No awards, however, were taken by any Chrysanthemum at this meeting, except by the variety Christmas Gold, blooms of which were shown by Mr. P. Ladds, Swanley, Kent. It is a fairly large incurving Japanese; colour, bright golden-yellow. An incurved Chrysanthemum, named E. Midford Thompson, was shown by C. F. Thomson, Esq., Penhill Close, Llandaff, Cardiff. A plant bearing four blooms was shown; they are yellow and bronze in colour.

Mr. W. J. Godfrey, Exmouth Nurseries, exhibited three blooms of H. W. Reeman, a very large yellow Japanese Chrysanthemum.

Messrs. Crane & Clarke, March, Cambs, exhibited several varieties of tree Carnations: Deutsche Brant (white), Madame D. Albertina, with very fine pink flower of large size, and W. Robinson. This last-named variety, to which an Award of Merit was recommended, is a pretty crimson flower, compact, and of good form. The grass and the habit of the plant being very satisfactory.

Mr. J. Douglas, Edenside Nurseries, Bookham, also exhibited several perpetual or wintering-flowering Carnations. To one of these an Award of Merit was recommended, being Julian, a very dark velvety-crimson flower, large, but a trifle dull. Winter Bride was the name of a perpetual flowering Carnation, blooms of which were shown by Mr. Jenkins, Hampton Hill, Middlesex. The flowers are large and white, apparently an excellent variety for cutting purposes.

Messrs. James Veitch & Sons, Exotic Nursery, Chelsea, displayed sprays of a number of varieties of their Javanico-jasminiflorum hybrid Rhododendrons, all of which are pretty, and some extremely beautiful. An Award of Merit was recommended to Rhododendron nobilius, a plant of which, bearing a fine truss of bloom, was shown. This is the result of a cross between R. Teysmanni × R. javanicum. The flowers are large, of a pretty yellow colour; anthers purple, and some of the flowers slightly stained with same colour. R. × Little Beauty obtained a similar award. This plant bore smaller flowers, pale red in colour.

Sir Trevor Lawrence, Bart., Burford, Dorking (gr., Mr. Bain), again exhibited spathes of numerous varieties of hybrid Anthuriums, many of them being very attractive; also a few plants in flower of Primula obconica grandiflora (Silver Flora Medal).

Orchid Committee.

Present: Harry J. Veitch, Esq. (in the Chair); and Messrs. J. O'Brien (Hon. Sec.), Baron Schroder, Dr. M. T. Masters, J. Gurney Fowler, C. Winn, Major Mason, T. Statter, E. Hill, J. Douglas, S. Courtauld, H. Ballantine, De B. Crawshay, R. Brooman-White, Fred. Hardy, E. Ashworth, T. W. Bond, W. H. White, H. J. Chapman, W. H. Protheroe, C. J. Lucas, and T. B. Haywood.

For the last meeting in the year a very fine show of Orchids was made, in which the winter-flowering Calanthes formed an important element.

The largest and brightest group was sent by Sir Trevor Lawrence, Bart., the President of the Royal Horticultural Society (gr., Mr. W. H. White), and for it a well-merited Gold Medal was awarded. The group consisted of an amalgamation of two specially interesting selections of Orchids, the one half consisting of the famed Burford hybrid Calanthes, and the other of rare species, and hybrid Orchids of other classes. Among the Calanthes, a number of C. × Burfordiensis were prominent as the darkest and brightest carmine-crimson; C. × Veitchi splendens, rather lighter in colour; C. × Veitchi lactea, clear white; C. × Victoria Regina, a soft pale pink; C. × reverteus, a new tint of carmine-red; C. × Juanita, light rose; and C. × Niveæ, a pure white flower with yellow eye. Among them also were C. × Bryan and C. × Wm Murray, both first raised by Mr. Cookson.

In the other portion of the group were Cypripedium × Lawrebel, C. × Conco-lawre, C. × Fascinator, and other fine hybrid Cypripediums; a good specimen with many spikes of Lælia Murriottiana, an ally of L. furfuracea and L. autumnalis, but distinct from either; an elegant plant of Platyclinis uncata (Botanical Certificate); Masdevallia Veitchi grandiflora, still one of the finest Masdevallias, and singularly enough one of the survivors of the first importation made by Messrs. Veitch, out of which only fourteen plants survived the journey; M. × Henriettæ, M. polysticta, M. pachyura, and the allied M. tridens both very pretty; the graceful, white, fragrant Bulbophyllum auricomum (Botanical Certificate); a fine specimen of Maxillaria lepidota, with a large number of flowers (Cultural Commendation); Zygopetalum Burkei, Cycnoches maculatum; a very pretty hybrid of Cattleya Schilleriana, but of unrecorded parentage. Brassavola venosa (Botanical Certificate), and numerous other interesting things.

Messrs. J. Veitch & Sons, Royal Exotic Nursery, King's Road, Chelsea, showed a very remarkable group of hybrid Orchids, together with some species. The great attraction

was Lælio-Cattleya × Rosalind, which was generally voted second only, from all points, to the admitted best hybrid of the year recently shown by Messrs. Veitch—viz., Lælio-Cattleya × Decia alba. L.-C. × Rosalind (L.-C. × Dominii ♂, C. Trianæi ♀, is remarkable in many ways, and especially on account of its male parent, L.-C. × Domini (L. purpurata × Domini) being still an unique example in Baron Schroder's collection, although raised many years ago. L.-C. × Rosalind, in the size and form of its flower, equals one of the very best type of C. Trianæi. The sepals are cream-white, the broad petals white with a flush of pale rose-pink, except on the margin which is pure white. The showy lip is well-rounded, at the base rich yellow with radiating white veining running into the rich rose-purple front; the side lobes being light-purple veined and bordered with white—a very handsome flower (First-class Certificate). Another fine new hybrid was L.-C. × Semiramis (L. Perini ♀, C. Gaskelliana ♂), with pale lilac sepals and rich plum-coloured front to the lip; and also in the group remarkable were Epidendrum × Endressio-Wallisii, E. × elegantulum; the brilliant Epiphronitis × Veitchi; Cypripedinm × Tityus (Spicerianum × œnanthum superbum), a very dark and richly coloured form; C. × Euryale, many varieties of C. × Leeanum, C. × T. B. Haywood, C. Zeno, C. Arthurianum, C. × Niobe, C. × Sallieri, C. × Oenone, Lælia × Stella, Cymbidium cyperifolium, Selenipedium Boissierianum, &c. The group secured a Silver Flora Medal.

E. Ashworth, Esq., Harefield Hall, Wilmslow, Cheshire (gr., Mr. Holbrook), showed the pure white Lælia pumila alba var. E. Ashworth, described in *Gardeners' Chronicle*, October 10, 1896, and received a First-class Certificate for that charming albino. Also Cypripedium insigne giganteum, a noble variety which was also exhibited by Major Mason, The Firs, Warwick.

Baron Sir H. Schroder, The Dell, Egham (gr., Mr. H. Ballantine), staged a small group of fine cut blooms of Orchids, among which were the very handsome and richly-spotted Odontoglossum crispum Schroderianum, the fine white Lælia anceps Schroderiana; L. a. Stella, L. a. Amesiana, L. a. Chamberlainiana, L. a. Protheroeana, Cypripedium insigne Sanderianum, C. × Galatea, C. × Leeanum superbum, &c. (Vote of Thanks).

J. T. Bennett-Poë, Esq., Holmewood, Cheshunt (gr., Mr. Downes), was awarded a Silver Flora Medal for a very bright group, consisting of excellently cultivated Orchids. Amongst them were noted a fine example of a very dark blue-coloured variety of Vanda cœrulea, some good examples of Calanthe × Veitchi, C. vestita luteo-oculata, and C. V. rubro-oculata, with many spikes to each plant; also fine Lælia autumnalis, L. pumila, Zygopetalum Mackaii, with many stout spikes; Cypripedum insigne Chantini Improved, a good advance on the old form; and a fine hybrid Cypripedum of unrecorded parentage, with very large flowers of the light hue seen in C. × Chas. Canham.

Messrs. F. Sander & Co., St. Albans, staged a good group in which were the greenish Cypripedium × Dauthieri albina, Cypripedium × Saturn (villosum × Leeanum Masereelianum); C. × Lady Wimborne (villosum × Leeanum giganteum); C. × Mons. Elysée Descombes, C. × Alcides, C. × Lynchianum, C. × Adrastus, C. × Leander, and varieties of C. × Leeanum; also Trichopilia brevis, a remarkably pretty species; Lælia autumnalis alba, L. A. delicata, L. Gouldiana; Cattleya chocoensis, Downside variety, white with a small purple spot on the lip. C. Percivaliana amœna, a fine pan of Dendrobium Johnsoni; D. sanguinolentum, Phaio-Calanthe × Arnoldiæ, Cymbidium × Winnianum, and Angræcum polystachys (Vote of Thanks).

Messrs. Hugh Low & Co., Clapton, arranged a group consisting of Cypripedium × Leeanum superbum, Low's var., a pretty and richly-tinted, though not large form, and other varieties of C. × Leeanum. Also C. insigne Dormanianum, Calanthe Veitchi alba, varieties of Lælia anceps, Cypripedium × Arthurianum, C × Harrisianum superbum, Cattleya Bowringiana, Oncidium Krameri, &c. (Vote of Thanks).

Major Joicey, Sunningdale Park, Sunningdale (gr., Mr. Fred. J. Thorne), showed two well-grown and finely-flowered plants of Dendrobium Johnsoniæ.

F. C. Jacomb, Esq., Cheam Park, Cheam (gr., Mr. Turner), showed Odontoglossum × Andersonianum leucochilum, a pretty variety, in which the peculiar feature is the unspotted lip. J. W. Temple, Esq., Leyswood, Groombridge (gr., Mr. Bristow), showed Lælia anceps Amesiana. G. Shirland Ball, Esq., Ashford, Wilmslow, Cheshire (gr., Mr. A. Hey), showed Cypripedium Leeanum magnificum, which has a dorsal sepal measuring more than three inches across; and C. × Swinburnia magnificum. Thos. Statter, Esq., Stand Hall, Whitefield, Manchester (gr., Mr. R. Johnson), showed Cypripedium × Lucienianum superbum, C. × Annamense, and C. × Roberti.

Messrs. Heath & Son, Cheltenham, sent a spike of Zygopetalum × obtained by crossing Z. Mackaii with an Odontoglossum. Z. Mackaii is noted for preserving its individuality in a great degree in seedlings obtained by hybridisation, and in this case there was little evidence of a cross having been effected, the flower being exactly Z. Mackaii so far as the sepals and petals are concerned. The lip, however, showed some evidence of change, it being slightly wavy, and pure white with slight purple-coloured marks at the base and centre. S. G. Lutwyche, Esq., Beckenham (gr., Mr. Paterson), showed hybrid Cypripediums. H. B. Boardman, Esq., Thorn Leigh, Burton, Westmoreland, showed Cattleya labiata and three varieties of Cypripedium, of which a yellow-tinted C. insigne was the most remarkable. J. Bradshaw, Esq., The Grange, Southgate (gr., Mr. Whiffen), showed a group of Odontoglossum, Cymbidium × Winnianum, Cypripedium Charlesworthi, &c. M. Otto Froebel, Zurich, sent cut blooms of Cymbidium giganteum, Odontoglossum × Coradinei, and Cypripedium × Leeanum multi-punctatum. F. W. Moore, Esq., Royal Botanic Gardens, Glasnevin, Dublin, sent Maxillaria setigera

Fruit Committee.

Present: Philip Crowley, Esq., chairman; and Messrs. T. Francis Rivers, Geo. Bunyard, Jos. Cheal, P. C. M. Veitch, G. W. Cummins, A. F. Barron, W. Pope, A. H. Pearson, J. Wright, Alex. Dean, Jno. A. Laing, Chas. Ross, W. Farr, Ch. Herrin, J. W. Bates, Geo. Wythes, F. Q. Lane, H. Balderson, Jas. Smith, G. Reynolds, G. H. Sage, G. Norman, Robt. Fife, and J. Willard.

From Lockinge Gardens, Wantage, the establishment of Lord Wantage (gr., Mr. Fyfe), was exhibited a collection of sixty dishes of Apples, and four dishes of Pears. Most of the varieties exhibited were of first rate quality, and especially creditable being an amateur's productions; but these were in some instances incorrectly named. Some excellent fruits of Dwarf Champion Tomatos were from the same garden, and five good bunches of Muscat of Alexandria Grapes in a well preserved condition (Silver Banksian Medal).

A magnificent exhibit of Apples was contributed by Messrs. T. Rivers & Son, Sawbridgeworth. Upwards of fifty dishes of fine fruits were included in the collection, which embraced both culinary and dessert varieties. A few of the brightest and best looking were the following:—St. Martins, Lane's Prince Albert, King of Tomkins County, King of the Pippins, Sandringham, Cox's Orange Pippin, Mannington Pearmain, Fearn's Pippin, Bryon, Washington, Blenheim Orange, Gascoigne's Scarlet Seedling, and some large specimens of Emperor Alexander (Silver Knightian Medal).

Messrs. Jno. Laing & Sons, Forest Hill Nurseries, London, S.E., staged an exhibit of nearly fifty varieties of Apples, including some of the very best of existing varieties (Silver Banksian Medal).

In the competition for the best-flavoured dishes of Apples and Pears there was again a very satisfactory competition. The best Pear was Winter Nelis, shown by Col. Brymer M.P., Ilsington House, Dorchester (gr., Mr. J. Powell). The fruit was taken from a tree grown on the Pear stock, in light soil on chalk on a wall with west aspect. Glou Morceau won 2nd prize for Mr. W. Cotterill, The Gardens, Oxon Hoath Park, Tonbridge. These were also from trees upon the Pear stock, against wall with west aspect, but planted in heavy loam. Cox's Orange Pippin was the best Apple, and the fruits were gathered from six-year-old pyramids upon Paradise Stock; trees were planted in an exposed situation, upon a southern slope, in shallow loam on limestone. The exhibitor was J. Coleman, Esq., Gatton Park (gr., Mr. W. King). Col. Brymer took 2nd prize, with a dish of fine fruits of Blenheim Orange Pippin, from orchard standards in light soil on chalk. Mr. J. Smith, gr. to Lord Rosebery, at Mentmore, exhibited a bunch each of Grapes, Lady Hutt, and Appley Towers. These new Grapes were both good in quality and had been well grown (Cultural Commendation).

From Frogmore, Mr. Owen Thomas exhibited some haulm and fruits of Tomato, Frogmore Selected, which went to prove the variety's adaptability for winter fruiting. A quantity of fruits of Farr's All-the Year-Round Tomato was shown by Mr. Farr, Spring Grove House Gardens, Isleworth. Although the fruits are small, this variety is a very useful one for continuous cropping (Cultural Commendation). Messrs. Young & Dobinson, Stevenage, had fruits of their Tomato Young's Eclipse. Mr. W. J. Empson, gr. to Mrs. Wingfield, Ampthill, showed Capsicum fruits of the variety Codinas Mammoth.

Mr. A. Dean exhibited a very light and useful box for the winter storing of Seed Potatos, similar to those used by the Surrey County Council. They cost about sixpence each, hold 12 lb. to 14 lb. of tubers, and are capable of being placed one upon another.

The Secretary of the Beckenham Horticultural Society exhibited a number of paper trays and dishes which that Society use for displaying fruit, &c., at exhibitions. They are cheap, being but four shillings and sixpence per hundred. If they were made a little stronger they would be more useful.

A new Pear exhibited by Mr. W. Allan, Gunton Park, and named President Baralie, was declared to be promising, and it is probable that an Award of Merit would have been recommended had there been six fruits exhibited instead of three.

EDINBURGH BOTANICAL.

December 10.—The above Society met at 5, St. Andrew Square, Edinburgh, on the above date, Dr. A. P. Aitken, President, in the chair. Mr. J. A. Terras, B.Sc., gave an interesting communication, entitled "Some Azerophytic Adaptations"(?), and illustrated his paper by some fine slides of succulent plants, &c. In the meteorological notes from the Royal Botanic Gardens, Mr. A. D. Richardson gave the following items for November. Barometer readings, highest, 30·555 on the 25th; lowest, 29·026 on the 14th. Mean of month, 30·045, being 0·288 above the average. Shade temperatures, highest, 53·2 on the 22nd; lowest, 24·9 on the 30th. Frost occurred on five days. Hygrometer: Mean of dry bulb, 41·7°; mean of wet bulb, 40·2°. Radiation thermometers: highest in sun, 86·2°, on the 3rd; lowest on grass, 12·1°, on the 30th. Frost occurred on the grass on fourteen days. Sunshine: Total for month, 22·8 hours Sunniest day on the 3rd, with 6·5 hours; fifteen sunless days occurred. Total rainfall for month was 0·530 inch, greatest fall for one day being 0·110 inch, on the 6th. Rain fell on thirteen days.

Mr. R. J. Harrow gave the usual notes on plants in the plant houses, after which the meeting concluded.

TAUNTON FLOWER SHOW: ANNUAL MEETING.

December 8.—The annual meeting of the members of the Taunton Horticultural and Floricultural Society was held at the Guildhall on Tuesday evening. The Mayor (Alderman Lock) presided.

Mr. Clements presented the balance-sheet, which showed that the receipts were £694 10*s.*, and included £17 19*s.* 2*d.* balance from last year, and £425 18*s.* 3*d.* gate receipts, the latter being a record. As a result of the show, they had a balance in hand of £80 19*s.* 4*d.*

THE POTATO TERCENTENARY.

December 9.—The conference, inaugurated by the Irish Gardeners' Association, and the opening of which was briefly noticed in our issue for Dec. 12, was formally opened by the president—Mr. A. O. Watkins—with the delivery of an address, in which he explained the aims and objects of the association, and made special reference to the fact that the committee had recently decided to establish a Gardeners' Benevolent Fund for Ireland. The proceeds of the conference would be devoted to the starting of this fund, and it had also been decided to make an appeal to the generous public for subscriptions or donations in aid thereof. In support of this appeal, Mr. Watkins said:—"A gardener is just as much a victim to the ills and misfortunes of life as the rest of mankind. He has to work from early morning till late at night in all weathers, and is subject to heat and cold more, perhaps, than is experienced by those following any other calling or profession; and, what is worst of all, in the majority of cases he enjoys but a poor remuneration, and, as a rule, has a large family to support; struggling on year by year, unable to save anything for his old age or the vicissitudes of life. I therefore hope we may be successful in obtaining a good round sum, to be securely invested, and its interest to be applied as follows:—1. For the relief of members during sickness. 2. For insuring money to be paid on the death of a member, or for funeral expenses on the death of a member's wife. 3. To assist members when in distressed circumstances. 4. To provide a pension for old age."

Lord Powerscourt.—On the motion of the President, the chair was then taken by Lord Powerscourt who, in the course of an instructive address, said—We are met here to-day to celebrate the fact that three hundred years have elapsed since Queen Elizabeth's great courtier, Sir Walter Raleigh, conferred upon Europe perhaps two of the greatest benefits that we know of. It is a curious thing that this island has been the theatre of so many occurrences which have made great marks upon the world. Here is a proof, among others, that Ireland is fitted, with her mild climate and fertile soil, for the production of many things of great use, if that soil is properly cultivated. I am afraid we have not sufficient heat here for the production of fine tobacco, but a coarse kind has lately been grown with some measure of success. I understand that it is contemplated to try a vineyard in the south of Ireland—I do not see why it is not worth trying. Since Sir Walter Raleigh's time the Potato has become specially the food of the Irish people. There is, I think it will be conceded, no esculent in general use to compare with the Potato, except the Onion, and what a combination these two make—an Irish stew! That is a dish which, whether as an article of food or a question of politics, we are tolerably familiar with. We are not concerned with politics here, but with Sir Walter Raleigh's great gift to Europe. The Potato has had many vicissitudes, and the crop has been subject to failure from causes which I will advert to presently, and which have in Ireland, in former years, resulted in national calamity. That was not the fault of the Potato, but mainly the fault of ignorant cultivation, combined with occurrence of inclement seasons in 1847 and 1848. These were ruinous seasons, and there was no means of communication through the country. The same conditions are occurring now in India. In districts where railways and telegraphs are provided, relief can easily be afforded, and I believe that such a famine as occurred in Ireland in those years would now be quite impossible, as relief would always be near, and besides, there are many organisations which were totally absent in those days, that would prevent the possibility of such an occurrence. With careful cultivation and saving the crop early it might never occur in these days. No man, woman, or child nowadays is content with the midday or evening meal unless Potatos form part of it. Whether it is the poor man, who consumes his frugal meal, or the epicure, whose table is laden with dishes, there will never be found a table where the Potato is not part of its garnishing, and it is capable of being cooked in more different ways than any other vegetable. I am old enough to remember the time of the famine in 1847-48, when as a child I recollect being told that we were not to eat Potatos, but to keep them and give them to the poor. There was a sort of bread made from Potatos in those days, mixed with flour or Indian meal to eke out

the failing crop. Thank God, those days can never return. In our unions the schoolmasters are generally agriculturists as well, as also in the national schools, and the young idea is taught in those places how to farm and cultivate the Potato among other things. These agricultural teachings fostered by the State, are of incalculable benefit, as making the children, to some extent at all events, less dependent and helpless in these matters than was formerly the case. They go out into the world, whether to the farms where they were born, or perhaps to some foreign country, with an amount of useful knowledge which makes them able to make their way wherever their lot may be cast. They are taught, which was not the case in the famine years, that it is fatal to the Potato, as to any other crop, to cultivate it for years in succession on the same patch of ground and from the same seed. That was the main cause of the famine. This practice, nevertheless, prevails to a great extent still, I fear, among the small farmers and labourers; but if they do this they have only themselves to blame for the failure of the crop, with this knowledge imparted to them freely in the schools. The Government do their part; it is for the people themselves to do the rest. Another practice which is, I am afraid, still very common is to let the Potatos lie in the ground long after they are ripe. I have seen on small farms and labourers' plots often that the Potatos are only dug day by day as required for consumption at the moment. But the most important thing to prevent disease is to spray the Potatos. Since this new system has been introduced it has been proved to be the greatest possible preventive of disease. I had my Potatos sprayed this year twice, and there was practically no disease in them at all. As to my own Potatos, I find that the Champion still holds the field the Potato field -against all others; but the Beauty of Bute, Antrim, and others also do well. I imported this year from England a variety called Stourbridge Glory. It is a kidney Potato, and looks well. I have not yet had an opportunity of testing it, but it had a good reputation on the Earl of Dartmouth's farm near Wolverhampton. Lady Cadogan gave me some seed of a curious garden Potato, a specimen of which is in this exhibition. It is called Batatas Verosa, is a very good eatable Potato, and is imported, I believe, from France.

Mr. W. COTTER then read his paper on "The Past, Present, and Future of the Potato." The present is with us, and we are once more, as it were, at the parting of the ways. The Champion, like all its progenitors, is getting worn out in the service, and all good judges agree that we require something to replace it. Many varieties are spoken of and recommended; but I regret to say that so far I can see nothing to take up the place of the Champion as the poor man's Potato. Such varieties of Beauty of Bute, Magnum Bonum, The Bruce, Up-to-Date, &c., &c., produce satisfactory results when cultivated under certain conditions as to soil, climate, &c. The Champion in its day produced great crops—I was going to say without soil or climate; but, anyway, under the worst possible conditions. Will any of the varieties now to the fore produce, under equally varied circumstances, results at all equal to the Champion? I doubt it very much. The man who produces the first Potato to come up to the Champion will be the friend and benefactor of his kind. I take it our main duty here will be to compare notes, and from this conference I earnestly hope something practical may spring, resulting in lasting advantage to Potato-growers. Now, given good, sound seed Potatos, good and generous cultivation, the scientist has placed within our reach the means to, shall I say effectually, combat the Potato disease. Many, no doubt, think this is chimerical. I am fairly observant. I have had large experience in Potato growing, and I am confident I say no more than what is true, that with an intelligent use of the material and appliances for dressing Potatos we may in time succeed in completely combating the ravages of the Potato disease.

Talking about Potato disease, let me give you an illustration. Thanks to the courtesy and kindness of the superintendent of the Model Farm at Glasnevin, Mr. Clune, I followed closely the treatment of the Potatos there this past season. One large plot especially was an object of great interest; alternately a number of drills were dressed, and an equal number side by side left without dressing. This was continued over the whole plot. When the disease made its appearance the undressed Potatos were at once attacked, and long after every vestige of the foliage was destroyed by the disease, the sprayed or dressed Potatos were green and growing, clearly proving the value of the dressing. I, for one, at least have no doubt but with a long pull, and a strong pull, and a pull all together that we will finally free our Potatos from disease.

Now for the future. I want to emphasise an idea that for years has been passing in my mind. We grow in Ireland annually between 800,000 and 900,000 acres of Potatos, and putting the average at 8 tons to the acre, we get a gross tonnage of 7,000,000 tons. Just think of the labour involved in raising and storing this huge bulk of stuff. Rid of 75 per cent. of water, you would have a tonnage of something over 1,750,000 tons to remove. The Potato, divorced from this 75 per cent. of water, gives a flour that is equally valuable as Wheat in its leading food constituents, and more valuable in others. Now, for illustration sake, we will assume that our population is 5,000,000, and that for each man, woman, and child we allow, say, half a pound of this Potato flour for each person daily: we get 187½ lbs. per head of our population as the annual requirement, or about 437,000 tons as the quantity required for one year's supply, leaving us with a three years' supply in hand, and leaving us with 900,000 acres of land for other crops during the ensuing three years. I hold that no one should eat Potatos more than once daily, and that meal should be accompanied with a good ration of meat and other vegetables. The labour and expense involved in the annual growth of 900,000 acres of Potatos is something immense, and the cost very heavy; it can hardly be less than between six and seven millions of money. The heedless way in which the crop is wasted is something fearful to contemplate. Fully one-half the Potatos, from a food point of view, are lost; consequently three to three-and-a-half millions of money, if not much more, is wasted upon the crop annually. According to my plan, one quarter the land will raise all we require in the way of Potatos; three-fourths of the land will remain for other crops; and a vast amount of labour would be saved to the people, which, devoted to other farming works, will tend to largely increase the wealth of the country, as well as having land and labour to produce cereals to take the place of Potatos in our domestic economy. With the money and labour saved from the great waste, large mills, with drying and other machinery for the preparation of the Potato-flour, could be erected, where, at a small cost, the people could send their Potatos to be dried. If any surplus was left over, markets could be found in Africa, India, all tropical countries, and in the very cold parts of the world, where Potatos are looked upon almost as a priceless luxury. I myself have sold preserved Potatos to go to the Fraser River and Alaskan Territories, &c. at a shipping cost of £32 to £34 per ton. On this principle a family of four would consume about 2 cwt. of Potatos, minus 21 cwt. of water, in twelve months, reduced to Potato-flour this would give 7 cwt., which would be contained in 5 barrels, such as we got our American flour in years ago. Some will say the Potatos would be spoiled. Nothing of the sort, only the water would be evaporated; and as soon as you had added 84 lbs. of water to 28 lbs. Potatos you get the article in its pristine excellence again. To show the waste in Potatos; in November the farina produced from 240 lb. was 38 to 45, the following May 28 to 20—fully a loss of 40 per cent. of the food value; and as soon as the period of growth fully sets in the Potato loses all food value, the starch and saccharine being turned into water. The process of universally drying Potatos may prove worthy the attention of those who are interested in laying by a large food supply to meet eventualities in case of war. It will be urged that our people are not prepared to adopt a new plan of this kind. I admit it; but in dealing with the future of the Potato it is within the scope of this meeting to consider it rather in an entirely new aspect, and let us hope that ere the arrival of the second tercentenary of this very excellent esculent the Irish housewife will be well instructed in domestic and household economy and the husband will be instructed in the newer and more scientific method of treating his crops; and that working hand in hand, a happier state of things for all concerned may be the result, is the warmest wish, as no doubt it is of yours, of the writer of this paper.

PROFESSOR JOHNSON then read an exhaustive paper on "Potatos and Potato Products."

In the Potato plant, especially as cultivated, the excess of starch and of proteids passes down in a soluble form from the leaves through the aërial stem by the veins into the underground stems or tubers (not the roots), there to be stored up for the plant's own subsequent use. The Potato tuber, though an underground stem, as being a storehouse of food matter very little woody tissue it is mainly composed of thin walled cells, filled with starch for the most part. The more mealy a Potato is the greater is the amount of starch in it. Towards the surface of the tuber the cells contain less starch, and show a relatively larger amount of proteid matter stored up. At the surface the tuber is protected by a more or less thick, impervious coat of corky tissue. Being a stem, it is not surprising to find that the tuber has here and there on its surface buds, or dormant shoots, the well known eyes. From the plant point of view the tuber is an admirable provision for the formation of new Potato plants—for what is called vegetative reproduction. In this connection I may refer to the question of the kind of "set" to be planted. M. Girard, probably the leading scientific authority on the cultivation of the Potato plant, made experiments in the years 1891, 1892, and 1893, and his results are summarised in the *Journal of the Board of Agriculture* for December, 1894. M. Girard's experiments led him to conclude: 1. The maximum crop is obtained by planting entire tubers of medium weight (3½ ozs.). 2. The crop is diminished about 30 per cent. if such tubers are cut into two portions. 3. The crop is diminished, with rare exceptions, about 20 per cent. by planting cut seed weighing 3½ ozs. from whole tubers weighing 7 ozs. or 10½ ozs. 4. If two or three small tubers, weighing in all 3½ ozs., are planted together, the crop is on the average from 5 to 10 per cent. less than that obtained by planting whole tubers of medium weight. Of the different systems of planting tested, in the case of five different varieties (Richter's Imperator, Athens, Blue Giant, Idaho, Gelbe Rose) in the experiments recorded above the most effective is undoubtedly that of planting entire tubers of medium weight—that is to say, of about 3½ ozs. for those varieties which yield large crops. This is the method which M. Gerard recommends should always be adopted, if possible, by the cultivator, although almost equally satisfactory results may be obtained by the next best method, which consists in planting together two tubers of about half the medium weight, or weighing about 1¾ ozs. each. If, instead of such two tubers, three very small ones are placed together, a smaller yield is obtained. The planting of cut seed should, in M. Girard's opinion, be regarded as a last resource, since it always results in a reduction of the normal yield by 20 to 30 per cent. During dry years especially the results of cutting tubers may prove disastrous. In 1893, some of M. Girard's co-workers who adopted this method lost the whole of their crop, and the following example is given as a case in point.

In 1893 M. Girard planted half an acre of Blue Giant Potatos. With the intention of showing the fallacy of the announcement of a well-known agriculturist, that magnificent results could be obtained by planting cut tubers of this variety, a strip 4½ yards wide and 63 yards long, was planted in the middle of the half-acre piece with slices of large tubers cut into four pieces in the approved manner. Of 789 plants set in this manner only thirty-eight grew, yielding a crop of only 11·3 cwts. per acre; the yield of the rest of the field, which had been planted with entire tubers of medium size, being 10·7 tons per acre. When reading the report of the evidence given before the Financial Relation Commission I was surprised at the low average yield which Dr. Grimshaw, the Registrar General (Q. 2806), gives for Ireland—3½ tons per acre. This is, I find, very nearly the same as the average for the whole of the United Kingdom—3¾ tons per acre (a little more than 12 million tons for a little less than 1¼ million acres), though in Germany the yield is nearly 11 tons per acre. On asking a Potato-grower and merchant in South Yorkshire what was regarded as an average yield per acre in his district he told me the average on his farm was above 10 tons an acre; that 7 to 8 tons per acre of Giants or of Bruce was the average in North Notts, Lincolnshire, and South Yorkshire. He mentioned two cases where "Findlay's Up to Date" yielded above 20 tons per acre. We may, I think, take it that the German excess of 1 ton per acre is not wholly due to advantages of climate and natural fertility of the soil. As bearing on this question of the yield per acre, I may quote the following paragraph from Sir J. H. Gilbert's report on the "Growth of Potatos at Rothamsted, 1888": "For Ireland the estimates show an average yield per acre of less than 4 tons, against more than 6 tons in Great Britain. It may be mentioned that the yield per acre given for Ireland, where the Potato is still of great importance as a supply of food for the people, is less than twice as much as was obtained at Rothamsted, over twelve years in succession on the same land, without any manure; it is scarcely more than was obtained by mineral manure alone; and considerably less than two-thirds as much as was yielded by mineral and nitrogenous manures together. It is clear, therefore, that the condition of the land, the cultivation, and the treatment of the crop are in Ireland much inferior to those in the rest of the United Kingdom."

What, we may ask, is the value of the Potato, looked at from an economic point of view? What is its value as an article of food for man and beast? Chemical analysis long ago showed that in 100 parts by weight of a Potato tuber, 75 parts are water, 25 parts are dry matter, of which about 20 are chiefly starch. Only 1 part is mineral matter, of which ·15 is phosphate ·25 nitrogenous, ·55 potash, and the lime is very little. Thus, three-quarters of a Potato is water, less than a quarter is starch, and only one hundredth part consists of nitrates, phosphates, and lime substances so absolutely essential in the formation of brain, flesh, and bone. Man is often compared to an engine, doing work, expending energy, and as a precedent necessity, consuming a certain amount of fuel. An average man loses daily (in 24 hours) six pounds of water, about half a pound (4,000 grains) of carbon, about half an ounce (300 grains) of nitrogen, and nearer an ounce (400 grains) of mineral matter. These losses must be made good if man is to carry on his work. It is well known that different articles of food contain the necessary elements in different proportions, and that a mixed diet, consisting of bread, milk, flesh, fish, fowl, Potatos, butter, water, &c., is considered the best for man. As man must have 300 grains of nitrogen in his food daily, Potatos alone are a very unsuitable article of food. To get this nitrogen he must eat 14 pounds of Potato—a most unnecessary and wasteful operation, involving an enormous amount of absorption and more or less complete digestion of unneeded starch, &c. The more mealy the Potato the less the amount of nitrogen in it, the more watery the Potato (conditions of cooking, &c., being the same) the more nitrogen it contains. The mealy Potato, the prize-taker at an agricultural show, is the Potato for the rich man; the watery, the one for the poor man, if he cannot afford to buy his mixed diet. It is of interest to note that as the nitrogen containing material is more stored near the surface, the custom of this country of cooking the Potatos in their skins is justifiable on economical grounds alone. Thick Potato peelings carry away nearly all the nitrogen compounds to be found in a Potato. Two pounds of bread and three-quarters of a pound of meat are equal to 10 to 12 pounds of Potato, and need much less digestion. As we eat, or should eat, simply to give ourselves the energy necessary for the performance of our daily duties, it is of great importance that our digestive apparatus should not be called upon to do unnecessary work.

The Potato crop is one of the heaviest starch producing crops, nearly the whole of the tuber coming from the water of the soil and the carbonic acid of the air, two bodies both abundantly and freely provided by nature. As an article of food the Potato's place is in a mixed diet. Other economic uses of the Potato are well summarised in Dr. Kane's "Industrial Resources of Ireland," published in 1844: —"It is certain that on the western coast of Ireland the humidity of the atmosphere is such as on an average of years may present a serious obstacle to the ripening of Corn crops and the safe completion of the harvest; but it is also certain that the tendency to adopt grazing in preference to tillage agriculture as a pursuit is much more connected with the habits of the agricultural classes than with the nature of the

soil or the character of the climate. Mere industry has been in Ireland, for many generations, connected with the idea of a vulgar and depressed cast. The possession of the land with perfect idleness constituted in itself the criterion of respectability. These ideas have been already very considerably disturbed. Its vast productiveness has multiplied Potatos in Ireland, so that they form the basis of the subsistence of the entire country. That is an evil, for a social condition where each family, or nearly each individual, has his field, which furnishes his immediate nutriment, without any necessity for marketing, without the assistance of the miller or the baker, without occasion to demand assistance from his neighbours that society is deficient in the elements most necessary to the progress of its civilisation. Of all the starch-bearing plants, the Potato is that which affords the greatest quantity of produce from a given surface of land. The different varieties differ, however, very much, and the following table will indicate exactly the circumstances of the most important kinds. The plants were grown all on the same quality of land, and the analyses are by Payen, the eminent French agricultural chemist :—

Varieties.	1 cwt. seed produced.	1 statute acre produced.	100 parts contained		
			Water.	Starch.	Gluten and Fibre.
	cwt.	tons.			
Roban ..	58	14½	75·2	16·6	8·2
Large Yellow .	37	9¼	68·7	23·3	8·0
Scotch ..	32	8	69·8	22·0	8·2
Slow Island ..	56	14	79·4	12·8	8·3
Legonzac	32	8	71·2	20·5	8·3
Siberian .	40	10	77·8	14·0	8·2
Duvillers .	40	10	78·3	13·6	8·1

"These results show that the quantity of starch is not largest necessarily in those varieties which yield the greatest weight of tubers. Thus, an acre of large, yellow Potatos, which gives but 9¼ tons of tubers, produces 2 tons 3 cwt. of starch, whilst the acre of Slow Island Potatos—which produces 14 tons of tubers—gives only 1 ton 15 cwt. of starch. In cultivating the plant for the purpose of extracting this material, it is, therefore, of the greatest importance to attend to the existence of these varieties. The preparation of starch from the Potato is an operation of very simple kind, and well adapted for the industry of the smaller towns where Potatos would be usually cheap. It requires only the most ordinary skill, and involves little machinery—the greatest nicety in it being perfect cleanliness, and care that the washings be well finished, and with pure water. The operations of the manufacture are :—1st. Washing the tubers; 2nd. Rasping them to a pulp; 3rd. Pressing the pulp; 4th. Washing the rough starch; 5th. Draining and drying the produce; 6th. Bolting and storing. . . . . It is necessary to add some valuation of the money circumstances of this manufacture. An acre of Potatos, very well manured and on good land, may be considered to produce nine tons of Potatos, which may be taken as worth £15. From such Potatos it may be expected that, with proper care, 15 per cent. of pure starch may be extracted, and hence, from the nine tons, 27 cwt. The market price of the Potato starch is variable; it has been 30s. per cwt., but it only on rare occasions falls below 20s. Taking it at 20s., the value of the produce of the acre becomes £27, leaving for cost of manufacture and profit £12, and of this certainly a large proportion should be profit. I do not think I value the Potatos too low, as, of course, the manufacturer, if not himself the grower, would purchase for store at proper seasons, and avail himself of the lowest terms. But this calculation of advantage supposes the starch to be the only valuable matter extracted from the Potato, which is far from being the case." "If the residual pulp be properly economised, it is evident that the cost of growing the Potatos may be materially diminished. The atmosphere in itself furnishes, in fact, the carbonic acid and (indirectly) water from which the starch is formed, and if the matters taken from the soil in each crop be returned to it in the residues of the manufacture, the cost of manure, so heavy for this particular plant, may be almost entirely obviated. In this country, where the extensive use and culture of the Potato have become almost a national characteristic; where labour not requiring considerable skill is to be had so cheap; where Potatos are at their minimum price; it is not merely to be regretted, but absolutely disgraceful to ourselves, that we import from Scotland and from France a large quantity of the Potato starch to be consumed in Ireland." I may mention that of the ten million tons of Potatos annually raised in France, four millions, or nearly one-half, are used in the manufacture of starch and of alcohol. The Germans are investigating the relative starch producing powers of different varieties. Potato starch is used on the continent and in England for many other purposes, not a few of which are of the nature of adulteration. *Condensed from the "Irish Farmers' Gazette."* (*To be continued.*)

Obituary.

CHARLES PROSPER VAN GEERT.—It is with much regret that we have to announce the death at Antwerp, on the 12th inst., of M. Charles Van Geert, in his seventy-ninth year. M. Van Geert was an eminent nurseryman, well known to many in this country, who admired his amiable, straightforward character and bright intelligence.

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (−) the Mean for the week ending December 12.	Accumulated. Above 42° for the Week.	Accumulated. Below 42° for the Week.	Accumulated. Above 42°, difference from Mean since December 29, 1895.	Accumulated. Below 42°, difference from Mean since December 29, 1895.	Rainfall. More (+) or less (−) than Mean for the Week.	Rainfall. No. of Rainy Days since Dec. 29, 1895.	Rainfall. Total Fall since Jan. 1, 1896.	Bright Sun. Percentage of possible Duration for the Week.	Bright Sun. Percentage of possible Duration since Dec. 29, 1895.
	Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch.		Ins.			
0 3 +	8	20	+ 172	− 281	4 −	236	52·5	4	23	
1 2 +	4	25	+ 86	− 186	6 +	198	27·8	1	29	
2 2 +	8	18	+ 137	− 173	2 +	182	23·3	2	28	
3 3 +	11	23	+ 78	− 141	2 +	175	23·9	3	34	
4 2 +	10	26	+ 60	− 152	2 +	171	23·4	6	31	
5 2 +	25	9	+ 177	− 183	1 +	161	24·3	12	37	
6 2 +	19	18	+ 169	− 170	6 +	205	42·6	7	31	
7 2 +	18	10	+ 229	− 192	5 +	188	32·7	3	31	
8 1 +	24	8	+ 240	− 108	6 +	171	30·5	25	40	
00 aver	10	27	+ 174	− 158	2 +	213	36·9	26	28	
100 aver	27	15	+ 242	− 132	9 +	185	33·5	31	33	
* 2 +	39	0	+ 334	− 110	4 +	190	27·9	25	44	

The districts indicated by number in the first column are the following :—

0, Scotland N. *Principal Wheat-producing Districts* — 1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S. *Principal Grazing, &c., Districts* — 6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending December 12, is furnished from the Meteorological Office :—

"The *weather* during this period has been very dull, squally, and rainy, but brief intervals of clear sky occurred at times, especially in the west.

"The *temperature* was a little above the mean over Great Britain, but just equal to it in Ireland. The highest of the maxima were recorded about the middle of the week, and ranged from 53° in the 'Channel Islands,' to 49° in 'Scotland, E. and W.' The lowest of the minima, which were registered on rather irregular dates, varied from 27° in 'Ireland, S.,' and 28° in 'England, S.W.' and 'Scotland, E.,' to 33° in 'England, N.W.,' and to 39° in the 'Channel Islands.'

"The *rainfall* exceeded the mean in all districts except 'Scotland, N.;' in most of the western districts, and in 'Scotland, E.,' the excess was considerable.

"The *bright sunshine* was very little prevalent, but exceeded the mean in Ireland and in 'England, S.W.' The percentage of the possible amount of duration ranged from 3 in 'Ireland, S.,' to 12 in 'England, S.,' and to only 1 in 'Scotland, E.'"

MARKETS.

COVENT GARDEN, DECEMBER 17.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Adiantum, per doz.	4 0	12 0
Aspidistras, per doz.	12 0	30 0
— specimen, each	5 0	15 0
Chrysanthemums, per doz. ...	6 0	12 0
— specimen plants, each	1 6	2 6
Cinerarias, per doz	9 0	12 0
Cyclamens, per doz.	12 0	18 0
Dracænas, each ...	1 0	7 6
— various, p. doz.	12 0	24 0
Evergreen Shrubs, in variety, doz....	6 0	24 0
Ericas, p. doz. ...	10 0	12 0
Ericas, hyemalis, per doz.	12 0	15 0
Ferns, small, doz....	1 0	2 0
— various, doz.	5 0	12 0
Ficus elastica, each	1 0	7 6
Foliage plants, per doz.	12 0	36 0
Hyacinths, dz. pots	9 0	12 0
Marguerites, p. doz.	8 0	12 0
Palms, various, ea.	2 0	10 0
— specimens, ea.	10 6	84 0
Poinsettias, per doz.	12 0	18 0
Solanums, p. doz....	12 0	15 0
Tulips, per doz. pots	6 0	9 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Anemone, doz. bun.	1 6	2 6
Arums, p. 12 blooms	4 0	6 0
Bouvardias, per bn.	0 6	0 9
Carnations, pr. doz. blooms	1 0	2 6
Chrysanthemums, doz. bun.	4 0	9 0
— doz. blooms	1 6	6 0
Eucharis, per dozen	2 6	4 0
Hyacinths (Roman), doz. sprays ...	1 0	1 6
Lilac, wh. (French), per bunch ...	3 6	5 0
Lilium Harrisi, per doz. blooms ...	5 0	9 0
— lancifolium, doz. blooms ...	2 0	3 0
Lily of the Valley, dozen sprays ...	1 0	2 0
Maidenhair Fern, per 12 bunches ...	4 0	8 0
Marguerites, per 12 bunches	2 0	4 0
Mignonette, per doz. bunches ...	4 0	6 0
Mimosa (French), per bunch ...	1 0	1 6
Orchids :—		
Cattleya, 12 blms.	6 0	12 0
Odontoglossum crispum, 12 bm.	2 0	6 0
Pelargoniums, scarlet, per 12 bun.	4 0	8 0
— per 12 sprays...	0 6	0 9
Poinsettias, per doz. blooms	9 0	15 0
Pyrethrums, 12 bu.	2 0	4 0
Roses (French), per doz. blooms ...	1 0	2 0
— Tea, per doz. ...	0 9	1 6
— yellow (Maréchal), per doz.	6 0	9 0
— red, per dozen	1 0	2 0
— pink, per doz.	3 0	4 0
— Safrano, p. doz.	1 0	2 0
Tuberoses, 12 blms.	0 6	1 0
Tulips, per doz. ...	0 9	2 0
Violets (Fr.) Parme, per bunch	2 6	4 0
— — Czar, per bunch	2 0	3 0
— — doz. bun.	1 6	2 0
— (Eng.), per doz. bun.	1 6	2 6

ORCHID-BLOOM in variety.

These prices will be exceeded during the Christmas time.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Apples, Blenheims, per ½-sieve ...	2 0	2 6
— Cox's Orange, per ½-sieve ...	5 0	6 0
— Wellingtons, per sieve ...	5 0	6 0
— Ordinary kinds, per sieve... ...	2 0	3 0
Grapes, Alicante, 1st quality, per lb.	1 3	1 9
— Alicante, 2nd quality, per lb.	1 0	1 2
— Gros Colman, selected, p. lb.	1 9	0 2
Grapes, Gros Colmar, per lb. ...	1 3	1 6
— Muscat, 2nd qual., p. lb. ...	2 0	2 6
— Gros Colman, 2nd qual., per lb.	1 0	—
— Muscats, English, 1st quality per lb.	3 6	4 6
Nuts, Cob, per 100 lb. ...	60 0	65 0
Pine-apples, St. Michael, each ...	3 0	6 6

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d.	s. d.
Artichokes, Globe, per doz. ...	2 6	3 0
— Chinese (Stachys tuberifera), per lb.	0 4	—
Beans, French, Channel Is., per lb. ...	1 4	1 6
— Madeira Kidney, per box, 8 to 10 lb. ...	3 0	4 0
Cauliflowers, p. tally of 5 doz.	5 0	7 6
Cucumbers, home-grown, per dz.	6 0	8 0
Mushrooms, (Indoor) per lb.	0 6	—
— (French), per lb.	0 4	0 6
Sea Kale, per punnet, 3½ to 4 lb. weight	0 1	1 3
Tomatos, home-grown, smooth, per doz. lb. ..	3 0	3 6
selected ...	5 0	6 0
— ordinary kinds, do.	1 6	2 0
— Canary Islands, per case, about 12 lb.	3 6	5 6

SEEDS.

LONDON: *Dec.* 16.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maize Pond, Borough, London, S.E., write that to-day's seed market, as might have been expected, presented quite a holiday aspect. Indeed, as is usual at this season, somnolency has now altogether taken possession of Clover and grass-seeds, meanwhile values all round, keep surprisingly firm. Winter Tares being good and cheap, are attracting some speculative attention. Mustard and Rape-seed keep steady. The new American Haricots just landed, are in fair request at the tempting rates current. There is no change in Wisconsin Peas. Scarlet Runner and Canadian Wonder Beans offer at reasonable figures. The bird-seed trade presents no fresh feature.

FRUIT AND VEGETABLES.

GLASGOW: *December* 16.—The following are the averages of the prices current at market during the past week :—Fruit: Pears, 6*d.* per lb.; Apples, 1*s.* to 2*s.* per stone; Tomatos, Guernsey, 5*d.* per lb.; do., Scotch, 6½*d.* do.; Grapes, home, 1*s.* to 2*s.* do.; do., foreign, 4*d.* to 6*d.* do. Vegetables: Turnips, white, 2*s.* to 2*s.* 6*d.* per dozen bunches; Swedes, 1*s.* per cwt.; Savoys, 1*s.* to 1*s.* 3*d.* per dozen; Cabbages, 6*d.* to 8*d.* do.; do, late, do. 10*d.* to 1*s.* 6*d.* do.; do., Red, 2*s.* 6*d.* to 3*s.* do.; Cauliflowers, Dublin, 2*s.* to 2*s.* 6*d.* per dozen; Parsnips, 4*s.* 6*d.* per cwt.; Herbs, assorted, 1*d.* to 2*d.* per bunch; Mint, 6*d.* per bunch; Onions, Dutch, 3*s.* per bag; do., Globe, 3*s.* to 3*s.* 6*d.* per cwt.: do., Portugal, 1*s.* per stone; Parsley, 5*s.* to 6*s.* per cwt.; Greens, 4*d.* per bunch; Celery, table, 1*s.* to 2*s.* per bundle; do., common, 9*d.* to 1*s.* do.; Potatos, best, 8*d.* per stone; Carrots, 2*s.* 6*d.* to 4*s.* 6*d.* per cwt.; Artichokes, 10*s.* to 14*s.* do.; Cucumbers, 4*s.* 6*d.* to 6*s.* per dozen; Lettuces, round, 6*d.* to 9*d.* per dozen; do., French, 9*d.* to 1*s.* do.; do., Cos, 9*d.* do.; Radishes, 9*d.* to 1*s.* per dozen; Horseradish, 2*s.* to 3*s.* per bundle; Mushrooms, 1*s.* to 1*s.* 3*d.* per lb.; Beetroot, 6*d.* per doz.; Cress, 3*d.* per basket; Brussels Sprouts, 1*s.* 3*d.* to 1*s.* 9*d.* per stone.

LIVERPOOL: *December* 16.—Averages of prices current at the following markets:—Potatos, 8*d.* to 10*d.* per peck; Grapes, English, 2*s.* to 3*s.* per pound; do., Foreign, 6*d.* to 8*d.* do.; Pines, English, 4*s.* to 8*s.* each. North Hay: Turnips, 19*s.* per ton. Potatos: Imperators, 1*s.* 8*d.* to 1*s.* 10*d.*; Giants, 1*s.* 8*d.* to 1*s.* 10*d.*; Main

Crop, 2*s.* 3*d.* to 3*s.*; Champions, 1*s.* 8*d.* to 1*s.* 10*d.*; Bruces, 1*s.* 10*d.* to 2*s.* 3*d.* per cwt.; Turnips, 6*d.* to 8*d.* per 12 bunches; Swedes, 1*s* to 1*s.* 4*d.* per cwt.; Carrots, 6*d.* to 8*d.* per 12 bunches; do., 2*s.* 6*d.* to 2*s.* 9*d.* per cwt; Onions, English, 4*s.* to 4*s.* 6*d.* per cwt.; do., foreign, 2*s.* 6*d* to 3*s.* 2*d.* do.; Parsley, 4*d.* to 6*d.* per dozen bunches; Cauliflowers, 1*s.* 6*d.* to 3*s.* per dozen: Cabbages, 6*d.* to 1*s.* do.; Celery, 8*d* to 1*s.* 4*d.* per dozen heads.

VARIORUM.

FRUIT CULTURE IN EAST SUFFOLK.—A public meeting was held at Lowestoft Town Hall on Thursday, 26th ult., Councillor C. H. Jacobs, Chairman of the Technical Instruction Committee, presiding, when the prize essays on the development of Lowestoft and district as a centre for fruit culture were read. The essayists were Mr. William John Bales, of Wickham Market; and Mr. William Wagstaff, of Beccles, and both contributions were interesting and useful. Councillor R. Leach, who inaugurated the movement, gave a very instructive exposition of what was aimed at by the committee. He believed that much of the fruit consumed in this country might be grown at home. He was strongly of opinion that a great deal of land in this district was particularly well suited to the growth of soft fruit, such as Strawberries, Gooseberries, and black, red, and white Currants, besides Celery, garden Peas, and other kinds of vegetables, on account of the great depth and quality of the soil, and its contiguity to water. On hundreds of acres which surrounded the marshes and bordered the rivers he firmly believed that a good crop of the fruits and vegetables he had named might be obtained nearly every year; whereas, on much of the land where such crops were grown in other parts of the country, especially in the case of soft fruits, the grower was compelled to be satisfied with a good crop once in every two or three years. The reason they were so favoured was, that on ground arouud Lowestoft they were not entirely dependent on the rainfall for a good crop, as water was to be found within 18 inches or 2 feet of the surface; and, besides, the land was rich in quality. Raspberries could be grown in this neighbourhood at a good profit; and, as an example of what could be done by growing Strawberries, he said that a grower of this fruit in the Fen district made £100 per acre of his fruit last year. The consumption of soft fruits could be largely increased. Small growers might co-operate in the same way that Danish farmers did in making butter and curing bacon. The invalid might, too, be catered for with great advantage by the substitution of saccharin for sugar in the manufacture of jams, jellies, &c. He trusted that if Lowestoft and the district became a centre for fruit culture, the landowners would be willing to help on the movement by accepting fair prices for their land and granting easy terms for payment, as without fixity of tenure, such as ownership alone could give, the movement could not greatly prosper. *East Anglian Daily Times.*

ENQUIRY.

"He that questioneth much shall learn much."—BACON.

MAKING LAWNS WITH TURVES.—Will some one of experience kindly oblige *Enquirer* with a few particulars as to the cost per acre of forming garden-lawns with turves—from commons or roadsides, and the difference in expense as against seeding down with the best lawn-grasses? Also as regards the approximate difference in numbers of turves and cost in the laying down of an imperial and Scotch acre? The turves in both cases being the orthodox size, i.e., one yard long, one foot wide, and one inch thick. Also what such turves of good quality could be purchased for per hundred?

ROSE AND OTHER CUTTINGS OF WOODY PLANTS, SMALL ROSES, &c.—Will some of our readers kindly afford "R. O." information with regard to the packing of the above for safe transit to Assam?

Answers to Correspondents

ARUM CRINITUM: *A. H. C.* The plant grows in good soil, deeply worked before being planted, and in a warm situation. Propagation is by separation of the tubers.

ASPIDISTRA: *G. B.* We cannot account for the presence of the small white translucent spots thinly scattered over your leaf. Have you been spraying with chemicals? It may be merely a case of variegation by suppression of the chlorophyll.

AURICULAS AND CALCEOLARIAS UNDER NAME: *C. F. B.* Scan our advertisement columns; or advertise your wants.

BOOKS: *M. Barker.* Mr. Upcott Gill, *Bazaar* Office, 170, Strand, W.C., publishes several small manuals on the subject of Melon and Cucumber culture, at 1*s.*, or less money.

CRICKET GROUNDS: *A Reader.* Mr. Upcott Gill, *Bazaar* Office, 170, Strand, W.C., may have a manual on the subject. The whole matter consists of having a well-drained piece of quite level land, 80 yards by 80 yards, laid with turves free from weeds and coarse grasses, well beaten and rolled. In winter, it should be manured when this seems needed; and in summer, mowed frequently, and watered when hard with drought.

CURRANT-BUDS DISEASED: *Ettrick.* Your bushes are attacked by the Currant-bud mite, so often figured and described in our columns. Cut off and burn all the affected shoots so far as you can.

FERNS FROM SPORES: *C. K.* There are a large number of crested Pteris serrulata grown in market gardens, but yours seems to be the most heavily crested which we have seen; and if it could be raised from spores, it would doubtless be worthy to take its place among the best.

FICUS ELASTICA: *Jodtmore.* The plant should be kept for the winter in the "South-room," if the temperature at night is not less than 55°, nor higher in the daytime than 65°, in that part of it where the plant stands. Water should be afforded only when the soil indicates considerable dryness, and it should not stand in a saucer, but on a layer of clean gravel placed in an ornamental pot or saucer so that the water does not touch the bottom of the pot in which is the plant. Keep the leaves free from dust. The plant having lately unfolded a leaf, is a proof that growth has been induced by, probably, the application of water. Let the plant rest for the next ten or twelve weeks.

GARDEN IN A PEAT BOG: *Subscriber.*—Wherever the fruit trees and Vines are to be planted, borders of loamy soil, taken from above limestone rock, should be made 3 feet deep, or the same very largely incorporated with the staple. They should be raised in sloping borders of from 15 to 30 feet wide, 1 to 2 feet higher than the surrounding level, and the land should be very well drained before any other work is undertaken, the drains being placed, if it be possible, at a depth of 4 feet. Rubble drains are more suitable than tiles or pipes, which are liable to be choked with roots—especially those of the Vine. Over the rubble lay heather sods face downwards, which will protect the drains for a great many years against the infiltration of the soil. Lime will be found of great use in the new soil, and in all parts of the garden, and may be used as a dressing yearly.

HYACINTHS IN GLASSES: *A. B.* The water, instead of "half covering the bulbs," should have been one half to a quarter of an inch below them. Throw away those which are rotted, reduce the quantity of water to the above depth, and keep the glasses in a cool, quite dark place till the roots have almost filled the glasses; then expose them to half-light for three days, and after that lapse of time to full light, and always close to the glass. Change the water every three or four weeks, and, if you can get it, use pond or rain-water.

J., Tungate, Wakefield, should send his full name and address, not necessarily for publication, but as a guarantee of good faith.

MUSHROOMS: *P. & Sons.* It is not uncommon for Mushrooms to be more or less abortive and distorted, for reasons that are quite unknown; so that neither dealer nor grower can be blamed. We have observed that the distortion is less common in beds spawned out-of-doors.

NAMES OF FRUITS: *D. R.* The fruit, of which you enclose a piece, is one of the Anonas—Custard Apple or Sour Sop. They are of West Indian origin, but your specimen is not sufficient to enable us to give you more definite particulars.—*J. W.* 3, Beurré Diel; 4, Vicar of Winkfield; 6, Hacon's Incomparable; 7, Shobden Court; Apple: 1, Not known; 2, Rymer's.—*D. Sewell.* Pear: Verulam—*Kent & Brydon.* Not known.—*Biddles & Co.* Apple: Beauty of Kent.

NAMES OF PLANTS: *Correspondents not answered in this issue are requested to be so good as to consult the following number.*—*S. G. R.* 1, Adiantum gracillimum; 2, A. curvatum; 3, A. capillus (veneris variety); 4, A. Waltoni; 5, A. tenerum; 6, A. cuneatum.—*Miss H. Campanulas:* The specimens were not numbered. We believe the large deep blue cup-shaped specimen to be C. carpatica. The hairy one with a spike of pendulous bells is C. barbata; the one with smooth lanceolate leaves and pale blue flowers is, we think, C. rhomboidalis; and the remaining one is C. persicifolia.—*H. S.* 1, Oncidium Forbesii; 2, Eupatorium album; 3, Iris fimbriata.—*W. J. W.* Ilex dipyrena.—*J. B.* Lycaste costata.—*S. E.* The specimen sent is a leaf, and an inflorescence with bracts, and some buds of a species of Eria, of which we can probably give you the name, if you send an inflorescence with perfect flowers.—*Bray Head.* 1, Senecio ficoides; 3, Anthericum lineare variegatum; 4, Maxillaria picta.—*A. E. M.* 1, Pelargonium tomentosum (Penny-Royal scented Crane's Bill); 2, Pelargonium capitatum, variety.—*J. O.* 1, Oncidium Cavendishianum; 2, Calanthe Veitchi; 3, Calanthe vestita luteo-oculata; 4, may be Davallia dissecta, but the soft young frond sent is not a good specimen. The Fern used in packing is Adiantum Pacotti; the "Moss," Selaginella cæsia of gardens.—*T. H. W.* We do not undertake to name varieties of florists' flowers.

NURSERY AND SEED TRADE ASSOCIATION: *W. E. Tidy.*—Secretary, S. Worrell, 30, Wood Street, Cheapside, London, E.C.

PALMS: *T. L.* Palms used for decoration in dwelling-houses often go in the way indicated in the specimen sent, and it is difficult to assign a cause. Sometimes the heating apparatus causes the damage; or the stinted supply of water often given when the plants are in use in the house may produce failure of the tissues, or being placed in a draught of cold air may cause the trouble. The fact is, the plants can barely live in such situations, and their growths suffer.

PELARGONIUM WITH DISEASED LEAVES: *H. and B.* There is no means of determining from the "tops" sent, what is the cause of the condition. There is clearly no innate fungus disease of any kind, and from the habit and appearance of the plants, we should conclude that the cause of the disease is *not* in the plants themselves, but in some external surroundings. The microscope shows a thoroughly normal condition of the tissues. *M.C.C.*

SINGLE-FLOWERED PETUNIAS, &c.: *C. F. B.* Any good florist or seedsman would supply seeds of German and home growth—in separate colours or mixed. What do you mean by the American Giant of California? is it a Petunia?

"SMILAX:" *W. J. P.* The correct name is Asparagus medeoloides, *vide Index Kewensis.*

WHOLESALE CUT-FLOWER DEALERS IN FRANCE: *G. B.* We cannot recommend traders, but would advise you to obtain *The Fruit Growers' Year Book*, which contains numerous addresses, home and foreign (London: *The Cable* Office, 30, Fleet Street, E.C.).

COMMUNICATIONS RECEIVED.—J. B.—W. C.—F. W.—T. E. H.—R. L. H.—T. W.—W. Wood & Son.—M. Micheli, Geneva.—G. Woodward.—E. Beckett.—W. B. H.—Canon E. (no).—G. S. M.—S. N.—C. de B.—Rev. D. W.—Royal Institution.—W. R.—Royal Society of Gardeners, York.—Peaberry.—J. C. E.—J. W. D. Department of Agriculture, Nova Scotia.—Trobi do carpum.—U. D., Berlin.—W. W.—G. N. H. C. & Co.—J. C.—W. K.—J. D.—J. G.—A. K.—J. J. W.—H. Warren.—J. H. C. S.—A. D.—de B. C.—J. Meredith.—H. C. P.—E. C.—J. A.—E. H. J.—A. D.—F. K., Berlin.—H. W. W.—J. R. J.—W. G.—W. Harrow.—T. S.—D. R. W.—W.—J. O'B.—A. C. F.—A Country Exhibitor.—J. McD.—D. T. F.—Pritchard & Sons.

SPECIMENS, PHOTOGRAPHS, &c., RECEIVED WITH THANKS.—John Bates.—F. W.—A Reader-Admirer.—Illinois.—M. D.—J. L.—A. H. P.—W. H.—H. C.

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6 MINUTES WILL MAKE 60 GLASSES OF DELICIOUS WINE
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Notice to Advertisers.

THE GARDENERS' CHRONICLE

FOR

SATURDAY, JAN. 2, 1897,

WILL CONTAIN AS A

SUPPLEMENT

A

Sheet Almanac.

As a large EXTRA circulation of this Number is guaranteed, it will be a very valuable medium for Advertisements.

Secretaries of Horticultural Societies are requested to Notify the Dates of their Meetings without Delay, in order that they may be inserted in the Almanac.

Advertisers desirous of securing Space in this Number are requested to communicate with the Publisher, not later than Monday, December 28, 1896.

"THE PUBLISHER,"
41, WELLINGTON STREET, STRAND.
LONDON, W.C.

GARDENING APPOINTMENTS.

MR. A. MCLAREN, as Head Gardener to Sir J. R. G. MAITLAND, Bart., Sauchieburn, Stirling.

Mr. WM. RANDALL, for the last two years Gardener to Lady SUSAN BYNG, Royston Park, Royston, has removed with the same Lady to The Dell, Latimer, Chesham, Bucks.

Mr. THOMAS H. WRIGHT, formerly Pleasure-ground Foreman at Wortley Hall, Sheffield, as Gardener to G. W. MARSDEN, Esq., Bryn Lerion, Datchet, Bucks.

CATALOGUES RECEIVED.

CHR. LORENZ, Erfurt, Germany—Trade List of Flower Seeds.

DICKSONS, LTD., Chester—Forest and Ornamental Trees.

FRED. ROEMER, Quedlinburg, Germany—Trade List of Flower Seeds.

A. FINDLAY, Markinch, Scotland—Seed Potatos.

B. HURST & SON, Burbage Nurseries, Hinckley—Fruit Trees, Roses, Orchids, Shrubs, Plants, &c.

THE EARLSWOOD NURSERIES, LTD. (W. WELLS)—Chrysanthemums.

STUART & MEIN, Kelso, Scotland—Garden Seeds and Plants.

J. SHARPE & SON, Bardney, Lincoln—Trade Catalogue of Vegetable and Flower Seeds.

JOHN DOWNIE, 144, Princes Street, Edinburgh.



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"Coaching" by Correspondence arranged for intending Candidates unaccustomed to write papers. Fees moderate, to suit Practical Gardeners.

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WANTED, PARTNER (young man), in MARKET GROWER and FLORIST'S BUSINESS (Midlands) —7500 feet of Glass; 5 acres of Ground. Good connection. Equal shares at valuation.—Address, MARKET, 41, Wellington Street, Strand, W.C.

WANTED, at Berwick Gardens, Shrewsbury, January 2, a clever ORCHIDIST and general PLANTSMAN; age about 27. None but capable men with first class characters need apply. Wages, £1 weekly, with bothy and vegetables.—Address, GEORGE BURROWS.

WANTED, for the Tea Gardens in India, a SCOTCH GARDENER, well up in his work, and capable in the Management of Men. From 24 to 27 years of age; abstainer preferred. Five years' engagement. Wages, 2000 rupees first year, rising to 25 0 rupees, with house accommodation, &c Second-class passage paid out. —Apply, giving a detailed outline of gardening career, with copies of testimonials, stating height and chest measurement, to J. K., *Gardeners' Chronicle* Office, 41, Wellington Street, Strand, London, W.C.

WANTED, a GARDENER, Head of two, single man, age about 30. Wages, 20s. to 22s. weekly. No extras. Part of produce marketed. Thoroughly experienced and hard-working man.—Write, Horeham Manor, Sussex. None but those furnishing full particulars will receive attention.

WANTED AT ONCE, GARDENER, married, about 27. Must be a good all-round man, Kitchen and Flowers; Inside and Out. Cottage and help. Man without family preferred. Apply, stating wages, with testimonials and full particulars to—LONDON, 20, Bucklersbury, London, E.C.

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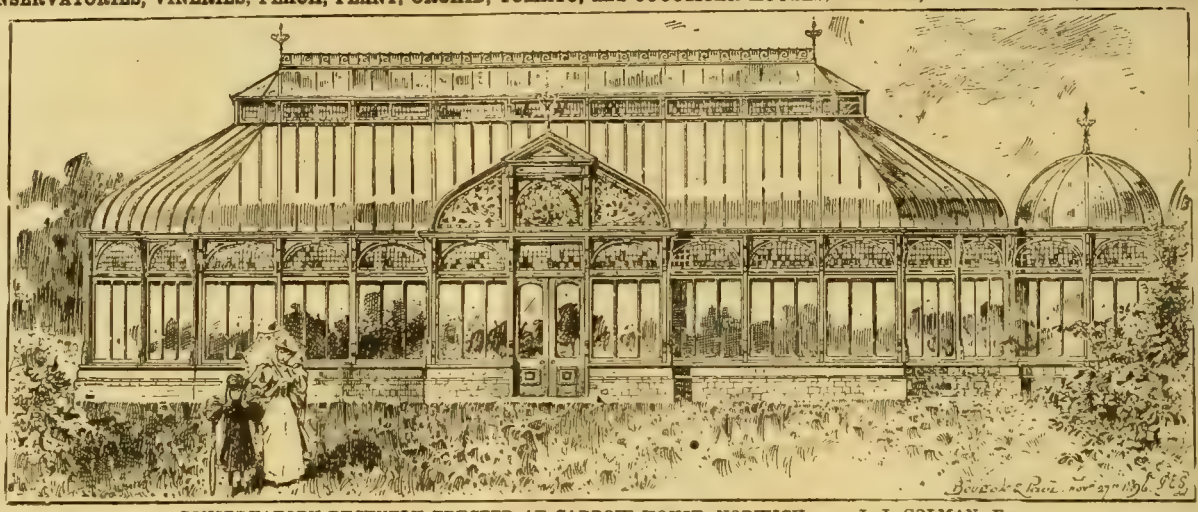
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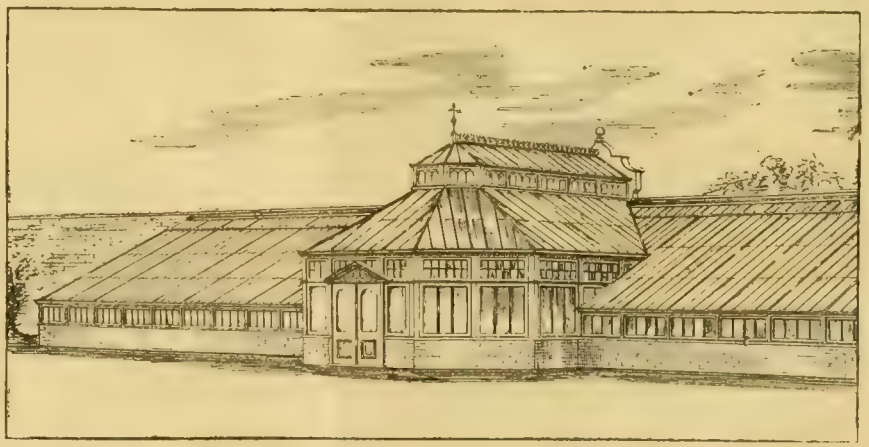
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The Gardeners' Chronicle

ESTABLISHED 1841. No. 2922.

No. 522.—Vol. XX. { Third Series. } SATURDAY, DECEMBER 26, 1896. [Regt. as a Newspaper. { PRICE 3d. Post-free, 3½d.

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NOTICE TO ADVERTISERS.

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SALES BY AUCTION.

WEDNESDAY NEXT.

Choice-named Standard, Half-standard, Dwarf, CLIMBING, and MOSS ROSES, from a leading English Nursery, in all the best sorts. Pyramid, Dwarf, and Standard-trained FRUIT TREES, to name. Ornamental SHRUBS and TREES, BORDER PLANTS in great variety, JAPANESE LILIUMS just received, DUTCH BULBS, small decorative PALMS for the table and other purposes.

MR. J. C. STEVENS will SELL the above by AUCTION at his Great Rooms, 38, King Street, Covent Garden, on WEDNESDAY NEXT, Dec. 30, at Half-past 12 o'Clock precisely.

On view morning of Sale, and Catalogues had.

MONDAY, JANUARY 4.

A GRAND COLLECTION OF

BORDER PLANTS & BULBS.

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on MONDAY, January 4, at half-past 12 o'Clock precisely.

N.B.—Full particulars will be given in next Advertisement.

THURSDAY, JANUARY 7.

THREE SPLENDID SHIPMENTS OF

LILIUMS from JAPAN.

INCLUDING—

40,000 LILIUM AURATUM, extra large.

LILIUM HENRYII | LILIUM LONGIFLORUM
,, KRÆTZERII | ,, SPECIES, unnamed
LILIUM LONGIFLORUM EXIMEUM
,, SPECIOSUM ALBUM
,, ,, RUBRUM
,, MELPOMENE
CHINESE SACRED LILIES, JAPANESE BASKETS, &c.
20,000 Best LILY OF THE VALLEY CROWNS,

MR. J. C. STEVENS will SELL the above by AUCTION, at his Great Rooms, 38, King Street, Covent Garden, W.C., on THURSDAY, January 7, at half-past 12 o'Clock sharp.

On view morning of Sale, and Catalogues had.

Friday Next, January 1, 1897.

SALE OF ORCHIDS,

including

CYPRIPEDIUM INSIGNE, a consignment of most distinct-looking plants, obtained from a quite new locality near the Chumulari Mountains.

UNFLOWERED HYBRID CYPRIPEDIUMS, products of the very best parents. Only the very finest varieties have been used to effect these crosses, and the results should be altogether new and beautiful. The plants are all well grown and healthy. Among others will be included Cypripedium Lathamianum × C. insigne Sanderæ, C. callosum × C. villosum aureum, C. spicerianum × C. Sallieri Hyeanum, C. Spicerianum magnificum × C. Leeanum giganteum, C. hirsutissimum × C. insigne Maulei, C. Leeanum × C. Stonei, C. Harrisianum × C. Morganiæ, C. Pearcei × C. caudatum Wallisii, C. Lathamianum inversum × C. insigne Chantinii, C. Lathamianum × C. Leeanum princeps, C. Leeanum giganteum × C. Calypso, C. Harrisianum nigrum × C. radiosum superbum, C. villosum × C. Leeanum Mossellianum, &c.

Bare, curious, interesting, charming, and quite new ORCHIDS.

DENDROBIUM JAMESIANUM, SNAKE ORCHIDS, CŒLOGYNE LENTIGINOSA, very floriferous and useful.

DENDROBIUM CRASSINODE, unflowered plants, the Barberianum type.

CŒLOGYNE CRISTATA, LYCASTES, ONCIDIUMS, &c.

The Elephant Moth Dendrobe. DENDROBIUM PHALÆNOPSIS SCHRODERIANUM. Floriferousness, beauty, and ease of culture unsurpassed by any other Orchid.

CATTLEYA VELUTINA, the true, highly-coloured, fragrant type.

CYPRIPEDIUM SPECTABILE, the Mocassin flower, a superbly beautiful, perfectly hardy Slipper Orchid.

CYPRIPEDIUM EXUL, C. CILIOLARE, C. VENUSTUM, ANGULOA RUCKERI, and varieties.

AMARYLLIS AULICA VAR. PLATYPETALA, a splendid variety. The finest broad-petalled form of this extremely handsome crimson and sanguineous-purple Amaryllid, which is wonderfully effective as a conservatory decorative plant.

MESSRS. PROTHEROE AND MORRIS have received instructions from Messrs. F. Sander & Co., St. Albans, to SELL the foregoing by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on FRIDAY NEXT, January 1, 1897, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

Wednesday Next, December 30.

IMPORTANT CONSIGNMENTS OF

JAPANESE LILIES and PALM SEEDS,

comprising:—

10,000	LILIUM	AURATUM.
3,640	,,	SPECIOSUM ALBUM.
5,850	,,	,, RUBRUM.
100	,,	HARRISII.
120	,,	AURATUM PLATYPHYLLUM.
120	,,	,, PICTUM.
100	,,	,, WITTEI.
100	,,	,, RUBRO VITTATUM.
14	,,	,, ,, (new var.)

Also—

400 LILIUM HARRISII.
10,000 LILY OF THE VALLEY.
800 Standard, Half-standard, and Dwarf ROSES.
100 Lots of DUTCH BULBS.

English-grown and other LILIES, thousands of BEGONIAS, GLOXINIAS, GLADIOLI, SPIRÆAS, &c.; STOVE and GREENHOUSE PLANTS, and POT-ROSES.

200,000 SEEDS of COCOS WEDDELLIANA

Received in grand condition, together with a Consignment from the Continent of 600 AZALEA INDICA and MOLLIS, 50 CAMELLIAS, and 50 RHODODENDRONS.

MESSRS. PROTHEROE AND MORRIS will SELL the above, by AUCTION, at their Central Sale Rooms, 67 and 68, Cheapside, London, E.C., on WEDNESDAY NEXT, DECEMBER 30, at 12 o'Clock.

On view morning of Sale, and Catalogues had.

Friday Next, January 1.

RARE TERRESTRIAL ORCHIDS from Australia in fine condition, consisting of the LYMITRA IXIOIDES, which produces sprays like Calanthe Veitchi, varying in colour from pale blue to dark blue and rose, some spotted Prussian blue on lighter forms.

DIURIS MACULATA, DIURIS AUREA,
CALADENIA ALBA, CALADENIA CŒRULEA, &c.

Also some healthy masses of the pretty white African POLYSTACHYA OTTONIANA.

MESSRS. PROTHEROE AND MORRIS will include the above in their ORCHID SALE, on FRIDAY NEXT, January 1, at half-past 12 o'Clock.

On view morning of Sale, and Catalogues had.

EULOPHIELLA ELISABETHÆ.

MESSRS. F. SANDER AND CO. are glad to be able to announce that they have received an importation of EULOPHIELLA ELISABETHÆ, which will be SOLD shortly by Messrs. PROTHEROE AND MORRIS, at their Great Sale Rooms, 67 and 68, Cheapside, London, E.C.

Full particulars will appear at an early date.

Lampton, near Hounslow, Middlesex.

TO BE LET, for an Unexpired Term of Six Years from Lady-day, 1896, 47a. 3r. 23p. of exceedingly Fertile OPEN MARKET GARDEN GROUND, for many years past in the occupation of Mr. John Wilmot. Rent, £234 per annum. Crops, &c., at Valuation, which will be small. Also Five Off-lying Pieces of Open Land and Fruit Plantations, as a whole or separately.

For full particulars apply to Mr. E. P. NEWMAN, Estate Agent, Uxbridge, Middlesex.

To Fruit Preservers, Pickle Manufacturers, &c.

FOR IMMEDIATE DISPOSAL (as a Going Concern), the whole of the Stock-in-Trade, Fixtures, Fittings, Plant, Book Debts, Goodwill, &c., of the BUSINESS carried on for a number of years by Mr. SEPTIMUS SMITH, of Railsfield, Bramley, Leeds. An excellent opening for a good business man with a little capital.

For full particulars apply to ROBERT M. BURGESS, Chartered Accountant, 38, Albion Street, Leeds.

TWICKENHAM.—Five minutes from Richmond Bridge, COTTAGE, £15; Six Rooms, Kitchen and Scullery; no Bathroom. ORCHARD, £30. Fruit Trees, Asparagus Beds.

HOTHOUSE, Northcote Cottage, Richmond Road.

BOILERS.—HEATING.—Three Boilers, 7 feet long, 3 feet 3 inches diameter, with Furnace Frames, Doors, and Bars complete. £12 per set, splendid condition, cost treble.—A. VEREY AND CO., Dover.

TUBING.—4000 feet of 3-inch (outside) Wrought-iron Piping, ¼ inch thick, 9d. per foot; 500 feet of 8-inch ditto, with franges, 3s. 6d. per foot, cost 16s.—A. VEREY AND CO., Dover.

HENRY RIDES, SALESMAN, Central Avenue, Covent Garden, W.C. Prompt cash.

SUPERB ORCHIDS, CHEAP.—Thousands to select from. Write for LIST, free.
P. McARTHUR, The London Nursery, 4, Maida Vale, London, W.

CYCLAMEN SEED of our well-known strain, own saving, as used by ourselves.
HUGH LOW AND CO., Bush Hill Park, Middlesex.

POTATOS.—Myatt's Ashleaf, grown on high land, 65s. per ton.
G. F. YOUNG, Swineshead Abbey, near Boston.

BEST WALTON HEATH LOAM supplied to Private Gentlemen, per truckload, on rail, at Banstead Station, at per ton. Also large quantities for Nurserymen, at reduced price. Also good MEADOW TURF, at per 100.
B. PENFOLD, Garden Farm, Burgh Heath, Banstead.

IMPORTANT ANNOUNCEMENT

TO THE

SEED TRADE.

E. P. BROWN begs to return thanks for all past favours from the Seed Trade, both in England and Abroad, and to inform them that his TWO SONS, who have for several years past been learning the Seed Growing Departments of the Trade, will now be TAKEN INTO PARTNERSHIP. The Business therefore will, on and after January 1, 1897, be conducted under the style of—

E. P. BROWN & SONS,

SEED GROWERS, COGGESHALL, ESSEX

All Communications, as before, direct to—

COGGESHALL, ESSEX.

CORRESPONDENCE INVITED.

FOR ORCHIDS and GARDENERS to Grow them, apply to SANDER'S, St. Albans. The finest stock of Orchids in the World.—30 minutes from St. Pancras.

TOMATOS.—Challenger and Sellens' Improved Perfection, new early, highest quality, enormous cropper, 6d. to 2s. 6d. per packet. Satisfaction guaranteed.
SELLENS, Grower of Superior Seeds, Coventry.

To the Trade.

NUTTING AND SONS have posted their ANNUAL TRADE CATALOGUE to all their customers. If not duly received, please inform them.
Seed Warehouses, 106, Southwark Street London, S.E.

ONCIDIUM CRISPUM, IN SPIKE.
Fine, healthy unflowered plants,
5s., 7s. 6d., 10s. 6d., and 15s. each.
W. L. LEWIS AND CO., Southgate, London, N.

ALLINGTON PIPPIN.—The finest new Dessert sent out for thirty years.
Maidens, 5s.; 2-yr., 7s. 6d. each; larger to 21s. each.
GEORGE BUNYARD AND CO., Maidstone.
Now being distributed.

ONION, GREEN'S PRIZETAKER.
Sealed Packets, 1s.
Shape, deep oval; colour, pale-brown; flesh, firm and white; grows to 3 lb weight, and is perfect for exhibition. On September 23 next, prizes, 1st 15s., 2nd 10s., will be awarded the six heaviest specimens; bulbs to reach Wisbech carriage paid two days previous, and become the property of
R. W. GREEN, F.R.H.S., Seed Merchant, Wisbech.

CUCUMBER SEED.—Cross between Rochford's Improved and Rollisson's Telegraph, wonderful cropper, size and shape; only best selected seed sent out, all guaranteed. To the trade 4s. per 100. Also Rollisson's Telegraph and Rochford's Improved, 3s. per 100. True to name. Cash with order.
BEAGLEY, Grower, Berrymede Road, Acton Green.

To the Trade.

WHOLESALE SEED CATALOGUE for 1897.—We have now published our Catalogue of Vegetable and Flower Seeds, containing also all the best Novelties of the Season. May be had on application. Any of our Customers not having received one by post will oblige by letting us know, when another shall at once be posted.
WATKINS AND SIMPSON, Seed Merchants, Exeter Street, Strand, London, W.C.

BEGONIAS A SPECIALTY.—Awarded numerous Gold Medals, &c. Unequalled quality. Named Singles, from 12s. to 42s. per dozen; unnamed Seedlings, 9s., 12s., 18s., and 21s. per dozen; Bedding, choicest, 6s. and 9s. per dozen; choicest named Doubles, from 30s. per dozen; unnamed, very choice, 18s. and 30s. per dozen; choicest mixed, 12s. per dozen. The best and cheapest combined procurable. Choicest Seed, single and Double varieties, 1s., 2s. 6d., and 5s. per packet. CATALOGUES gratis.
JOHN LAING & SONS, Begonia Growers, Forest Hill, S.E.

TO THE TRADE.



The Finest Dwarf Early Wrinkled Marrow Pea,

ENGLISH WONDER.

We are in a position to make advantageous offer of this Pea.

SHARPE'S QUEEN PEA.

Finest Blue Wrinkled Marrow.
Trade Price on application.

SHARPE'S VICTOR POTATO. Earliest of all Earlies.

To obtain the True Yellow-Fleshed Variety apply to—

CHARLES SHARPE & CO., Limited,
SLEAFORD.

SEED ORDERS.—REDUCED PRICES.

When you make out your SEED ORDER include the BEST and CHEAPEST INSECTICIDE for FUMIGATING, viz.:—

CAMPBELL'S ROLLS { Complete in themselves, without lamps or spirit. Ready for use at any moment. An improvement in process of manufacture enables us to reduce the old prices:—

No. 2 Rolls, for 500 cubic feet of space .. .. 5*d.* each. | No. 3 Rolls, for 1000 cubic feet of space .. .. 8*d.* each.
No. 4 Rolls, for 2000 cubic feet of space .. .. 1*s.* 2*d.* each.
Direct from us or from any Seed or Nursery Firm with whom you deal.

The fumes from these Rolls being of greater specific gravity do not pass away through the openings there may be in roofs, nearly so quick as vapour does, Insects are therefore exposed to their deadly influence for a longer time during the fumigation.

NO INJURY TO PLANTS, FLOWERS, or FRUIT.

For Dipping or Syringing, order **LEMON OIL**, which has been before the Public now nearly ten years:—
Pint Tins, 1*s.* 6*d.*; Quarts, 2*s.* 9*d.*; Half-gallons, 5*s.*; Gallons, 9*s.*

CLIBRAN & SON, ALTRINCHAM, AND 10 & 12, MARKET STREET, MANCHESTER.

WEBBS' SPRING CATALOGUE FOR 1897.

Beautifully Illustrated with Three Coloured Plates (illustrating Flowers), and hundreds of Engravings. Also containing complete Cultural Instructions, List of Novelties, &c., &c.

NOW READY, POST FREE, 1s.,
which may be deducted off subsequent Orders.

Seedsmen by Royal Warrants,
WORDSLEY, STOURBRIDGE.

To the Trade.
COOPER, TABER AND CO., LIMITED, have posted their GENERAL WHOLESALE CATALOGUE to all their customers. If not received, another copy will be sent on application.
90, Southwark Street, London, S.E.

150 ACRES OF TREES & SHRUBS.

In the finest possible condition, for The Villa, The Mansion, The Plantation, or The Game Covert. All in vigorous, healthy condition, not stunted, starved, or closely grown and drawn. Carefully and frequently moved, and the roots consequently are a mass of fibre, ensuring safe removal when sold.

NEW CATALOGUE, with descriptions of above, and of many Rare and New Plants, post-free from—

CLIBRAN'S Nursery, Altrincham;
Also at MANCHESTER, BANGOR, and LLANDUDNO JUNCTION.

"TO THE TRADE."
WHOLESALE SEED CATALOGUE.

We have now published our Wholesale Catalogue of

VEGETABLE & FLOWER SEEDS

Containing also the best Novelties of the Season, all the recent improved varieties of Sweet Peas. Also List of over 150 varieties choice Fern spores. MAY BE HAD ON APPLICATION. Any of our Customers not having received one by post will oblige by letting us know, when another shall at once be posted.

WATKINS & SIMPSON,
SEED MERCHANTS.
EXETER ST., STRAND, LONDON, W.C.
Seed and Trial Grounds—Feltham & Twickenham, Middlesex.

CHRYSANTHEMUMS.

Our NEW LIST for Present Season is just issued, and will be sent without charge, and post-free, on application.

DICKSONS NURSERIES, CHESTER.

CHRYSANTHEMUM CUTTINGS.—Strong, healthy stock. Source d'Or, Elaine, 2*s.* per 100; Jardin des Plantes, 2*s.* 6*d.*; and W. H. Lincoln, 2*s.* 9*d.* per 100.
Strong planting Canes, Northumberland Hallbasket RASPBERRIES, 60*s.* per 1000.
ORCHARD COMPANY, Scotby, Carlisle.

Convallaria majalis!
T. JANNOCH has to offer the following, ready for immediate delivery:—3-years' forcing crowns; 2-years' crowns for planting; 1-year crowns for planting; 2-years flowering of "Fortin's" variety (grandiflora); 1-year crowns for planting-out; a few thousands retarded crowns. Prices on application.
Dersingham, King's Lynn, Norfolk.

1797.—(Established 100 Years.)—1897.
CUTHBERT'S CATALOGUE of NEW and CHOICE VEGETABLE and FLOWER SEEDS for Exhibition and General Use, for 1897, is now ready, and may be had free on application.
R. & G. CUTHBERT, Seed Merchants, Southgate, Midx.

TO THE TRADE.
NOW READY.
SHARPE'S STANDARD SEEDS
HARPE'S
WHOLESALE
GARDEN SEED
CATALOGUE.
Post Free on Application.
A Copy has been posted to each of our Customers. Any not having received same are requested to communicate with us, when another will be sent.
CHARLES SHARPE & CO., Limited,
SEED FARMERS AND MERCHANTS,
SLEAFORD.

NOW READY,
H. J. JONES'
CHRYSANTHEMUM GUIDE & CATALOGUE

Those who wish to obtain the best information, How to Grow Chrysanthemums, should at once secure a copy.
In proof of the merits of this work I have had 1000 applications for it in four weeks. In addition to the Revised Cultural Articles by Mr. C. E. SHEA, How to Grow Japanese for Exhibition, and How to Raise English Seedlings, I have secured one from Mr. W. H. LEES, How to Grow Good Chrysanthemums. It also contains, How to Grow and Dress Incurved Chrysanthemums, How to Grow Specimen Plants, and How to Grow for Decoration
POST FREE EIGHT STAMPS (Nett Cost).
RYECROFT NURSERY, LEWISHAM.

ASTON-CLINTON STRAW MATS, the warmest coverings for pits and frames. Sizes, 6 ft. 6 in. by 3ft. 9in. at 2*s.*; 6ft. 6in. by 4ft. 6 in. at 2*s.* 2*d.*; 6ft. 6in. by 7ft. at 3*s.* 2*d.*—Apply to Miss MOLIQUE, Aston-Clinton, Tring, Bucks.

EPPS'S A1 PEAT
(SELECTED specially for ORCHIDS),
Also for Stove & Greenhouse Plants, Hardwood Ferns and Rhododendron do. (Trade supplied).
LOAM, SAND, LEAF MOULD, C. N. FIBRE, CHARCOAL, SPHAGNUM MOSS, &c. PEAT sent to all parts of the world at Special Through Rates. Large or small quantities.
EPPS & CO., F.R.H.S., Peat Depôt, Ringwood.

HILL & SMITH, BRIERLEY HILL near DUDLEY;
And at LONDON & DUBLIN.



PORCUPINE TREE GUARD.
The Maximum of Utility with the Minimum of Cost. Is a perfect protection against SHEEP, HORSES, or STOCK. It is made 6 feet high, by 12 inches square (in halves, which bolt together), of Barb Wire, attached to an Iron Frame.



Price, 9s. and 10s. each.
Catalogues free on application, naming this advertisement.

CRUSHED BONES
AND
BONE MEAL.

Being produced at our Works from whole English Bones, we can guarantee that they contain no Vegetable Ivory, Turner's Waste or other useless or deleterious make-weights.

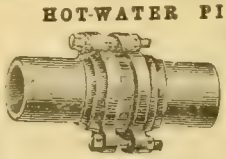
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CLAY & SON,
TEMPLE MILL LANE, STRATFORD, LONDON, E.

The "DENNIS" HEATING APPARATUS.
Complete, 50*s.*



1896. NEW CATALOGUE GRATIS. 1896.
HOT-WATER PIPES, BOILERS, SPOUTING, PUMPS, &c.



THOS. W. ROBINSON,
DENNIS FOUNDRY,
STOURBRIDGE.

ARE YOU ROOFING?

or Re-roofing any part of your house or outbuildings?
If so you should use RED HAND Roofing Felts.
Every yard printed with the trade mark, a RED HAND. Easiest to use; best in wear; cheapest in the end.
Your dealer keeps them, or will obtain them for you.

Young Gooseberry Trees.

N. AND F. SALMON beg to offer strong 3-yr.-old trees of their renowned WHITE LION in quantities. Price on application.
N. AND F. SALMON, The Grange, Heston, Hounslow.

30,000 CHRYSANTHEMUMS.

Grown solely to produce strong, healthy Cuttings and Plants. All the Newest Sorts at Moderate Prices. List free.
HEAD GARDENER, Perly Cross, Teignmouth, Devon.

Herbaceous and Alpine Plants.

CUTHBERTSON'S Illustrated and Descriptive CATALOGUE of over 1000 species and varieties post-free.
MICHAEL CUTHBERTSON, The Great Scotch Herbaceous Grower, Rothesay.

SUPERLATIVE RASPBERRY
(Bunyard's true stock).
The finest Raspberry ever sent out.
Per dozen, 3s., post-free, 3s. 9d.; per 100, 18s.; extra strong, 6s. per doz. Price per 1000 on application.
For description see Strawberry Catalogue.
Illustrated Fruit Catalogue, six stamps.
GEORGE BUNYARD AND CO., Royal Nurseries, Maidstone.

ROSES, Dwarf H.P.'s,

Principally on the Briar Cutting; first-class stuff.
Eight Large PEACH TREES, from a Peach-house, still to offer.
Prices and Catalogue on application to
E. J. BATCHELOR, Harlow Heath Nurseries, Harrogate.

PRIZE COB FILBERTS.

MR. COOPER, F.R.H.S., is the largest grower in the kingdom of the above for sale. Plantations near Reading. Price Lists and Pamphlets on application to—
Mr. COOPER, Calcot, Boscombe, Hants.

FRUIT TREES.

We hold a large and varied stock of the above, in first-rate quality, and at reasonable prices.
DESCRIPTIVE CATALOGUE ON APPLICATION.
S. SPOONER & SONS,
HOUNSLOW NURSERIES, HOUNSLOW.

MORLE & CO.'S LILIUMS.

Now ready, in fine condition, L. auratum, 25s. and 35s. per 100, 4s. and 6s. per dozen; L. lancifolium, roseum, and rubrum, 3s. per dozen, 18s. per 100; L. l. album, 4s. per dozen; L. longiflorum, 2s. 6d. per dozen, extra large, 6s.; L. Harrisii, immense bulbs, 12s. per dozen. HYACINTHS, fine named, in variety, 12s. per 100. TULIPS, to name, 1s. 6d. per 100; mixed, 10s. per 1000.—The Conservatories, Finchley Road, N.W.

OVER 50 HOUSES OF PALMS
ICETON'S
and DECORATIVE PLANTS.
PUTNEY, S.W.

GARAWAY & CO.

SPECIAL OFFER.—CASH WITH ORDER.

STANDARD APPLES.

£7 10s. per 100. All leading and best kinds, our selection.
12 assorted Standard Apple, Cherry, Pear, and Plum, 12s.
12 assorted Pyramid Trees, Apple, Pear, and Plum, 20s.
12 assorted Trained Trees for walls.
Apple, Cherry, Nectarine, Peach, Pear, and Plum, all best trees and good varieties, 40s. per dozen.
GOOSEBERRIES, all named, 2s. 6d. per dozen; 18s. per 100.
CURRANTS, assorted Black, Red, and White, 2s. 6d. per doz. 18s. per 100.
RASPBERRIES, 1s. 6d. per dozen; 10s. per 100.

ROSES.

Roses, best named Hybrid Perpetuals, our selection, 35s. per 100; 20s. per 50. 12 packed and paid per Parcel Post, for 7s. 6d.
12 Tea Roses, packed and paid per Parcel Post, for 10s. 6d.
Tea Roses, in pots, including Maréchal Niel, Gloire de Dijon, Niphetos, and other varieties, 12s. and 21s. per dozen.
VINES, strong planted canes, 4s each.
ASSORTED EVERGREENS, good plants, 4s. to 18s. per dozen.
ASSORTED FLOWERING PLANTS, 4s. to 9s. per dozen.
ASSORTED STANDARD TREES—*e.g.*, Thorns, Limes, Mountain Ash, Planes, &c., 18s. per dozen.

CLIMBERS.

Ampelopsis Veitchi, the best for covering walls, requires no nailing, 1s. each.
Clematis Jackmani, and other sorts, 15s. per dozen; our selection, 1s. 6d. each.
Ivies, in sorts, 9d., 1s., and 1s. 6d.

GARAWAY & CO., Durdham Down Nurseries, Clifton, Bristol.

NURSERYMEN, SEEDSMEN, AND FLORISTS, BY *SPECIAL ROYAL WARRANT TO HER MAJESTY THE QUEEN.*

FISHER, SON & SIBRAY, LIMITED,

ROYAL NURSERIES, HANDSWORTH, SHEFFIELD,

HAVE ISSUED THEIR

CATALOGUE of GENERAL NURSERY STOCK,

which may be had free on application, in which they offer the following well-grown Stocks:—

FRUIT TREES of every description.
ROSES, in all the most popular varieties.
RHODODENDRONS, of all the best varieties.
HARDY CLIMBERS, CLEMATIS, &c., extra strong.
HOLLIES and AUCUBAS, very bushy.
LAURELS, very bushy.
FOREST TREES, of every description.
FLOWERING SHRUBS.
CONIFERÆ, including Yews, Green & Golden.
ORNAMENTAL TREES, for Street and Park Planting.

Also a very large Collection of ORCHIDS, STOVE and GREENHOUSE PLANTS, &c, &c.

INSPECTION CORDIALLY INVITED.



TO THE TRADE.

LARGE KENTIAS,

And other Decorative Plants,
FOR CHRISTMAS DECORATION.

W. ICETON, PUTNEY, S.W.,
HAS AN EXCEEDINGLY FINE LOT, FROM
6 to 10 feet, in very small pots and tubs.



CUTBUSH'S MILL-TRACK MUSHROOM SPAWN.—Everyone can readily grow Mushrooms, and by using this Spawn will ensure success. All growers speak in high praise of the quality. Numerous Testimonials. None genuine unless in sealed packages, and *printed cultural directions* enclosed with our signature attached.
Price, 6s. per bushel, 1s. extra for package; or, 1s. per cake, free per Parcel Post.
WM. CUTBUSH AND SON, Nurserymen and Seed Merchants, Highgate Nurseries, London, N., and Barnet, Herts.

20 ACRES OF **FRUIT TREES.**

In all the best sorts and forms, for the Villa Garden, or the Orchard. Free from Blight and Disease. Clean, healthy stems and branches. Carefully pruned in good form. Roots a mass of fibre. Sizes from maidens to trees 6 to 8 years old, of many kinds, and all TRUE TO NAME.

NEW CATALOGUE with Descriptions and Prices post-free.

CLIBRAN & SON,

MANCHESTER, BANGOR, LLANDUDNO JUNCTION, and OLDFIELD NURSERY, ALTRINCHAM.

PLANTING SEASON.

HARDILY-GROWN
Forest, Fruit,
& all other
Trees & Plants
Evergreens,
Roses, &c.

Stocks quite Unequalled for "QUALITY," "VARIETY," & "EXTENT."

Priced Catalogues Post Free.

DICKSONS Nurseries (480 Acres) **CHESTER.**

CHRYSANTHEMUMS.

Our NEW LIST includes the cream of the Season's Novelties.
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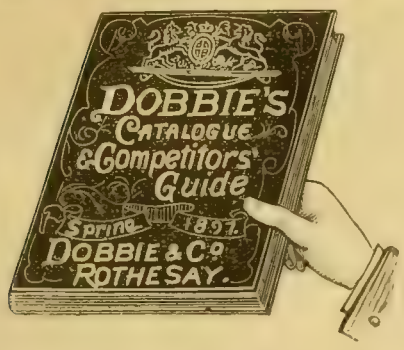
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THE

Gardeners' Chronicle.

SATURDAY, DECEMBER 26, 1896.

EASTWELL PARK, ASHFORD, KENT.

PEOPLE sometimes imagine when they see a great house that has been for some generations in one family, that it has undergone no changes during a much longer period. We often read of people whose ancestors came over with William the Conqueror, and are inclined to imagine that the estates on which they settled down then, have remained in the hands of their descendants until our own days. There are, indeed, some to whom this does apply, although they are few in number. Thus, in the neighbourhood of Ashford, the Surrenden estate was granted to a Dering at the time of the Conquest, and has remained in the family in an unbroken line from that time to the present; but this has not been the case with the manor and park of Eastwell. Many are the changes through which it has passed, and many are the families who have had possession of it.

Eastwell Park (see fig. 140, p. 781) is one of the most picturesque and extensive in the South of England, being situated on those hills which form part of the backbone of Kent; its extent is about 1600 acres, and it contains some grand trees, the Beech being especially fine. It is mentioned in *Domesday Book* as forming part of the possessions of Hugo de Montfort, and came into the hands of the Crown in the time of his grandson in the reign of Henry I. It was held under the Crown by a family who took their name from it; one of whom, Mathilde d'Estelles, held this manor, with the advowson of the church on it, at the time of her death in the fifty-second year of the reign of Henry III.

After various changes, the manor passed into the hands of Sir Thomas Moyle, who was speaker of the House of Commons in the reign of Henry VIII. He rebuilt the mansion, leaving it to his daughter Catharine, married to Thomas Finch, gent., who was afterwards knighted, and resided there. A descendant of Sir Thomas Finch died in 1614, leaving a widow, the Lady Elizabeth Finch, who in James I.'s reign was created Viscountess Maidstone, and afterwards, in the reign of Charles, was made Countess of Winchilsea, in Sussex. One of the family, afterwards, in accordance with the will of his aunt, took the name of Hatton, and the family name of the Earls of Winchelsea became Finch-Hatton. The park remained in their possession until a few years ago, when the changes which have taken place in the fortunes of our country gentlemen led Lord Winchilsea to let the mansion and pleasure-grounds. It was tenanted for some years by the late Duke of Abercorn, and afterwards by

H.R.H. the Duke of Saxe Coburg and Gotha, then Duke of Edinburgh, after that by Mr. H. A. Campbell—but three or four years ago the whole estate was sold to Lord Gerard, who now holds possession of it. There is a certain amount of romance connected with the place, for it is said that Richard Plantagenet, an illegitimate son of Richard III., lived here and worked as a mason, helping to rebuild the mansion in the time of Sir Thomas Moyle.

But my object in writing about Eastwell is not to dilate on the beauty of the park, but to tell the great changes which have taken place in the gardens since the occupation of Lord Gerard. I knew the gardens in former days, and they were utterly unworthy of the place, the houses were bad, the amount of labour employed was insufficient, so that it always astonished me to see the results obtained by Mr. Thomas Woodford, now of Atherstone, who then had charge. He was a keen plantsman, his plants figured at many of our local shows, and as a Grape grower he could not be excelled. It is, of course, very difficult, under such circumstances, to keep up the flower-garden, but this he did in accordance with the taste of those days, which demanded the bedding-out system. But now there is an extensive range of plant-houses in connection with the house, while at some distance adjoining the kitchen-garden there is an admirable range of fruit-houses. Large sums of money have been expended, and everything is done that the latest improvements in horticulture can suggest; but unfortunately Lord Gerard does not intend to live there, and is anxious either to let or sell the place.

In the old times there was a long glazed passage leading from the library into a conservatory, which was old and utterly unsuited for plant growth; this has all been done away with, and a new house has been built in place of the old one as a winter garden, which is 160 feet long by 56 feet wide and 40 feet in height. This is planted with various species of Palms and Tree Ferns, which in a few years will, no doubt, give it a very delightful appearance; while the climbers are Cobœa scandens and variegata, and Tacsonia Volxemi and insignis, Plumbago capensis, Bignonias, and Tecomas. Beside the Palms and Tree-Ferns, there are good plants of Musa, Acacias, Azaleas, Cyperus, Cannas, Dracænas, Agaves, and other foliage plants. From this there is an entrance to the conservatory, also 160 feet by 25 feet, and 20 feet in height, and in this various greenhouse plants are growing, and are evidently in excellent health. From this again extend seven plant-houses, each 80 feet long, and which at the time of my visit were filled thus—two with Gloxinias; two with stove plants, consisting of Eucharis, Crotons, Marantas, Allamandas, Clerodendron Balfouri, Musas, stove Ferns, &c.; one with Streptocarpus and Ferns, one with Coleus, and one with Petunias and Fuchsias. All these plants were in admirable condition, and I have seldom seen anything in their way so fine as these Gloxinias; they were only seedling plants from Sutton's strain of seed, all erect-flowering, and with large solid flowers of the most beautiful colours, deep crimson, lovely azure blue, and spotted flowers of great variety. Here also I saw for the first time in any quantity that charming little Ramondia-like plant Saintpaulia ionantha; it is a pity this lovely little plant, with its beautiful blue flowers, is not quite hardy, or it would be a delightful one for the rockery.

It will be seen, if I have made my meaning clear, that anyone can enjoy the whole of this range with its varied and beautiful contents without once going into the open air truly it thus deserves the name of Winter Garden. I may add that the whole of this range reflects credit on the skill and intelligence of Mr. Walters, the head-gardener.

Passing away from this range of houses we come to the Rose garden, which I remember in former times as one of the best cultivated kitchen-gardens I ever saw. The soil is a good tenacious loam, and most productive crops of bush fruits, Strawberries, and vegetables were to be seen in it under Mr. Woodford's care; it is enclosed by a high wall, and I am afraid owing to this and the trees which surround it, will not suit Hybrid Perpetuals, which I fear will suffer from mildew. Teas will probably fare better, and indeed the growth of some which I saw indicated this; but a good deal has still to be done before it can really deserve the name of a Rose-garden—its size is 2 acres, and it will readily be seen it will require no small number of Rose-plants to make a good display. But should it be found that Hybrid Perpetuals will do well in it, it will be very easy, by means of cuttings and budded plants, to fill up the gaps; and if this be done, it will doubtless make one of the most charming private Rose-gardens in the south of England.

Further away, and at some distance from the mansion, is the new range of forcing and plant-houses, and a little beyond them the new kitchen-garden; these houses consist of a Peach-range 120 feet long, Nectarines the same, a vinery 100 feet long; there are eight forcing-houses for Melons, Cucumbers, and Tomatos, and eight plant-houses all 200 feet long. These plant-houses were filled when I saw them, one house with Begonias, two with Carnations, two with Pelargoniums, and one with Celosias, Balsams, and Ivy-leaved Pelargoniums. I was particularly struck with the Begonias, which confirmed me in the opinion I have long entertained that the time for growing named collections of these flowers is past; for here was a collection of both single and double flowers of all shades of colour, with stout large and well-formed flowers, and all seedlings of this year. The plants were exceedingly well grown, and just as now no one dreams of growing named collections of Cinerarias or Calceolarias, as used to be done in my younger days, so it will be in a great measure with tuberous Begonias. The Streptocarpi were also very good, and are found particularly useful both as table plants and for cuttings. It will be seen from the plants that I have enumerated that such as are most suitable for indoor decorations are those which are chiefly grown.

These are by no means the only alterations which have taken place in this beautiful domain, nor the only points of interest. The park contains one of the most beautiful artificial lakes that I have ever seen, comprising about 15 acres, and as I have already said, some grand specimens of forest trees. The flower-garden in front of the mansion has been remodelled, terraces and banks have been formed, and new pieces of artificial water made. I have not dwelt upon these matters, but only on the changes which have been made in the garden, as they seem to represent to me the best aspect of modern horticulture, and to show how, even with such a small staff, an intelligent gardener like Mr. Walters can manage to make his houses gay, and also have a constant supply for house decoration. *Wild Rose.*

NEW OR NOTEWORTHY PLANTS.

DISA PULCHRA, *Sonder.*

THE flowering of this remarkable and showy species, for the first time under cultivation in the collection of Orchids belonging to the Hon. Walter Rothschild, Tring Park, is a very noteworthy occurrence. Although the species was originally described in *Linnæa XIX.*, 1847, and dried specimens gathered on the eastern frontier of the Orange Free State had often excited admiration, no one had succeeded in inducing any of the few tubers imported to produce flowers to verify the beauty which the dried specimens showed the plant must have had when living. Some spikes are 2 feet in height, bearing upwards of twenty flowers, all of which are open at the same time.

Disa pulchra has stout tubers, and the plant progresses by making new tubers to take the place of the old ones, which gradually decay after flowering. It does not produce young plants on stolons like D. uniflora, D. tripetaloides, D. racemosa, and others of that section. Although totally distinct from any other species, it is perhaps nearest to D. nervosa, illustrated in the *Gardeners' Chronicle*, September 15, 1894, p. 309. An extraordinary point about it is that when observed at a short distance, the leaves and inflorescence bear a stronger resemblance to some species of Gladiolus than to any of the other Disas. Its leaves proceed from the crown of the tuber, are firm in texture, of a bright green colour, and on the inflorescence, gradually diminish into the bracts, which equal in length the red-purple ovaries. The leaves, as they ascend, get rather lighter in colour, the bracts themselves being pale lilac tipped with green. The segments of the flowers are more equal, and arranged more like those of some of the epiphytal Orchids than those of any other species of Disa. The odd sepal, which is slightly concave, is the largest of the three, and it is prolonged into a spur one inch in length, which in the older flowers turns abruptly upwards. The sepals are of a pale lilac tint, with a few slight purple lines and dots, and the spur is coloured light purple. The petals are much smaller than the sepals, and curiously crossed over the short column at the base, closely folding over the pollinia, and the blade of each crossing to the opposite side; in colour lavender, with a distinct purple margin. The lanceolate lip is nearly as large as one of the sepals, and in colour of a light shade of lilac, with a very thin purple margin and line running down the centre. The colour of the flowers is said to vary from white to purple. It is a most desirable species, which it is hoped will be as amenable to culture as are some other showy Disas introduced of late years. At Tring Park, the tubers were potted into fibry-peat, loam, and sand, and placed in a cold frame for the summer, and on two or three showing flower-spikes they were placed in an intermediate-house, where the one forming the subject of our illustration (fig. 141, p. 785) successfully developed its flowers. *J. O'B.*

ORCHID NOTES AND GLEANINGS.

WHAT CONSTITUTES A "CRISPUM?"

I WAITED to see if any other reply would appear. As only "W. S." (p. 686 of Dec. 5, 1896) takes the trouble to help me, I will go ahead. I do not place much stress on Bateman as a clear delineator of a plant when he renamed the species, but that does not make the drawings in his *Monograph* any the worse; the analytical drawings of teeth and crest therein go to show my argument in regard to a "pure" crispum.

In bringing the Veitch *Manual of Orchidaceous Plants* up as an authority, I do not see much to strengthen "W. S.'s" case, as therein we are asked to accept Andersonianum and Ruckerianum as crispums. I do not for a moment suppose "W. S." agrees to that, for the photograph he says (I believe I have had a copy of the same plate from his able hands as a photographer) contains a true "Andersonianum," or, as his letter calls it, an "undoubted hybrid." This true and "undoubted hybrid" is the crispum × gloriosum hybrid, and hence quite different to the forms with big crispum-shaped lips. There is great difficulty at present in really proper classification of the thousand-and-one forms, and to save a good deal of trouble, a great many are called "crispums" that have no right to be so called. I can recall a plant under the care of "W. S." once figured as O. crispum ocellatum; that plant he has since shown, it is a beautiful "Ruckerianum"—he knows it too.

"W. S." chose one in his list, viz., that distinct thing, "Chestertoni," as one that it would be difficult to persuade growers that it was not a crispum. Baron Schroder showed the original plant on Nov. 10, 1896, and had "W. S." looked carefully into that flower he would have seen that it was a hybrid containing a lot of luteo-purpureum, with the whole ground colour yellow, the sepals and lip only heavily blotched. This is the plant sent over by and named after Chesterton (see Veitch's *Manual*, p. 31). Those in collections, and known as Chestertoni, as far as I have seen (*vide* the Pollett Sale Catalogue, March 15, 1893), are only five broad so-called crispums, full of

spots, and totally unlike the originally named one. "W. S." also adds "crosses" that it will be difficult to persuade growers are not crispums. My reply is, "How can a cross be a species!" for that is what O. crispum is considered to be by "experts." If they are hybrids, they are not crispums, and if not they should not be called so.

No one who looks carefully at the figures in Veitch's *Manual of Orchidaceous Plants* can accept all the forms there figured as crispums. I did give my definition of a crispum in my first letter, and if "W. S." will look over all the next thousand forms he sees, I think he will agree with me. *De B. Crawshay.*



Fig. 139.—Palms in a garden at Cannes. (see p. 780.)

Triandrous Cypripedium.

Messrs. Sander & Co. obligingly send us a flower of C. insigne, in which the stamen, usually designated A 1, and which is usually undeveloped, is present on the middle of the inner-side of the staminode. The two lateral stamens of the inner row—A 1, A 2 are present as usual.

Orchids as Cut Flowers.

The increasing favour in which Orchids are held as cut flowers is shown (says a Belgian correspondent) by the fact that nurserymen are almost unable to supply the demand. A large firm at Moortebeke, near Brussels, has within a few days cut 9000 blooms of Cypripedium insigne, and can still show 4000 buds. Other horticulturists also grow Orchids in ever-increasing numbers.

GARDENERS' FRIENDS.

HOUSE-MARTINS.

By Harrison Weir.

(All rights reserved.)

Akin, being of the same family as the swallow, is the house-martin, and as charming in all its movements, its habits, and form, while it is equal in utility. Martins and swallows have ever been venerated in the rural parts of England, and they are indeed loveable birds in many ways; their beauty, their graceful flight as they circle around the house on light and buoyant wing, and their ever-present activity as insect-killers, all tend to endear them to man. Years and years ago, though but "a tiny thing," when visiting "the old farm" in Kent, nothing delighted me more than to get a stool and sit in the garden—the old-fashioned garden—full of sweet odours, the breath of the spring-flowers and shrubs in blossom, the air musical with humming-life; here I would stilly sit to watch the house-martins building their nests, or feeding their sitting mates, and afterwards their newly-hatched young, or note the darting swifts that had a home under the eaves of the old house, the gable part which "took" the rays of the rising sun, that mellowed the morning air. In a far-away gaze I see the joyous birds, now building, flying, feeding, and scarcely ever resting, and so from early times through a long life, I have ever loved the bird, the bird of spring, the homely bird, the house-martin.

At "the old farm-house" now, there are no house-martins: they have gone, from where numbers lived, "and had their being." The house-sparrow has battled all away long ago; there has not been a nest there for years, and the starlings breed and chatter about what was once the home of the swift. Nor is this a solitary case, in which the ever-aggressive sparrow and starling have driven from and kept the sunny nooks and walls that held up the mud-made dwellings of this bird beloved by all, and also the soaring swift.

Shakespeare loved the house-martin, doubtless as many another poet has, and does, for he calls it—

"The guest of summer,"

as, indeed, it is, for it comes not here until the days are mostly warm, the fields are green, and the flowers of many hues make garlands of rare beauty everywhere. And further, Nature's "Time-honoured Son" notes that—

> "Where they
> Most breed and haunt, I have observed, the air
> Is delicate."

Bewick says of the house-martin that it arrives later than the swallow, which is correct, but he adds, that it "does not leave so soon." This is not so, for long after the last house-martin has left for warmer climes, the swallow is seen, even as late as December 3, while the former "flits" generally by the end of September. Here (Sevenoaks), 1894, the last congregated and left October 1; 1895, September 30; 1896, September 28; though I saw others near Arundel some days later.

Although the house-martin is so well known, and is so "neighbourly" in its habits, still there are peculiarities that have not usually been observed. Nor was I aware of much that I have but lately learned, though the very sight of the joyous bird has lent me a life-long pleasure. It happened thus:—

"About four years ago I added to my house a room or two. The roof projected, and made dry and well-protected "over-hung" eaves and outside rafter ends. My delight was indeed great when going into the garden on May 11, 1894, I observed a large number of martins clinging about the new part of the house. There seemed much contention as to which should stay and build, and which not. After a while and a sharp fight, most of them left, and the next morning early three commenced a nest over a window. The weather was dry, and so they had a long way to fetch the mud, which they got from the watered road near the railway station. To and fro, early and late they toiled. On the first day they merely laid the foundation. This, apparently, did not dry well, for next day they only worked in the morning. The following day was still and fine, the dust blowing up. They ceased building at 10 A.M. On the 15th they finished the nest externally. It was noted that as they put on the mud they seemed to wet it with moisture from their beaks, and pressed it down by a continued lateral movement of the breast. One curious fact was, that there were three birds at work building the nest. After the nest was finished, it was not occupied for nearly two days. Another nest being built in front of the house in less time, and this also had three birds at work, and was not occupied for two days after finishing. When occupied, at first two birds went into the nest at the same time, and during their stay there was a low, sweet, continuous warbling. On the 18th same conditions; 19th also; there were seven or eight birds flying about, and all visited the same nests. This was not entirely my own observation, for I got others to witness this fact. On the 21st some more birds came, and another nest was built, and another in front of the house—four in all. Now came a curious incident. The first pair, as soon as the young could fly, disappeared with them entirely; this was about the middle of June. The second nest was vacated soon after, and the old birds also never returned. Then those in the front nests took their young away and left them somewhere, came back and hatched-out two more broods; these left about the middle of August, at which time all the nests were deserted. 1895: the two front nests were occupied on May 4, and three others built. Although the birds that built the two back nests left early in June the previous

year, they did not return until May 20, this showing that though of one colony, those at the back of the house must have gone to a different, and possibly, a far more distant place than those in front, they taking longer to come back. Also, these birds again left early (about the end of June) with their young. Two fresh birds came on June 10 (very late) and commenced a nest, but got no further than the foundation, when they left. This year, 1896, the front birds all arrived May 10; another nest was built making six in front. At the back, those who built the two first nests never returned; but a pair came about May 20, and finished the nest begun the year previously, hatched a brood. Then young and old left at the beginning of July; the birds in the front nests occupied some of them as late as September 17 or 18. Here it should be noted that the birds left and came again *in pairs*, and went to and occupied the same nests. Also what I wish to call attention to, is that it appears that the house-martins have no particular time of "coming" and "going," but come and go according to the season or distance of their migration, and that the young are taken away from the locality, where they are hatched, and in some way got rid of, when the old birds return and incubate again. But, as I have shown, this is not always so, and that it is only these last broods that congregate, and go off in a body, unless the young that have been early disposed of stay on in a flock somewhere, and await the final exodus. I have mentioned this at length, as this difference in time of departure and arrival is new to me, and may be so to others.

I know of no greater delight than to watch the house-martins on the wing, as they skim in eddying, whirling flight; the white patch on the back and the breast seems to float on the air, and then is lost again—now here, and now there, but never far from home; in this unlike the swallow, with the exception of the time when building. "My birds" seldom went more than 500 feet away, rounding the house continually. When the weather was genial, they were flying in search of insects at 4 A.M., and once at 3.30 A.M. all were "at work," and so on until sun-down, day by day, if fine; wet days they flew little.

It is curious how they congregate in some localities, and hang their nests in clusters much like a bunch of Grapes. Such was the case at Matfield House, Matfield Green, Kent; around and above the upper stable-windows one might have counted thirty nests, while on the adjacent buildings and the house itself, there was scarcely a dwelling made. Although the house-martin is a bird of no song or but little, yet the lively action, the eccentric flight circlings, the swift undulations and flashes of colouring from space to space, give a life and cheeriness, that produces an exhilaration and a feeling of pleasure in the watching and observation of that is to be enjoyed from no other bird!

With all these attractions, these beauties of life and "doing," this friend of man, this bird beloved of all time, is decreasing in numbers. Much of this is owing to the predatory pugnaciousness of the sparrow, as well possibly of the variation of climate. A friend of mine, a few days ago, told me that the sparrows had driven off all the house-martins from his buildings for some years, and that the house-martins, by way of security, had now built, and attempted to build, *inside the village school-room*.

I hope and trust that those reading these notes will try and do his, her, or their utmost to protect in every way a bird at once so charming, so useful, so ornamental, and so lovable.

FRENCH PRUNES.

AGEN is the capital of the department of Lot-et-Garonne, 400 miles south-west of Paris, and the centre of the region which extends throughout the valley of the Garonne, where the famous Prunes are cultivated. The Prune is a kind of natural specialty of that soil, which explains why no competition is feared. There are numerous varieties of Prunes. Duhamel divided them into two classes, following the colour of the fruit; the red-violet, and the white-yellow or greenish. Though bearing the name of Agen, the fruit is not much cultivated in the vicinity of the city, but chiefly on the borders of the River Garonne, from Marmande to Villeneuve. The Prunes are also known by the name of *Prunes d'Ente*, which merely signifies, that they are the out-put of grafted trees. The Agen Prune was introduced several ages ago near Clairac, by monks, who brought it from the East. The trade recognises six varieties of Prunes. The French Plum, or Prune, thrives best on a calcareous clayey soil; indeed it succeeds on all soils, save the very light or sandy. The tree exacts less care than that of the Apple or Pear. As it blossoms very early in spring, regions where late frosts are prevalent should be avoided; the Vine districts are excellent, the more so if they be sheltered. Indeed, the Prune is often cultivated in parallel rows in vineyards and orchards; having shallow roots, the leaves of the Vine shade the soil for the Plum trees. Ordinarily, the latter are purchased from the nurseryman when aged three years, and ready grafted. About 1,600 francs is the average price for an acre of Plum trees, and they will prove remuneratively productive during twenty years, if fairly manured, especially with woollen rags and horn shavings.

The fruit is known to be ripe by its odour, and the ease with which it falls when the tree is shaken; a mat is spread on the ground to receive the Prunes, as they being very delicate must not be bruised; such as are naturally bad are rejected. The fruit ought never to be gathered with the dew on them. Humidity is the great enemy of Prune farming. The fruit harvest is rarely good two or three years in succession. The trees are planted 11 yards apart, and yield from 14 to 84 lb. per tree of fresh fruit. The latter, when gathered, generally in the early part of August, are spread on a layer of straw, or ranged on osier open-work trays or hurdles to dry. They benefit by exposure to the sun for a day or two; it favours the evaporation of the humidity in the pulp. Now commences the processes of preparation, of the cooking and drying, on which success depends. The machinery for drying the fruit, that is to say, the method of constructing the ovens, are numerous. The renowned Prunes of Tours are prepared from the variety known as Sainte-Catherine. After their stalks are removed, they are spread on the hurdles in single layers, and exposed to the sun during several days till they become softish. Next they are placed in an oven heated to 140° Fahr., and hermetically closed during twenty-four hours, when they are taken out and exposed to the ordinary air. Next they are replaced in the oven, heated to 158°, and rising to 176°. The process is renewed, on the whole, three times, gently raising the heat to 212°, and shifting the surface of the fruit by delicately agitating the hurdles, while never touching it with the fingers.

The Prunes being now semi-desiccated, they are taken one by one, and pressed between the finger and thumb so as to impart that oblong and flat shape which first quality Prunes are expected to possess. This operation finished, the hurdles are placed in an ordinary baker's oven after the bread has been removed, the door of which is firmly closed. Here they remain one hour, and then withdrawn. A vase full of cold water is introduced into the oven, and when the water, has risen to 134° and 140°, the hurdles are re-introduced, the oven closed, they there remain twenty-four hours more. All is now terminated, when the Prunes become, strictly speaking, *pruneaux*. The condition of the latter, known as *fourrés*, are thus prepared. Before the Prunes enter the oven for the second or third time, they are slightly rolled between the finger and thumb, so as to squeeze out the stone; the latter is replaced by a second smaller and prepared stoneless fruit, which is thrust or *fourré* inside the first. There are firms that, instead of the usual oven, have a special stove, where the three temperatures 140, 176, and 212 degrees Fah. are attained successively. The first two temperatures are destined to evaporate slowly the water in the fruit; the third to cook it completely, and so secure that black shimmery appearance so much sought after by purchasers, while guarding its special elasticity and esteemed quality. If the temperatures were not moderated, and successively augmented, the interior of the fruit would boil, and the skin swell and burst; the syrup would then exude, become glutinous, and so be lost. While passing through the ovens, the Prunes are turned on the hurdles, but, as already remarked, never touched with the fingers, so as to avoid injuring the tender skin. Once cooked, the Prunes are placed in a well-aërated and dry store. Extreme care must be taken to prevent the Prunes absorbing the slightest humidity. During the processes of preparation, the Prunes lose 50 to 60 per cent. of their weight. Thus prepared, the Prunes will keep good in temperate climates for two years; after that they spoil, no matter how carefully they may have been packed. This is in part remedied by drying them, and subjecting them afterwards to the action of steam.

Pistoles are only Prunes from Brignoles, made from the choicest of the Plums; they are never gathered till noon, when the sun has thoroughly dried them.

Prunes fleuries are prepared from Plums of the second category. When gathered, and in full freshness, they are thrown immediately into a vat filled with boiling-water; here they are left for a few minutes, which causes the sugar in the fruit to be drawn outward to the skin. Taken out, they are dried in the open air, but always in the shade, for four to six weeks, according to temperature. The skin in due course becomes covered with a bloom or *duvet*, to which the technical name of *fleurie* is given. The boiling-water produces the well-known corrugations or wrinklings of the skin; but all the natural characteristic qualities of the Prunes are maintained.

The trade in French Prunes is very important, and varies from fifteen to twenty millions of francs, following the estimates of the Bank of France branch at Agen. Bordeaux, which is the centre of the export trade, alone ships annually Prunes to the value of 8 million francs to all parts of the world. The prunes are classified according to volume and weight in ten categories, by passing them slowly through a series of sieves, having mathematical measured meshes; so many prunes (92 to 30) go to a pound, and on the box, wherein they are nicely packed, the number of Prunes contained therein is stated, so that no deception is possible. Before sending the Prunes away, the Bordeaux merchants flatten the fruit between cylinders sheathed with india-rubber, and afterwards they are gently pressed by machines into the boxes. Other merchants simply range them in boxes of 2 and 3 lb. in weight each, and hermetically close the lid. *Edward Conner.*

PALMS ON THE RIVIERA.

HAD it been known twenty years ago that the majority of the Cocos which have found their way into the Riviera gardens would have attained such gigantic dimensions as they have done, they would have certainly been planted in greater numbers. It must not be understood that isolated specimens are out of place—*au contraire*, they form beautiful features in the landscape of our gardens, their long smooth trunks standing out as sentinels against the deep green vegetation around; but groups and avenues of them form a very striking and tropical feature, as the accompanying photograph shows (fig. 139, p. 779).

Here and there some very fine specimens may be met with, as in the Villa Valetta gardens at Cannes, where may be seen a Cocos flexuosa with a trunk 32 feet in height, and the fronds measuring over 15 feet in length.

Now that many of the older specimens flower and fruit annually, it is remarkable to note the great variation in the seeds of the C. flexuosa types, upon which basis many of the said species have been named, but which to me seem only forms of the one and same species.

In the foliage there is also great variation amongst them, some having light graceful fronds, and others an erect heavy appearance, the former being most desirable, as they resist better the heavy winds, whilst the latter are often broken about; and there is a heavy-foliaged variety known here as C. dactyle (?),

which often has its young leaves broken down each year by the winds.

There is amongst them a variety known as C. Romanzoffiana, but I am doubtful if it exists here, as the true variety has a pendulous spathe, and there are none, as yet, which answer to the description. Amongst the Cocos australis type, there is a confusion of names which one meets with, as the latter, for instance, is also found under the name of C. Bonnetti and C. campestris. Then there is C. Blumenavii and C. Yatai, which resemble the rest to a great extent. The Cocos delight in a porous soil, doing best in granite or a similar soil, with plenty of manure during the summer, but not so much water as the majority of our Palms.

Over-watering has been the death of many a fine Cocos here, and especially the C. australis varieties, which do not like a lot of water; in fact, where the soil is of a stagnant nature they will not grow. *Riviera.*



Fig. 110.—Gatehouse at Eastwell Park, Ashford, Kent (see p. 777).

THE VAGARIES OF THE STRAWBERRY PLANT.

The following paragraphs are the expansion of a brief report by Prof. MacOwan upon a correspondent's letter on the barrenness of his Strawberries:—

"The difficulty noticed by correspondents with regard to Strawberries failing to fruit has certainly increased considerably of late years. The modern Strawberry is quite an artificial product, and by no means merely a wild plant brought by culture to a greater state of perfection than could be gained under natural conditions. There are about seven species, or quasi-species, all of which have been in cultivation, and at least three of these have contributed by hybridisation to form the modern Strawberry. Remembering how apt some plants are to "throw back" to a former ancestor, and suddenly exhibit the peculiarities of a long forgotten strain, it will readily be understood how the tendency to vary increases with the number of progenitors. Hence it is that the Strawberry is apt to play tricks and disappoint the grower. The normal plant is bisexual, that is, every flower has its proper complement of stamens to produce pollen, and pistils to produce seed. When all goes right, the pistils are fertilised by the intervention of bees or other insects, who worry about among the anthers of the stamens and get covered with pollen. Some of this they are sure to deposit upon the receptive tips of the pistils, which immediately answer to the physiological call upon their powers, and commence the maturation of the seeds—or to speak more correctly, the little seedlike fruits which lie one at the base of each. While this main object of the plant's existence is in progress, other and very extraordinary changes are taking place. The one we are concerned with is an excessive development of the receptacle or disk upon which the pistils were originally supported, and which at first was of a texture somewhat like that of an ordinary leaf. It enlarges by an astonishingly rapid subdivision and growth of its component cells, which assume a juicy succulence, and a peculiar ethereal flavour. That is the physiological work done by the Strawberry. It has for its object the perpetuation and distribution of the species. The perfumed, juicy, sugary flesh of the enlarged receptacle is a bait set forth by the plant to induce some discerning epicure of a bird to peck away at the pulp and swallow it along with as many as possible of the seeds. The bird digests the pulp to his great satisfaction, and passes the seeds unharmed, dropping them here and there, that is, sowing them and providing for the dissemination of the species. Mind, I do not say that there is direct intent in this collaboration of Strawberry and epicurean fruition. But the result is just the same as if there had been a conscious and previously-planned arrangement. At this point, man interposes, and annexes for his own use the results of whole cycles of Darwinian development. That is how we get our Strawberries.

"Now it has often been argued, with no little show of probability, that most or perhaps all plants of moderately high development used to be respectively unisexual, that is, there were males and there were females, just as is the case with animals. Most of the oldest plants now representing the flora of past geologic ages, and surviving like descendants of historic heroes, are thus unisexual. This is the case with our Cape Restios, the "dak-rieta" and "besom-rieta" of the flats. So with all the Leucodendrons, the Cycads, and the whole family of Willows. Others have gone a step further in economising their physiologic work of reproduction, and bear male flowers and female flowers, distinct from each other, but on the same tree or plant. Such are the Pines, most Palms, the Bananas, and hosts of weedy Cucurbits, Nettle-plants, and even the royal Oak. A still further economy of space and convenience next prevailed. Each flower became in itself both male and female, having ovaries to conceive and reproduce, and stamens, or their equivalent, to fertilise and set the physiologic process going.

"With all this vast pedigree of change, stretching back into old world history, what wonder that even the humble Strawberry sometimes forgets the modern scheme of things, and reverts to an ancestral fashion of shaping its life? And the more highly it is bred

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in and in, to increase as much as possible the great succulent receptacle, which is to the plant itself of secondary importance only, the more likely is it to indulge in these vagaries, and become unisexual like its remote ancestors. The infertility consists in the plant producing only staminiferous or male blossoms, which of course, cannot bear fruit; or, a more frequent case, in failing to form any males at all. The bees generally bring enough pollen from far to make up for the latter fault, but they can do nothing to help the former failure. The gardener has to take the matter in hand himself, rogue out the barren males, or reduce their number to the few sufficient to give enough pollen to go round among the pistilliferous flowers. The weeding out is exactly analogous to the farmer's duty in weeding out a superfluity of rams from his flock, and maintaining the proportion of reproductive ewes.

"Then it amounts to something like this. In starting a new plantation, put in the first setts rooted from runners. You watch their first blooming. They will give normal bisexual plants, pistillate plants, and perhaps barren males. You may keep a few of these last, and intercalate some in each bearing row, but the general practice is to destroy them, and carefully arrange that, in planting up for bearing, there shall be one sound bisexual individual for at least every three or four pistillate ones. The busy bee will do the rest of the work, and see to the pollination of every one of them. I suppose it is a counsel of perfection, to which nobody will attend, that a bearing bed of Strawberries should not be maintained more than four seasons at most, but ought to be broken up in its regular rotation. The fruit from an old five to seven-year bed is not worth picking for market, unless indeed the seller is in the mind to put rubbish underneath and finish off with a layer of toppers to catch the customer's eye. The old first-class kinds stand longer than do some of the recent novelties, a few of which I have known to fail after two seasons, and have to be grubbed up. *P. MacOwan, in Agricultural Journal, Cape Town.*"

FORESTRY.

TYPES OF BRITISH WOODLAND.

(*Continued from p. 689.*)

The reasons for Beech Woods on the Chilterns. – Although the Beech is plentiful enough both in park and woodland throughout Great Britain, it is only on the Chiltern Hills of Bucks and Oxon that it can be called a predominant timber tree in woods. Round High Wycombe (with its chair factories and saw-mills) woods abound which contain scarcely anything but Beech and a few scattered Hollies and Yews, and which have cost their owners practically nothing in the way of planting or transplanting from time immemorial. Why pure Beech woods should be almost entirely confined to this district it is difficult to say. The affinity of Beech for chalk is one reason, of course, but chalk hills and downs prevail in several other districts of the south of England, but Beech woods are not found to the same extent upon them. Probably, local industries and systems of agriculture have been the means of retaining a large extent of the primeval forest growth of the Chilterns than has been the case elsewhere.

Beech woods provide no pasturage for sheep, and where sheep-breeding has been most extensively pursued, disafforestation has probably been pushed to its furthest limits; hence, treeless downs have generally succeeded the ancient forests which at one time must have covered the chalk hills of the south. [In Sussex, the iron-smelting, once extensively carried on, accounts for the absence of tree-growth on the downs in that county. ED.].

Methods of Afforesting. Few trees differ so much in appearance and habit of growth when grown singly in crowded woods as the Beech. With unrestricted growth it gradually forms a dome of branches almost as large and as regular in outline as that of St. Paul's, with a short thick and heavily buttressed trunk, which the timber merchant rejoices and the wood-cutter blesses or anathematises according to his particular view of the labour question. In a crowded wood, a tall cylinder of wood, without branch or excrescence of any kind, and almost as perfectly shaped as if turned out with a lathe, is the result. The arboriculturist will consider the former type of tree to be the correct one, while the sylviculturist, for obvious reasons, prefers the latter, but both types have their attractive features. In the Beech woods of Bucks, the clean-stemmed type prevails, and occasionally a wood, or portion of one, may be seen, which the most exacting forester could scarcely find fault with; but such cases are comparatively rare, and are more often the result of accident rather than design. For the system of felling adopted in most of these woods is neither regular enough to begin with, nor is it of the right kind to produce the best results. It may be most appropriately termed a cross between the "clear-felling" and "natural selection" systems of the continental forester, but while it does not contain enough of the one, it possesses too much of the other. The system of felling necessary to obtain satisfactory results has already been described in these columns (see July 13, 1895), and need not be gone into here. But still the first law of economic forestry is usually fulfilled as things are at present, for both natural regeneration and the maintenance of soil-fertility are well assured in most cases. Every now and then, however, one comes across instances where excessive and premature fellings have denuded the soil of its humus layer on the one hand, and deprived the wood of its mature seed-bearing trees on the other. Under such conditions, Beech woods are no longer able to hold their own in the struggle or existence, and a crop of weeds and coarse grass takes possession of the ground. *A. C. Forbes.*

(*To be continued*).

CHRYSANTHEMUMS: A REVIEW OF THE PAST SEASON.

A RETROSPECT of a very varied character comprises the Chrysanthemum season of 1896. At first all looked well; the spring and early summer proved favourable, so that good strong plants were potted on, and placed in their growing quarters under the most promising auspices. Another season of splendid flowers like the preceding one was confidently looked forward to by most growers; but the dry, almost burning heat of midsummer caused a check from which the plants never fully recovered. Up till that time the varied characters of the many varieties was closely watched. Such new sorts as had already established themselves, headed by the popular Madame Carnot, looked as if they would fulfil the good things expected from them. The less known sorts of recent introduction already seemed as if they would be valuable acquisitions, being mostly of a dwarf, sturdy habit, amongst which W. E. Capitant and Wood's Pet, may be cited as examples. The latter, I fear, will not long remain a pet unless the flowers grow larger than they promise to do. M. Chenon de Leché looked promising, while A. H. Wood had very similar growth to Primrose League. Australie did not look as if it would produce the large flower it undoubtedly does; but Pride of Madford and Oceana, gave promise of the excellent results they so well fulfilled.

Amongst the established varieties, Col. W. B. Smith never looked more promising; Niveum looked better than usual; and in collections from which its non-disease-resisting habit had not excluded it, Golden Wedding was better than ever. Viviand Morel and Charles Davis showed their precocity for producing flower-buds in a disagreeably marked degree. I find the best method of doing these varieties is to grow them on in the usual way until the middle or end of May, and then cut them right down close to the ground. The growth then produced will, in most instances, be strong, capable of finishing off a bloom, of more compact build, and better colour than when grown on without being cut back.

The burning heat just referred to caused many growers much anxiety. The lower leaves began to assume a sickly yellow hue, and premature ripening of the wood, with its attendant results, looked most threateningly. Unlike most times of drought, no night-dews refreshed the jaded-looking leaves, and artificial means seemed to have less than usual success.

When the change came, growth quickly recommenced—or, rather, the plants began to grow more naturally; but the wet, almost sunless autumn, prevented them from completely recovering themselves. Buds in most instances were taken in good time; and from the first show, right up till the latest, blooms probably were never staged in greater numbers, and competition more keen.

A striking peculiarity of the season is the extended period of the blooming time. This can be accounted for by the laggardly opening of late buds; and the two fine shows at the Aquarium prove conclusively that the quality of the flowers was good all through, although, owing doubtless to the changeable season, they lacked the sensational quality of the preceding season. *A Country Exhibitor.*

THE WEEK'S WORK.

THE HARDY FRUIT GARDEN.

By G. WOODGATE, Gardener, Rolleston Hall, Burton-on-Trent.

Preparatory to Grafting.—Healthy trees of inferior varieties of Plums, Cherries, Apples, and Pears, may be put to good use by grafting them with good varieties suited to the particular locality or soil. Such trees should be headed down in mild weather during the winter, cutting off the branches about one foot above the points where the grafts will eventually be put in, being careful not to injure the bark below the point of severance, and leaving till the proper season for inserting the young scions, the cutting-back of the branches to the length at which they will be left when grafted. The buds of the Gooseberry and Currant are liable to be devoured in winter and early spring-time by bullfinches and sparrows, and it behoves the gardener to take means to prevent their doing this. I have always found that, if the bushes are dusted over with freshly slaked lime and soot—two parts lime to one of soot, when they are wet with dew, it is a simple and excellent deterrent. It may be necessary to repeat the dusting twice or thrice during the winter and spring, if much rain falls. Mixing the quicklime and soot with soap-suds till it is of the consistency of thin paint, and spraying the bushes with the mixture is equally good, and has the advantage that it is not so easily washed off.

Manure water.—The large quantity of rain which has fallen of late, has occasioned large quantities of manure-water to flow from the manure-heaps, which ought not to be allowed to run to waste, it being an excellent stimulus for aged fruit-trees, Raspberries, and Blackberries, if applied liberally at this season. If very powerful, it should be diluted with water to a safe strength. Wall fruit-trees of all kinds, as well as others that are not productive of any excess of wood-growth, or which carried full crops of fruit this year, will be much improved by one or two applications. Afford these root-watering when the ground is pervious to moisture, and in sufficient quantity to moisten it to a considerable depth.

THE KITCHEN GARDEN.

By CHARLES HERRIN, Gardener, Drop Mor., Maidenhead.

Forcing Asparagus.—Where this work is carried out on an extensive scale, a sufficient number of roots to meet requirements should be lifted in mild weather and made secure against frost. It is always prudent to introduce fresh batches of roots to the forcing-pits before the latest one shows signs of giving out. Asparagus should be gathered as soon as the stalks have grown 6 inches above the crown, and if not required for immediate consumption, they may be tied in small bundles, placed in shallow pans of water, and kept in a frost-proof shed or cellar.

Parsley.—Up to the present time this has not really required protection; but where it is growing in the open border, or even under the shelter of a wall, covering material of some kind should be kept in readiness for use in the event of severe frost. The plants should be cleared of decaying leaves, and some dry tree-leaves placed alongside the rows and between the plants as a further protection against frost. A

few short twigs stuck in along the sides of the rows will keep the covering—any light covering that may be used—from pressing down upon the plants. It is well also to have some boxes filled with the plants, placing these in a cool house; and to cover a portion of the out-of-doors crop with a few garden frames.

Seakale Roots in small numbers should be placed in darkness to force, never allowing the shoots that are fit for use to become long and spindly before using, or cutting them. Should a drying day favour work on the ground, advantage should be taken of it to clear up the vegetable quarters, and wheel away all decaying leaves of Broccoli, Savoys, Brussels Sprouts, &c.

General Work.—At the present time it is scarcely possible to do any work upon the ground, but the men may be profitably employed instead in overhauling the root-stove, the Potatos used in the kitchen, rubbing off the growths, and sorting out the decaying and decayed tubers. Sets of Potatos for late planting should be spread on shelves or floors, thinly, as a check to untimely sprouting; whilst others, especially the forms of Ashleaf, should be placed on end in shallow boxes. Excellent boxes for this purpose were shown at the last meeting of the Royal Horticultural Society by Mr. A. Dean. The ends of these boxes are about twice the depth of the sides, with a slight tie-bar running from end to end, which allows of their being piled several boxes deep when filled with the tubers, while air and light are admitted at the same time. The running and pointing of Pea, Bean, and other sticks may be undertaken at this season, sorting them as the work goes on, into short, medium, and tall.

THE ORCHID HOUSES.

By W. H. WHITE, Burford, Dorking.

Calanthes.—The varieties of Calanthe vestita and the hybrids obtained by crossing them with C. (Limatodes) rosea, are plants which all should grow who have to furnish cut flowers in quantity at this season. The plants having done flowering, should be rested by placing them on a shelf free from drip, and close up to the roof of a warm-house or pit. Water should be entirely withheld till they are started in the spring. Before placing the plants on the shelf, the pseudo-bulb should be cleared of the white and brown scale which frequently infests them. Calanthe Turneri, C. nivalis, and others of the Regnieri section whose season of flowering is the spring, should be kept in the East Indian-house, carefully affording them water as they may need it.

Lælio-pis Dominyensis, and its closely-allied species L. erubescens, better known as L. peduncularis, and L. acuminata, whose flower-spikes are now appearing, must be carefully afforded water at this stage, but saturation of the potting material should be avoided, or the flower-spikes will fall off. After the flowers of these species fade, a decided rest till growth recommences should be afforded them, and the plants suspended near the roof of the Mexican-house.

Cattleya or Intermediate-house.—The larger number of the Cattleyas are still in a dormant state, i.e., so far as top growth is concerned, with the exception of a few plants that require attention. The new pseudo-bulbs of C. Lawrenceana being now of full size, the plants should be afforded less water at the root; C. exoniensis, now flowering from the current season's growth, will require to have water carefully afforded till growth is finished, after which time the new roots soon emerge from the base of the new pseudo-bulbs, and the plant may then be repotted, if this operation seems to be needed by any of them. The pretty Lælio-Cattleya euterpe should be afforded similar treatment to the last-named. Cattleya Percivalliana is commencing to push up its flower-spikes, and the plant will need to have a little more water than it has yet received applied at the root. Plants of C. labiata Warneri and the rare hybrids Lælia Amesiana, L. euspatha, L. Amanda, Lælio-Cattleya Canhamiana, and L.-C. C. alba, now commencing to grow, should be brought up to the light at the warmer end of the house, affording all of them water in sufficient quantity to keep the compost moist. As soon as growth is finished, remove them to a less warm position where there is better ventilation, and they will soon open their flowers. C. labiata Warneri, if kept too warm and close during the flowering period, sometimes loses its roots prematurely, which causes the shrivelling of the pseudo-bulbs. The most suitable season for repotting the above-named species and hybrids is that which follows the fading of the flowers, the latest made growths then commencing to emit roots from their base. The rare Sophro-Cattleya Calypso is now in bloom at Burford. We find that it should be grown in the coolest part of the intermediate-house. Fresh compost may be afforded the plant when the flowers are cut, or when the roots have become active.

Sobralias.—These plants being in active growth, the old stems that have bloomed may be cut close to the ground-level when the young shoots are well advanced. The new stems should then be tied out clear of each other. In the same house (intermediate) the plants of Cypripedium Spicerianum, C. Charlesworthi, C. purpuratum, and C. Schlimi have recently finished blooming, and any of these which may require more root-space may be forthwith repotted. In doing this, avoid the error of affording large pots; and see that the drainage is open. As a compost, use lumpy peat and sphagnum-moss, which affords ample drainage to such plants as these, which require an abundant supply of water.

PLANTS UNDER GLASS.

By JNO. MCINTYRE, Gardener, Woodside, Darlington.

Herbaceous Calceolarias.—These plants may now be shifted into 6-inch pots, which will be those they will flower in, unless large plants are required, when an 8-inch pot should be the size of the flowering pot. The compost should consist of rich fibrous loam, one year in stack two parts, dried cow-dung one part, and river-sand one part. The same kind of compost suits the Cineraria. The plants should from the first be grown cool; they will even stand a few degrees of frost without injury. They do not suffer from damp to the same extent as Cinerarias, and may therefore be kept in frames till hard frosts become imminent. The rich compost afforded the plant renders manurial aids to growth unnecessary before the soil gets exhausted, that is, just previous to flowering.

Schizanthus pinnatus and *S. retusus* are showy biennials for greenhouse decoration in the spring, and may be sown in the month of July and grown on. They require to be repeatedly shifted till they are in 6, 7, and 8-inch pots, I prefer them in the first size, which admits of their being used in various kinds of house-decoration. A compost of good loam, leaf-mould, and river-sand will suit them at each shift. Let the plants grow close to the glass so as to prevent spindly growth. They flower continuously for two or three months.

THE FLOWER GARDEN.

By HEDLEY WARREN, Gardener, Aston Clinton, Tring.

Roots of Cannas, Dahlias, Lobelia cardinalis, Salvia patens, Begonias, should be occasionally examined, rotten roots and parts of roots being removed, and the raw surfaces sprinkled with charcoal powder. Where a large number of a particular variety of Dahlia is required, and the stock of it is not great, the roots should be potted up early in the New Year, and placed in gentle warmth, for furnishing cuttings, which in their turn will furnish others, also in good time to make strong plants by the time that planting is usually done.

Herbaceous borders may be dressed with decayed manure, which if left on the surface for a few weeks, will afford the plants a slight protection against frost. It can be lightly forked into the soil later on. As many of the plants in herbaceous borders die down in the winter, it is very necessary that each be furnished with a stout label on which the name of the plant is legibly written.

Double-flowered Wallflowers.—These plants are frequently wintered in frames, not appearing to be quite so capable of withstanding frost as the single-flowered varieties unless they are planted in a sheltered position, such as that afforded by a south-west wall. Beautiful as some of the German double varieties are, the double yellow English is still the favourite, and rightly so, for it is extremely floriferous when true. This variety is propagated by slips inserted in a bed of sandy soil, loam, and leaf-mould under a handlight. Keep the handlight close till they are rooted, airing the cuttings for an hour if damp be troublesome; and affording air as soon as rooting has taken place. If planted out on a well-drained border at 9 inches apart, the young plants soon grow with one or two stoppings of the leading branches into compact little bushes, fit to make groups, big or little, to fill window-boxes, &c.

General Remarks.—The arrival by post of the nurserymen's seed lists for the incoming year is a reminder that operations will soon commence in the flower garden. There are many kinds of seeds that are almost indispensable which should be obtained as soon as possible, the sowings of some of them being made early in January. These are Centaurea candidissima, Cannas, Marguerite-Carnations, Grevillea robusta, and others; tuberous-rooted Begonias, Cobæa scandens, Salvia patens, Eulalias zebrina and gracilis, &c. These seeds should be sown in gentle heat, in an ordinary hotbed, potting off, and pushing on the seedlings as quickly as is desirable. To those who have no experience of Marguerite-Carnations for bedding out purposes, I would say that after being once grown for this purpose, few owners of gardens would be disposed to be without them, they being almost indispensable, especially in dry seasons like that of 1896. The first sowing should be made in seed-pans or boxes towards the end of the month of January, in gentle warmth, say of 60°. As soon as the plants appear above the soil, remove them to a pit or frame where a little more air can be afforded, and the temperature is not higher than 55°, and as soon as they are large enough to handle they should be potted off singly into thumb-pots, plunging these in Cocoa-nut fibre refuse up to the rims, still keeping the warmth at 55°; and as soon as root action begins, ventilation may be slightly increased, especially when the days are warm and mild. This ventilation will tend to check the inroads of green-fly, which light fumigations with tobacco will readily destroy, which is better than syringing the plants with an insecticide.

FRUITS UNDER GLASS.

By W. POPE, Gardener, Highclere Castle, Newbury.

Figs, Earliest Pot-trees.—When the terminal buds are observed to be bursting into leaf, the temperature of the pit may be increased a little by sun heat, with an increase in aërial-moisture. Afford the plants full sunlight by keeping the glass clean both inside and out, and reduce the condensation of moisture on the glass by affording a small quantity of air at the top of the house whenever this is possible, and whenever the temperature rises above 70°. Syringe the trees twice a day in bright weather, but in dull weather once will suffice, damping all available surfaces in the afternoon. Pay attention to the state of the fermenting material about the pots, not allowing the warmth to exceed 70° to 75°; but should it become warmer, it must be turned and mixed again—and, on the contrary, freshly-warmed material must be added should the mass be getting cool. Night temperature, 55° to 60°; that of the day, 75°, with sun-heat.

Early planted-out Trees.—If a good body of fermenting material has been introduced here, but little fire-heat will be required before signs of starting into growth are observed, especially if the trees have been previously forced; although in the case of young unforced trees a rather higher temperature will have to be afforded. Syringe the trees twice a day with tepid water, and if the soil be dry, afford water at 85° to 90°.

Succession and Late Houses.—The pruning and clearing of the trees should now be carried out, using soap-suds with a wineglassful of petroleum to the gallon of water if scale exists on them. The cleaning of the glass and woodwork should not be forgotten, and walls should be lime-washed. If any of the old mulching is still on the border remove it, and afford a fresh one, 3 to 4 inches thick of rotten manure. Keep the house cool and dry for the present. Young plants intended for growing in pots should now be potted, using fibrous loam, with a good sprinkling of lime rubbish, and a sixth part of decayed cow-manure added, potting firmly, and keeping the plants to a single stem. If required to be brought on for forcing, plunge the roots in gentle bottom-heat early in the new year.

Tomatos.—The young plants raised from cuttings should be kept near the glass in a temperature of 60° to 65°, with a proportionate advance from sun heat, with slight ventilation whenever it is safe to afford it. As these late-struck plants are apt to become drawn, they may be layered on to prepared ridges of soil, or into fruiting-pots, with the advantage of having the fruit close to the base of the plants. The plants should be kept in the pots till the layers are well rooted, when they may be detached. One joint should be selected for layering just below a flower-truss, securely fixing it with a peg, and covering with soil. The flowers which expand at this season and later should be fertilised with pollen carried to them on a camel's-hair pencil. If such plants for layering are not in stock, seed for them may now be sown. It is a good practice to place two or three seeds in 3-inch pots, and place these in bottom-heat and near to the glass; and when the seedlings appear, to draw out the weakest; in a few days shift into larger pots, potting firmly and growing them on in light pit or frame so as to induce sturdiness and early fruiting.

EDITORIAL NOTICES.

ADVERTISEMENTS should be sent to the PUBLISHER.

Illustrations.—*The Editor will thankfully receive and select photographs or drawings, suitable for reproduction in these pages, of gardens, or of remarkable plants, flowers, trees, &c.; but he cannot be responsible for loss or injury.*

Local News.—*Correspondents will greatly oblige by sending to the Editor early intelligence of local events likely to be of interest to our readers, or of any matters which it is desirable to bring under the notice of horticulturists.*

APPOINTMENTS FOR THE ENSUING WEEK.

SALES.

WEDNESDAY, Dec. 30.—Japanese Lilies and Palm Seeds, Roses, Azaleas, &c., at Protheroe & Morris' Rooms.

FRIDAY, Jan. 1.—Orchids, from Messrs. F. Sander & Co., at Protheroe & Morris' Rooms.

CORRECTED AVERAGE TEMPERATURE FOR THE ENSUING WEEK, DEDUCED FROM OBSERVATIONS OF FORTY-THREE YEARS, AT CHISWICK.—37·3°.

The Events of the Year.

In reviewing the events of the year now almost past, facts and circumstances often assume different proportions to those in which they presented themselves at the time. What excited interest then now fades into insignificance, or at least seems of much less importance. The eager interest felt in the big shows, in the meetings of the Rose or of the Chrysanthemum societies, awakes but a feeble echo now. The resting stage has been arrived at, and energy is being stored to break forth into full vigour next season. This being so, there is happily no necessity for doing more than allude to the ever-growing multitude of shows, with the expression of a passing regret that so much labour should be spent on ephemeral matters, and that the results are proportionately so small. Here and there we find something that is of more permanent value. We may include in the number the papers read at the recent Potato Tercentenary Conference in Dublin. It is curious to observe in passing that little or no notice seems to have been taken in Dublin of the similar conference held in London some few years ago, which was one of the very best and most instructive of similar gatherings.

Another matter arising out of the exhibitions is the issue under the auspices of the Royal Horticultural Society of the "Rules for Judging." This attempt to lay down general principles is most laudable, and we trust that the experience gained in the past year may serve to show in what directions amendment or augmentation may be required.

The most astonishing, and the most satisfactory, outcome of the societies this year is the resolution of the Shrewsbury Horticultural Society to erect a statue of DARWIN in the town of his birth. We have always looked on the Shrewsbury fête as one of the best illustrations of the provincial shows, and as such, very restricted in its influence on horticultural progress compared to the expenditure bestowed upon it. It is popular and does good service by affording an opportunity for meeting friends and fellow-workers, but is accompanied by adventitious elements more suited to a country-fair than to a society with earnest aims. In this, however, Shrewsbury is no worse than many other towns, and financial reasons may doubtless be alleged for the continuance of practices which every genuine horticulturist must look upon as out of place and unworthy the dignity of Horticulture. DARWIN derived endless facts from horticulture, and freely availed himself of the assistance of horticulturists, as our columns bear ample witness. It is then most satisfactory to find a provincial horticultural society taking the lead in the matter of commemorating the life and labours of the great naturalist. We understand that the Shrewsbury Society has invited a deputation from the Royal Horticultural Society to visit the show in August next.

The Royal Horticultural Society has gone on its way smoothly, and we hope prosperously. The Drill Hall is certainly not all that can be desired as a meeting-place, but it is convenient, and we do not see much chance of amendment. Chiswick has been well maintained throughout the year, and the new Superintendent has gained the good opinion of the Fellows for his ability, tact, and courtesy. Incidentally, let us hope that the authorities will afford us the opportunity of visiting Chiswick next year. It is beside the question in these busy days to tell us that the Gardens are open daily; some special opportunity must be afforded, or most of us will be too immersed in affairs to be able to visit the garden, although we may still feel that the garden and the library, together with the committees, form the very marrow of the Society, so far as its utility is concerned.

Of Mr. WOOD'S grandiose scheme for federating all the horticultural societies and giving them a home, we have nothing but sympathy as far as the general principles are concerned, but we feel grave doubts as to the possibility of its full realisation. There is no reason, however, why some parts of Mr. WOOD'S scheme may not be carried out, and we earnestly hope that something practical may in due course be evolved from it. The want is universally felt, and that being the case, it seems certain that a means of supplying it must shortly be devised. In the meantime, Mr. WOOD'S scheme is a very useful one as affording a basis for discussion.

Kew progresses in a way which makes a Briton proud. The cultivation of the plants is kept at a high standard, and the amenities of the garden are yearly increased. It was fitting that Kew should be one of the first places in which the noble Camoensia should flower. The very first place, however, was at The Mythes, Tewkesbury, last year. Now that it has flowered in a few other places, as with Mr. WOODALL of Scarborough, and Mrs. WINTHROP, Hungerford, we may expect to see it elsewhere. Kew has always from the time of Sir WILLIAM HOOKER devoted much attention to the resources of our colonies and dependencies; and Dr. MORRIS in our own days has given special attention to this department. No better or more experienced adviser than he could be found to take part in the enquiries and deliberations of the commission appointed to consider the state of affairs in the great sugar-growing colony of British Guiana, which is suffering like some of the West Indian islands from the mischievous and illogical procedures of those foreign governments who deem it right to encourage one class of the community at the expense of all the others by their system of contributing bounties to the growers of Beet for sugar.

While mentioning Kew, we may allude to the publication of the useful handlists of trees and shrubs and other plants; and we have elsewhere alluded to the completion of the vast *Flora of British India*, and to the renewal of energy in the publication of the *Flora Capensis*.

Of books of permanent interest published during the year, the number has been large and the quality creditable to horticulture (which we are sorry to say has not always been the case). In addition to the works already mentioned, Professor SARGENT'S noble *Silva of North America* progresses with remarkable and most laudable regularity. Miss WOOLWARD'S useful *Monograph of Masdevallia* has been completed. Mr. FREEMAN MITFORD has enriched our literature with a charming book on the *Culture of Bamboos as Ornamental Shrubs*. Mr. J. H. Veitch has furnished us with a sumptuous reprint of his *Travellers' Notes*, which will form a valuable work of reference on Colonial and Indian gardens. We have not space to mention many foreign works, but we must not omit to allude to the *Hortus Boissieranus* of MM. AUTRAN and DURAND, one of the most extensive and carefully compiled garden catalogues that exists; to the similar publication issued by M. MARC MICHELI, entitled *Le Jardin du Crest*; and to the numerous publications of Professor BAILEY, of Ithaca, New York, in which the teachings of evolution are brought to bear on the practice of horticulture in a way that is most interesting, and promising of good result.

Of new introductions in the way of plants, the number has not been large. Even among Orchids the greatest additions have been made in artificially raised hybrids. Perhaps many of these will be as evanescent as the hosts of new Chrysanthemums. We shall give a review of the new plants of the year in our next issue.

Among matters of vital interest to market gardeners and commercial horticulturists, are the reductions that have been made by some of the railway companies in their rates for the carriage of goods; and the triumphant efforts of the Nursery and Seed Association to ensure an equitable adjustment of the rates payable on premises used for business purposes. The "Worthing case" so often referred to, has been upheld everywhere; but to this matter we must refer on another occasion.

One by one the workers in our little Cosmos falls away. We mourn their loss, but we feel they have not lived in vain, and we are comforted by the reflection that their teachings and their influence will be beneficial on the new generation growing up. A glance at the index will show that the obituary list is sorely heavy. We have lost ANTHONY WATERER, a fine representative British horticulturist; ROBERT WARNER'S decease it falls to us to have to record in the present number; and then we have lost such practical gardeners and amateurs as WILLIAM BROCKBANK, W. E. BAKER, GEORGE PRINCE, BRUCE FINDLAY, Sir JULIAN GOLDSMID, Rev. CHARLES FELLOWES, and many others. Botany has sustained a very severe loss in the death of the indefatigable Baron VON MUELLER; in the loss of HENRY TRIMEN, so dear to his friends and colleagues; and in that of MARMADUKE LAWSON.

The mention of a few of our friends who have gone before reminds us of our duties to those still among us. Some of these need our help, and need it sorely. May we not, then, wind up our brief notice on the events of the year by an earnest appeal on behalf of our gardening charities, the Gardeners' Royal Benevolent, which is more than a charity inasmuch as it is an institute of self-help; and the Gardeners' Orphan Fund, which is a real charity. Both funds have been well conducted during the year, but they greatly need extended help. The inauguration of the sixtieth year of HER MAJESTY'S benign and brilliant reign surely affords a good opportunity for helping the poorer of her subjects.



Fig. 141.—Disa pulchra. (see p. 778.)

s, sepals; sp, spur; pp, petals crossing at the tips; l, lip; st, stamen, with po, pollinia; o, ovary.

Misleto.

Why should Misleto vary when growing on the same tree under apparently like conditions? The answer is not easy, for here we have the same species, and little or no cross-breeding is possible, and of course, absolutely no hybridisation. The nutrition is not changed to all appearance; the "environment," as Mr. Henslow would call it, is, so far as we can see, identical. Why then should the Misleto vary? Some will ask does it vary? To this the answer is yes, considerably, even on the same plant. In former years we published several illustrations, showing a considerable range of variation, and now before us lie specimens kindly sent by Mr. Justus Corderoy, some with twigs as thick as swan-quills, leaves 3 inches long and upwards, and nearly 1 inch in breadth. These leaves are in pairs. Then we have others much smaller in all their parts, but the most curious is one in which the leaves are in whorls of four, and what is more singular still, in threes. The branchlets bearing these whorled leaves are compressed and flattened as if fasciated; on cross-section, they are of elliptic outline, and there is a broken ring of vascular cords not yet consolidated into a central cylinder.

Mr. Corderoy tells us that there are two plants of it, one of younger growth having been cut out some years ago to get rid of it, but "it came again."

The specimens sent are both growing on the same tree, Pyrus spectabilis, but on opposite sides of it.

Our Almanack.—Secretaries of Horticultural Societies and others, are earnestly requested to forward *immediately*, the dates of Show Fixtures and of Meetings of Botanical and Horticultural Societies of any kind for 1897, for insertion in the Almanack, to be published in our next issue, on January 2.

Silver Wedding Celebration.—At the Drill Hall, Wordsley, on Tuesday evening, 15th inst., the silver wedding of Mr. and Mrs. Edward Webb, Stourbridge, was celebrated. The employés of the firm presented the happy pair with a massive and costly silver bowl and a pair of claret jugs.

Concerts at Altrincham.—The annual concerts in aid of the Gardeners' Royal Benevolent Institution and Royal Gardeners' Orphan Fund, given under the auspices of the Concert Committee of the Altrincham and District Gardeners' Improvement Society, took place on the 1st and 2nd inst., in the Literary Institute, Altrincham. A most attractive programme of vocal and instrumental music was provided each evening, and on both occasions the large hall was well filled with an appreciative audience. After paying all expenses, the balance left is £62, which the committee propose to divide as follows:—£31 10*s.* to the Gardeners' Royal Benevolent Institution, and £30 10*s.* to the Royal Gardeners' Orphan Fund. This is the fifth season of these concerts in Altrincham, and the total amount raised by the committee now reaches £220, a result far beyond our expectations. I am sure Mr. Barron and Mr. Ingram, the esteemed secretaries of the respective societies, would gladly welcome similar achievements by gardeners in other districts throughout the United Kingdom. *Chas. Hewitt, Hon. Sec. and Treasurer.*

The Surveyors' Institution.—The next Ordinary General Meeting will be held on Monday, January 11, 1897, when a paper will be read by Mr. Howard Martin (Fellow), entitled "The Future Development of 'The Surveyors' Institution.'" It has been found desirable to alter the date of the annual dinner from Wednesday, March 3rd (the date given on the Kalendar), to Wednesday, February 24th. The dinner will take place at the Hotel Cecil.

THE ROYAL GARDENERS' ORPHAN FUND.—A meeting of the committee was held on December 18, WM. MARSHALL, Esq., in the chair. The chief business of the committee was the selection of the candidates for election at the next annual meeting of the Fund, which will be held at Anderton's Hotel, Fleet Street, on February 19, 1897. Special donations were reported as having been received:—From J. J. Nelson, Esq., Chesterfield, £3 15*s.* 2*d.*; H. Herbst, Esq., Kew Road, Richmond, Box, £3 12*s.* 7*d.*; Shirley and District Gardeners' Mutual Improvement Association Concert, £2; Mr. G. Harvey, Stanton-in-Peak, Bakewell, 15*s.*; Mr. H. A. Burbury, Highbury, Birmingham, 17*s.*; Arthur Miles, Southampton, 11*s.* 9*d.*; Mr. F. Dodds, Herringswell, Mildenhall, 10*s.* 6*d.*; Miss Forrest, Anderton's Hotel, £1 5*s.* A cordial vote of thanks was awarded.

GLASGOW AND WEST OF SCOTLAND HORTICULTURAL SOCIETY.—The annual supper in connection with this important society took place on Thursday the 17th inst. at White's Restaurant, Glasgow. Mr. DONALD M. BEAN occupied the chair. It was stated by the chairman and others that the prospects of the society in the immediate future were exceedingly bright, chiefly on account of a much more suitable place for holding the society's great shows being secured.

THE RECENT EARTHQUAKE.—Will you allow me to ask the help of your readers in obtaining materials for a memoir on the recent earthquake. My object in this memoir is to trace as accurately as possible the boundary of the area over which the shock was felt, or the accompanying sound heard, and to draw lines on a map through all places at which the shock was of approximately the same intensity. It would be of great service to know simply the names of as many places as possible where the shock was felt, or the accompanying sound heard. Still more useful would it be to have answers to any of the questions printed below, especially to those numbered 5 and 6. I shall be most glad and thankful to receive accounts from any places whatever, and I may add that no careful account, however scanty the information given, can fail to possess some value, or to help in throwing light on the nature and origin of the shock—

1. Name of the place where the earthquake was observed.
2. Time at which it was felt, if possible to the nearest minute.
3. (*a*) What was the nature of the shock? (*b*) Did the shock consist of two distinct parts, separated by an interval of a few seconds? (*c*) If so, which part was the stronger, and how long was the interval between the two parts?
4. How many seconds did the shock last, not including the accompanying sound?
5. Was the shock strong enough (*a*) to make doors, windows, fire-irons, crockery, &c., rattle; (*b*) to cause the chair, &c., on which the observer was resting to be perceptibly raised or moved; (*c*) to make chandeliers, pictures, &c., swing, or to stop clocks?
6. (*a*) Was the shock accompanied by any unusual rumbling sound; and, if so, what did it resemble? (*b*) Did the beginning of the sound precede, coincide with, or follow, the beginning of the shock, and by how many seconds? (*c*) Did the end of the sound precede, coincide with, or follow, the end of the shock, and by how many seconds?

—*Charles Davison, Sc. D., F.G.S., Secretary of the British Association, Seismological Investigation Committee, 373, Gillott Road, Birmingham.*

BOTANIC GARDENS AND THEIR STAFFS.—As an appendix to the present volume of the *Kew Bulletin*, a list of the various official botanical institutions of this country and its dependencies is given As might have been anticipated, the majority of the Indian and Colonial officials have been trained at Kew.

EXCHANGE LIST OF SEEDS.—The list of seeds of hardy herbaceous plants, and of trees and shrubs, available for distribution from Kew, has lately been published. These seeds are offered in exchange among other botanical establishments and regular correspondents of Kew, but are not sold to the general public.

BIRKENHEAD AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—On Tuesday evening, the 8th inst., Mr. GEORGE BURDEN, of the gardens, Lingdale Lodge, Claughton, gave a lecture on "Chrysanthemums and their Culture," before the members of the above association, in the Y.M.C.A. Hall, Grange Road, Birkenhead, before a good attendance of members.

SCOTTISH PANSY AND VIOLA ASSOCIATION.—The annual meeting of this Association was held in Glasgow on Friday evening, the 18th inst., Mr. WILLIAM CUTHBERTSON (of Messrs. Dobbie & Co., Rothesay), presiding. Mr. JOHN SMELLIE, Busby, the secretary, submitted a report of the society's work for the year, which was considered most satisfactory. Office-bearers for the coming season were elected. The society holds several meetings during the summer to consider and award certificates to new and meritorious Violas and Pansies.

THE HORTICULTURAL MARKETS have during the past week passed through another period of uncommon activity. It has been our pleasure again and again to remind our readers at this recurring Christmas festival, of the importance that horticulture now assumes in relation to it, compared with earlier days in this century. There is a greater disposition on the part of the general public to avail itself of the fruits, vegetables, and flowers that are produced, and a corresponding effort is made by the market gardener to increase and vary his supplies. The activity that we have recently witnessed at Covent Garden Market, therefore, is something we always look for at Christmas, and never in vain. But we can easily sympathise with the stranger in his wonder at the abundance of products that pass through this centre of distribution, for few of us would have a comparative idea even, of the amount of decorative material that is used, or of the numbers and popularity of the time-honoured Christmas-tree, were it not gained from the market itself. In our issue for December 21st of last year, we went fully into the facts connected with "Christmas Horticulture," and enumerated the different kinds of flowers and fruits that can now be obtained from the market at midwinter. After carefully inspecting the supplies during the week just ended, we find little fresh to record. No new or novel features were noticeable, but a satisfactory supply of most of the articles of produce that are fast becoming indispensable. The autumn and winter so far have been neither uncommonly cold nor phenomenonally mild, and the gardener has forced his bulbs and other flowering plants, also his vegetables and salads, under conditions about average in character. There are still plenty of Chrysanthemums about, but it is probable that the supply will be a very different one after New Year's Day. The choicer kinds of flowers from hothouses are available in considerable quantity to purchasers whose means allow them to pay a remunerative price for them. Of fruits there is an enormous supply, but the major portion of this is "imported." British-grown Apples are to be had, but the supply will soon be exhausted, nor is the quality of them so good as we could desire. Of course, we now speak of ordinary samples, for it must be remembered that there is a small reserve of the choicest fruits, and such will command a good price. We saw very inferior fruits of Ribston Pippin at 3*d.* per pound, and others of better quality a penny each. King of Tomkins' County, fine fruits were marked at four for sixpence; and imported Newtown Pippins, threepence each. Some fairly good Blenheim Orange Pippins were selling at four for sixpence. Of Pears, there are Glou Morceau and Easter Beurré both in capital condition, but we failed to notice many samples of Winter Nelis. Of course, the season of 1896 was not specially favourable to either Apples or Pears, and the weak supplies observable at the end of December are partly thus explained. Excellent Tomatos could be bought for ninepence per pound, and Mushrooms from 1*s.* 3*d.* to 1*s.* 6*d.* per pound. A presentable sample of New Potato tubers was marked 6*d.* per lb. The supply of Grapes appeared to be sufficient at prices ranging from 1*s.* 6*d.* to 3*s.* 6*d.* per lb. Gros Colmar, Muscat of Alexandria, and Black Alicante were the chief varieties. Finest samples of Walnuts were 9*d.* per lb., Brazils 8*d.*, Chestnuts 6*d.*, Cobs and Filberts 8*d.*, and Small Nuts 6*d.* per lb.

British Produce Supply Association, Limited.—A visit to Winchelsea House, Long Acre, revealed a large exhibition of British farm and garden produce. Game and poultry of all kinds were present in remarkable numbers, save the well-known lark, the Association having so far discountenanced the slaughter of these, that it refuses to stock them. The great object of this Association is to bring the producer and consumer into immediate contact, and to so specialise British produce that there can be no possibility of foreign being substituted for it. Almost every county is represented by produce of one kind or another, and a very extensive British supply was provided for Christmas.

THE SUGAR-GROWING ISLANDS OF THE WEST INDIES.—The QUEEN has been pleased to appoint General Sir HENRY WYLIE NORMAN, G.C.B., G.C.M.G., C.I.E. (Chairman), SIR EDWARD GREY, Bart., M.P., and Sir DAVID BARBOUR, K.C.S.I., to be Commissioners to inquire into the conditions and prospects of the West Indian Sugar-growing Islands; and Mr. SYDNEY OLIVIER, B.A., to be their secretary. Dr. MORRIS, C.M.G., Assistant Director of the Royal Gardens, Kew, will accompany the Commission as expert adviser in botanical and agricultural questions.

THE LOUGHBOROUGH AND DISTRICT GARDENERS' MUTUAL IMPROVEMENT ASSOCIATION.—At the meeting of the above society held on December 15, in their rooms, Woodgate, Mr. J. SMITH occupied the chair, and Mr. A. J. WILLSHER, Gardener, Stanford Hall, read a paper upon "Winter-flowering Carnations." The practical methods of cultivation were fully detailed, and several points respecting the cultivation of plants were discussed by the members present.

NEW PUBLICATIONS.—*Everybody's Medical Guide:* By M.D., London. (SAXON & Co.) As a rule, books of this character are apt to be untrustworthy and misleading, either because the reader is not sufficiently acquainted with the subject to be able to use the book with advantage, or because, in the attempt to be "popular," accuracy is sacrificed. There is a still worse category, that of "quack-books" compiled for mercenary ends, largely advertised in one way or another, but which should be shunned like the plague itself. The present little book is among the best of its class, and a reference to it has shown that it has been carefully drawn up. Disinfection is, of course, frequently mentioned, but in another edition a separate paragraph should be devoted to it; and an explanation given as to the nature of "L. G. B. Soloids."

The Dairy Diary. (BEECHINGS, 174, Strand.) A practical record-book which will be very serviceable. The medical recommendations, however, it would be wise to ignore, and to summon the assistance of an expert when necessary.

Favourite Flowers (F. WARNE & Co.) continues to appear with exemplary punctuality. No. 14 is devoted to Roses and allied plants. The coloured plates of species are generally good—those of the florists' varieties are not so satisfactory. The

"popular" name "Syringa" should have been ignored. It does nothing but mislead. The seventeenth number of the second volume, ranging from Cotyledon to Willow Herbs (Epilobium), and including a coloured plate of Sedum spectabile, of Sedums Sieboldi and sarmentosum, of Sempervivum arachnoideum, of Myrtus communis, of Punica granatum, and of Cuphæa ignea. We commend the work heartily to the notice of amateurs and plant-lovers.

Elementary Geology. By G. S. Boulger, F.L.S. . . . . (London and Glasgow: William Collins, Sons, & Co.) This is, we are told, a complete revision of Dr. Davis' "First Book of Geology," and is intended for the students of the Science and Art Department. We do not know of any book in which so much information is compressed into so little space. As a guide therefore to larger works, a companion in the lecture-room or the quarry, or as a reminder to the busy student, it will prove most useful. For use by itself, we should no more recommend it than we should give undiluted Liebig's extract to a patient with feeble digestion. Though so condensed, the style is lucid and facile, and, so far as we have tested it, accurate. Sets of examination-questions, and an index, complete a little work whose utility is beyond dispute.

Live Stock Journal Almanac (Vinton & Co.) is a diary and journal specially suited to the wants of Stock-Raisers. In addition to tabular details, there is a large number of pleasantly-written articles on shorthorns, horses, and other farm animals.

Physique—Meteorologique . . . . Par Leon Dumas. (Huy H. Mignolet.) A treatise on cosmical physics and meteorology as applied to agriculture and horticulture. We shall revert to it on another occasion.

The True Grasses. By Eduard Hackel. . . . . (Westminster: Archibald Constable.) A translation from the article on grasses in Engler & Prantl's *Die Natürlichen Pflanzen Familien.* This translation appeared in the United States six years ago, but it only now appears in an English guise. As the best general account of the order it is very welcome, but it is disheartening to find that "no single tribe, no large genus numbering over fifty species, can be definitely characterised." This state of things is just what the student of evolution would expect; but to the student of method it is confusing. Artificial or arbitrary arrangements must be used for practical purposes, since natural groups cannot be defined.

Université de Montpellier, Jardin des Plantes. Catalogue des Graines Récoltées en 1896; it is herein requested that all applications for seeds should be made before February 15 next.

Notes upon the Flora of Newfoundland. By B. L. Robinson and H. von Schrenk. A useful publication, giving brief mention of prominent explorers and botanists, of the features of the country, and of the phænogams and vascular cryptogams secured on the island.

Journal of the Board of Agriculture. The third (quarterly) volume for December contains, amongst various other papers, one devoted to Injurious Insects and Fungi. It treats of the Army Worm (Leucania unipuncta), Woolly Aphis or American Blight, Corn Moth, a Lily Disease, a Disease of Snowdrops, Narcissus Fly, Smut of Brome Grass, and Hop Mildew. Brief life-histories of these pests are included, as well as directions as to how best to cope with them.

Hardy Coniferous Trees. By A. D. Webster. (Hutchinson & Co.) To this we shall have to advert more fully later on. *The Gloucester Diary.—Vinton's Agricultural Almanac.—Richensee Castle* (Geneva, Haussmann).—*True Till Death* (A. W. Hall).—*Mothers and Daughters.—Confidences of an Amateur Gardener* (Seeley & Co.).—*Catalogue des Graines, &c., Museum d'Histoire Naturelle* (Paris, Rue Cuvier, 57).—Special Christmas numbers of the *Gardeners' Magazine* (excellent), *Scraps, Scrapshots, Nuggets, The Weekly Budget,* from the publishers, Red Lion House, Red Lion Court, Fleet Street, E.C.

INDOOR DECORATIONS AT THE CHRISTMAS SEASON.

We owe largely to a mild, and on the whole, a favourable autumn, the preservation of the berries in our shrubberies and hedgerows, for they are still sparkling and plump, and capable of being employed in many ways for house-decoration at the Christmas season; and although the Chrysanthemum appears to be preserved to us longer than usual, the blooms are only in the possession of comparatively few, and flowers being in brisk demand at the Christmas season when they are fewest, they command good prices. It is well then that the outdoor garden can furnish something attractive in the way of foliage and berries to take the place of flowers; and with these can be used some of the dried and dyed treasures of the horticultural sundriesman, such as grasses in great variety, the noble plumes of Uva, Pampas, &c., and the stately Bulrush, the clever imitations of hardy evergreen berried plants, and various preserved flowers. Effective as many of these dried and dyed examples of foliage and flowers are, the natural products of our gardens are to be preferred where they can be obtained in sufficient variety and abundance.

Among these latter, berried plants are probably more plentiful than is generally supposed. The Holly takes the lead, their crimson and yellow berries in combination with their leaves are highly effective, and lend themselves to all sorts of combinations; while the leafy sprays, green and variegated with much diversity of leafage, are scarcely less valuable. Crataegus coccinea, where the fruit has been allowed to remain on the trees; the crimson berries of the common Hawthorn, which are very abundant this season, with the more coral-tinted ones of C. pyracantha, are acceptable helps to the indoor-decorator. These can be gathered in clusters and wired so as to make them prominent subjects in a basket or bowl of foliaged and berried plants. The hips of the Dog and other Roses, and the large and prominent fruit of the Japanese Rosa rugosa, where the birds have spared them, are valuable also.

The common Privet furnishes clusters of purple, almost black, berries at this season of the year, and they can also be wired, for in all combinations of foliage and berries, the latter should be made as prominent as possible, and need elevating on wires or some substitute for it. The bright-red berried Skimmia Fortunei is very showy, and as they can be gathered in bare clusters, the plant being of slow growth, it is well not to denude it too much of its foliage.

The Pernettyas are charming berried plants, and especially the new varieties from the north of Ireland, which do not appear to be so much grown as they so well deserve to be; but the old P. mucronata can be found in many gardens to which the new forms have not yet been introduced. In favourable positions the Myrtle will sometimes produce its purple berries, but their production is not of common occurrence. On the Snowberry-tree (Symphoricarpus) the large fleshy-white berries can, when the autumn is mild, be gathered at Christmas; and Garrya elliptica, when furnished with its long slender pendulous catkins, is almost indispensable to an effective arrangement.

In the way of foliage there are the forms of the Green and Golden Cypress; some of the choicer Coniferæ furnish handsome sprays, rich in the promise of catkins. The Aucuba is one of the handsomest of our hardy evergreen shrubs, some of the varieties of the common type have handsomely maculated leaves, the berries are yet green; they begin to colour in February, and by Easter are ruddy with colour, and of service in the decorations at that festive season. The Spruce and other Firs are useful for furnishing sprays, and the former supplies us with the traditional Christmas-tree.

Berberis Darwini supplies evergreen shoots which are effective in baskets; but Mahonia aquifolium furnishes leaves of a bright bronzy hue, invaluable in combination. Ivy, both green-leaved and variegated, are excellent for furnishing the handles and rims of baskets, the small-leaved types to be preferred; and such of the berries as remain have a decorative value.

Where Aralia Sieboldi and its variegated form will stand the rigour of our English winters, its bold leaves are useful, so are those of Escallonia; the large shining evergreen leaves of E. macrantha are even more glistening in winter than in summer. Lonicera aureo-reticulata will sometimes furnish bright golden festoons in winter; Osmanthus ilicifolius variegatus has handsomely variegated Holly-like foliage. It should be mentioned that the Retinosporas furnish elegant plumose sprays, green and variegated.

Of hardy-growing plants, blooming in the open air at Christmas, we have but few. The naked-flowering Jasminum is one of the best; just now it has many expanded yellow blossoms, especially when against a south wall. Then there is Viburnum Tinus, and its large-flowered form, lucidum, a plant which never fails to bloom at the Christmas season, as if defying the terrors of winter; and where Chimonanthus fragrans will flourish, it should have the protection of a south wall—and where, mid frost and snow, this winter loving bush will produce its Jonquil-scented flowers in abundance. What can be more acceptable on Christmas Day? Erica carnea will put forth its abundant pinkish flowers at mid-winter, where it thrives in a peaty spot. The Witch Hazel (Hamamelis) will produce its numerous and somewhat rich yellow flowers from October to March, and they are effective in various ways. Lardizabala biternata in an exceptionally favourable position, such as a warm wall, is a very fine evergreen climbing plant, producing its purple flowers in drooping racemes at Christmas, but it is seen at its best when planted out in a cool conservatory.

There is thus no lack of material for such purposes if such be available, as at this season of the year foliage and berries will remain fresh for many days, gilding the dull portion of the year with some touches of attractiveness. *R. D.*

A MEDICINAL MISLETO.

Your correspondent's (W. W.) notes some time since regarding a medicinal Cactus, a native of Texas, Mexico, recalls to my mind certain information which I gathered from a very intelligent native some years ago regarding a species of Misleto indigenous to the same region, or at any rate to Arizona and the adjoining Mexican district of Sinora. While riding down one of the valleys debouching into the Sinora River, I noticed that two forms of Misleto grew very thickly on the Mesquite (Acacia) trees, which are very plentiful in many places. One species was not very much unlike our native form, but in the other the leaves were almost entirely aborted, and the plants appeared like bunches of long pendulous stalks, profusely covered with small knots, which I believe were the inflorescence. The two forms grew indiscriminately together on the same trees, and in such abundance that they sometimes far exceeded in quantity the natural foliage of the host-tree. Making some remark about this growth, the Mexican riding at my side told me that it constituted a powerful native remedy for coughs and chest complaints, but had to be used with care, as its effects were so marked. To use it, the plant was dried and smoked in the form of cigarettes, the fumes being drawn into the lungs by inhalation once or twice only, when immediate relief was experienced. He did not draw any distinction between the two forms, and I understood his remarks to relate to both. I have since greatly regretted that I did not collect specimens and bring them home; and, indeed, on my return I wrote to a person who was with me at the time to send some material, but circumstances occurred which prevented this. There would, however, be no difficulty in obtaining a supply, should any of your readers have connections in the region

indicated, and hence I have thought it might be of interest to mention the fact, as I have found no reference in botanical works to medicinal virtues of the nature possessed by this family of plants, and it is quite possible a valuable remedy might repay the trouble involved. A third form of Misleto I noticed, but this had larger and blunter leaves than ours, and is hence very different from the species in question.

With reference to the mescal spirit alluded to by your correspondent, its use is by no means peculiar to the Apaches; it is the "whiskey" of Northern Mexico, with the reputation of leaving no head-ache as a sequel to excess. It is quite colourless, and very strong. There are plenty of stills scattered about the country, and donkeys (burros) laden with the huge pine-apple-like masses of the trimmed Agave roots, or rather root-stocks, are frequently met with, and their produce, the spirit aforesaid, is sampled alike by native and foreigner without a thought of the common foe, the wily Apache, now happily shut up far away in his own particular Government reservation, except when a little knot of young braves break out in a vain attempt to revive their fathers' unenviable reputation of scalp-hunters and demons in general. *Chas. T. Druery, F.L.S.*

NOTICES OF BOOKS.

THE NATURAL HISTORY OF THE ANCIENTS, by Rev. G. M. WATKINS, M.A. (London: ELLIOT STOCK.)

THE author of this book seems to be ignorant of the fact that a few years ago a book on the same subject was published so very like his own, that it seems impossible that he can have seen it. The book was entitled *The Natural History of the Ancients*, by the Rev. W. Houghton, and in the size and binding of the book, in the arrangement of the subjects, and very much in the way in which the different subjects are treated, the two books are much alike. Mr. Houghton's was an excellent little book, with a few good illustrations from the old monuments; and Mr. Watkins' book may also be fully recommended to all who wish to know something of the connection between our present wild and domesticated animals and those of the ancients, and something also of the connection between our gardens and flowers and the Roman and early English gardens. On this last point, Mr. Houghton's book says nothing, because he confined himself more closely to the animals, and because he did not use the term "ancients" in the same loose way that Mr. Watkins does. With Mr. Watkins, the term "the ancients" comprises all the time between Homer, or even Adam and Eve, and the last century; for he gives at full length not only Chaucer's accounts of his gardens, but Milton's account of Paradise and Addison's of the gardens of his day. He has three chapters that the gardener will naturally turn to, the chapters on "Gardens," on "The Romans as Acclimatisers in Britain," and on "Roses." The chapter on "Gardens" has the usual accounts of the gardens of Homer, Alcinous, the Romans, Pliny, &c., and then comes down through Chaucer, Bacon, and the *ars topiaria* to our own day, in which "we see a decided revolt from the tyranny of ribbon-beds," and "the effects of geometrical gardening and lines of bedding-plants," and in none of these points is there anything new, though much, perhaps, that is interesting. On the second subject, "The Romans as Acclimatisers in Britain," Mr. Watkins gives rather a confused account. He seems to think that all the Italian plants now grown in England were introduced by the Romans who conquered Britain, and so he credits them with the introduction of the Laurel, Myrtle, Oleander, &c.; and more than that, he gives them the credit of introducing the Filbert, and of importing, not only the so-called Roman Nettle, the history of which, as given by Camden, is very doubtful, but even says that they imported the two other British Nettles, which are undoubtedly indigenous. Nor can we say much more of his chapter on "Roses." The old stories of the Greek and Latin Roses are introduced, followed by the Roses of Chaucer, and then, by the mistaken statement that Shakespeare's Roses were nothing but "Roses which blossomed on the hedges by the Avon," "the wildings of his own country lanes." He would find it difficult to gather in those lanes Shakespeare's "Red Rose," "Provençal Rose," "Damask Roses," "Rose Red and White," &c. Of the chapters devoted to animals we say little, wishing to confine ourselves to those on flowers; we will only say that he adds little or nothing to what had been already well said by Mr. Houghton and by Miss Phipson in her excellent *Animal-lore of Shakespeare's Time*. Still, with all its defects, Mr. Watkins' book is a scholarly book; and if it could be re cast and rearranged with some attention to keeping more close to the subject, and especially to the natural history of the ancients only, the book would have its uses.

THE PLANT-LORE AND GARDEN-CRAFT OF SHAKESPEARE. By Henry N. Ellacombe, M.A. New edition (Edward Arnold).

There are various reasons which induce us to devote more space to the present book than we can usually do to new editions. In the first place "It's Christmas," and our readers will, we hope, find themselves in the enjoyment of a little well-earned leisure. We can assure them they will find no more pleasurable, no more satisfying recreation of the kind than the perusal of this new edition of the plant-lore. Of one thing we may warn them, and that is, not to take it up when time is an object, or work has to be done. The reader will find it so fascinating that he will read on, turn over page after page, and put down the volume with regret when forced to do so. In the next place, the present edition is enriched with numerous wood-cut illustrations, many of which add to the interest of the volume, particularly those relating to Shakespearean localities and Elizabethan gardens. The illustrations of the plants are accurate, especially when their small size is considered. While admitting the general interest and accuracy of the illustrations, we are a little disposed to regret that their presence has entailed the omission of a delightful article on the Daisy, of another on the seasons of Shakespeare's plays, and of the list of plants mentioned by Shakespeare and his contemporaries. If it were not so very unseasonable, we think we should indulge in a grumble over these omissions. They are enough to make a critic turn fractious, and to ask, for instance, why the Cedars at Warwick Castle and the Stone Pine are introduced? why "the Globe Artichoke is considered a near ally of the Eryngium," as it is not, except, perhaps, at Christmas time?

What the gardens of Shakespearean times were like may be gleaned not only from Canon Ellacombe's pleasant pages, but also from the excellent account of the Elizabethan flower-garden to be found in the Hon. Miss Amherst's history of gardening in England. It was formal, and if carpet-bedding had been invented at that time, no doubt it would have found favour. In any case, the garden of those days was in harmony with the architecture of the house, and that it did not prevent the appreciation of the beauties of woodland scenery is obvious enough from the references in such plays as *As You Like It*, besides, did not a writer in the very first volume of the *Gardeners' Chronicle*, in 1841, undertake to prove from his writings, that Shakespeare was neither more nor less than a gardener? (See *Gardeners' Chronicle*, 1841, pp. 135, 183, 349, 437).

HOME CORRESPONDENCE.

HORTICULTURAL INSTITUTE.—Mr. Wood will soon have an opportunity to learn how far his proposals are likely to meet with pecuniary support; there are so many very enthusiastic people in the world whose sentiment, however, stops short at the breeches pocket. Why does not some one suggest that horticulture enter into partnership with the Imperial Institute. There is a big building wanting employment, and so far, though floated with far greater *éclat* than Mr. Wood's bantling will ever obtain, yet it is practically a failure. Why not make that white elephant a "Home for Horticulture?" If the site for Mr. Wood's erection is not to be found at South Kensington, then where? Certainly not on the Thames Embankment, or in Hyde Park. Millions of castles, palaces, institutes, and homes, have been built in the clouds, but soon all have dissolved, and, like baseless fabrics of visions, left no wrecks behind. Is there any better fate in store for the newly-designed castle for horticulture, or is there yet in the background some horticultural Henry Tate who will find the needful thousands? Here is a grand opportunity for some millionnaire to secure immortality. *A. D.*

—— Will you allow me to add to my former letters upon the above subject, a few further remarks upon finance. It is desirable to create and foster interest in every department of the horticultural community, the trade, the employers of labour, the gardeners, the amateurs, and the cottagers. As I have already stated, the Rose and other floral festivals held about the middle of June (as near the 20th as convenient) would in my judgment be a most appropriate occasion in which all could take part. The trade, I would suggest, who derive their income from the gardening body, might take the initiative, and subscribe say £1000 to be distributed in prizes to those societies who would be represented by a life governor or an associate. If their co-operation can be obtained for carrying out my scheme, I shall be pleased to offer £100 towards this fund, and believe another £400 would be forthcoming from four other firms. Surely amongst all our large and wealthy trade community ten other sums of £50 each can be relied upon, thus making £1000. The assistance of gardeners might be solicited (through the post), collecting-cards being sent to them, prizes being offered for the largest amounts so collected; collectors might also ballot for a certain number of their fellow-collectors to be elected as associates without payment, thus ensuring a thoroughly representative council, also all collectors of over £2 should be entitled to a free membership for the first year, with all its privileges. Amateurs and cottagers would, it is confidently anticipated, respond to a special appeal by the Horticultural Press, particularly if the papers would receive donations and acknowledge them in their columns. I offer these suggestions entirely because no one else appears to come forward with a definite scheme worthy of the occasion. The forthcoming event is too important to pass unnoticed. Celebrations and festivities of all kinds will be held all over the Kingdom, shall horticulture be silent? Will the Royal Horticultural Society kindly consider these suggestions? They are not made with the idea of forming a rival institution, but of establishing a home in which all interests should be united, and the Royal Horticultural Society would naturally be the head of it. Will they therefore take the lead? *James L. Wood, Oakleigh Park, Whetstone.*

—— I should like also to mention that I think Mr. J. L. Wood should be encouraged to proceed as he suggests, with all speed, to endeavour to provide a Horticultural Institute. I shall certainly be a member. The prospect of having a specially-built place in which shows may be held with dignity and elegance is entrancing, and worthy of a special effort. *C. Boyle Woolley.*

—— Now that Mr. Wood has given us his plans and ideas for the promotion and formation of a "Home of Horticulture," I beg to suggest one or two ways in which the Royal Horticultural Society could help in raising funds to provide the necessary expenses of such a home. I propose that the Royal Horticultural Society send a subscription card to each of their 3000 Fellows, and duly authorise them to raise subscriptions in their districts from gardeners, nurserymen, and all others interested in horticulture, such cards with subscriptions to be returned within one month from date of receiving them. The expense of printing cards, &c., to be deducted from subscriptions. The balance (which should be a good one), to be handed to the trustees of the Home of Horticulture. *J. D. Robertson, F.R.H.S., South-Eastern College, Ramsgate.*

—— Your issue of December 19 contains a well-thought-out plan in reference to a Horticultural Institute, which, no doubt, will find many admirers in the world. Mr. Wood says it can be made a success, and he also uses the old expression, "United we stand, divided we

fall." In that one sentence lays the whole thing. For my part I do not believe gardeners will stand together for such a purpose; and again, will the benefits derived from such a course justify such an action? I think not. No doubt it would be patronised by gardeners in or near London, but not so by those living at a distance, for even if some thought they could derive an advantage by attending, the expense would be too great, without taking into consideration the question of time. Again, the majority of gardeners are connected with a society near their residence, and all are well aware how some anxious times come to them connected with such a thing as a small village show; in fact, there are few such shows that work on purely horticultural lines that one can term prosperous. Take the attractions which are not horticultural away from such a prosperous show as Shrewsbury, and where would it be in a few years? My opinion is that an horticultural institute, such as is described in the *Gardeners' Chronicle*, will not succeed in Great Britain, and gardeners generally will do better to think out something else to commemorate the sixtieth year of Her Majesty's reign. *E. W.*

it and reach to the seeds. Hence it is known when the seeds are ripe, by the rattling of the capsule when it is shaken. The pulp has a sweet and not unpleasant taste, with a slight acidity; it is sucked and eaten raw by the natives. The seeds are about 25 in number, when fresh they are of a flesh-colour; gathered before they are ripe, they are preserved in sugar, and thus they are very grateful to the palate. They quickly lose their power of vegetation, if taken out of the capsule; but kept in it, they preserve that power for a long time. The tree bears leaves, flowers and fruits all the year through; but the usual seasons for gathering the fruit are June and December. In two years from the seed it is above 3 feet high, and spreads its branches, not more than five of which are suffered to remain; before its third year is complete it shows for fruit. One tree yields from 2 to 3 pounds of seeds annually. These seeds are remarkably nourishing, and agreeable to most people, which occasions them to be kept in most houses in South America as a necessary part of the provisions of the family; they are generally ground or pounded very fine, a little anatto added, and made into paste—they are much charged with oil, but mix well with milk or water, and

the very best thing they can do is to eat Apples just before going to bed. The Apple is excellent brain food because it has more phosphoric acid, in an easily digestible condition, than any other fruit known. It excites the action of the liver, promotes sound and healthy sleep, and thoroughly disinfects the mouth. It also agglutinates the surplus acids of the stomach [?], helps the kidney secretions, and prevents calculus growth; while it obviates indigestion, and is one of the best preventives of diseases of the throat. Next to the Lemon and Orange it is also the best antidote for the thirst and craving of persons addicted to the alcohol habit. *J. J. Willis, Harpenden.*

PEAR BEURRÉ DU BUISSON.—In reply to Mr. Woodward (*Gardeners' Chronicle*, p. 768), I have pleasure in supplying the information he desires. This variety is probably of French origin, grafts having been sent from France several years ago to my predecessor, the late Mr. W. Ingram. It is the best flavoured Pear that I know of for use after Marie Louise and Doyenné du Comice are over, and the fruits grow to a good size under favourable circumstances, reaching to 4 inches in length and



Fig. 142.—THE GARDEN AT THE REAR OF SHAKESPEARE'S HOUSE, STRATFORD-ON-AVON (SEE P. 788).

CATCHUP.—In the *Gentlemen's Magazine Library*, Part 4, a Mr. T. White, writing in 1789, describes the opening of the leaden coffin of a presumed Knights Templar in Danbury church. He writes:—"The lid of the shell being carefully taken off, we were presented with a view of the body, lying in a liquor or pickle, somewhat resembling Mushroom-catchup, but of a paler complexion, and somewhat thicker consistence. As I never possessed the sense of smelling, and was willing to ascertain the flavour of the liquid, I tasted, and found it to be aromatic, though not very pungent, partaking of the taste of catchup, and of the pickle of Spanish Olives." *W. G. Smith.*

THE COCOA TREE.—Theobroma Cacao is a tree which grows in a very handsome form to a height of 12 or 16 feet; the trunk is upright, and about as high as a man before the head spreads out. The wood is light and of a white colour; the bark brownish. Leaves lanceolate, oblong, bright green, quite entire; flowers small, reddish, inodorous. Fruits smooth, yellow, red, or of both colours, about 3 inches in diameter; rind fleshy, near ½ inch in thickness, flesh-coloured within; pulp whitish, the consistence of butter, separating from the rind in a state of ripeness, and adhering to it only by filaments, which penetrate are formed into rolls of one pound each. The simple preparation of chocolate is the most natural and the best. It is in daily use amongst most families in Jamaica, where the tree is largely cultivated, and affords a nutritious food for children, as well as adults. Cocoa is a simple preparation from the cocoa-nut, or from the shells of it, or from a mixture of both. It is considered much easier of digestion than chocolate, and very nourishing. Theobroma species thrive in our stoves in light, rich soil; cuttings root in sand under glass. Seedlings of this very important plant I received from the West Indies. *M. Buysman, Hortus Plantarum Diaphoricarum, Middelburg, Holland.*

APPLES AS FOOD.—The Apple is the most valuable of all our home-grown fruits, being richest in sugar and albuminoids. The juiciest varieties are the most digestible, but the mealiest are the most nutritious. Thoroughly masticated, digestion begins immediately, but some persons cannot eat them uncooked as a dessert. The Apple contains more of the element phosphorus than any other fruit or vegetable. A German writer thus discourses on Apples as food and medicine. The Apple is such a common fruit that few persons are familiar with its remarkably efficacious medicinal properties. Everybody ought to know that

2¾ inches in diameter, without any special method of cultivation. The shape is obtuse pyriform; colour of the skin pale greenish-yellow on the shaded side, sometimes marked with red where exposed to the sun, the whole surface more or less covered with russet spots and veinings; eye, partly closed, set in a shallow depression; stalk, thick, ½ to ¾ inch in length, sometimes obliquely inserted; flesh, white, melting, and juicy, with a delicate aroma. It has the great merit of keeping in good condition for a considerable period of time after it ripens. The tree bears freely at Belvoir on the wilding stock, both on an east wall and as a pyramid in the kitchen garden, the fruits from the latter being only slightly inferior in flavour to those on the wall. On referring to the Royal Horticultural Society's report of the Pear Conference in 1885, I find that the variety was exhibited on that occasion, and I know that it has been in the hands of some of our leading nurserymen for several years. I mention this fact to show the length of time it takes for a first-class fruit to get into general cultivation. It received an Award of Merit from the Royal Horticultural Society in November, 1895, which is only partial recognition of its merits. It is classed as a January Pear in the Report of the Pear Conference, but I consider the month of December would be more correct, as I find it usually commences to ripen

about the middle of November, and to-day (Dec. 18) the last two fruits of it that we possess are fully ripe. *W. H. Divers, Belvoir Castle Gardens, Grantham.*

POTATOS AND PEAS.—I am very grateful to your reviewer for a kindly notice of my little book on "Vegetable Culture;" but even he must have his little fling, and advises pruning of the Potato and Pea list. Now, no unfortunate author who undertakes the preparation of the smallest books can hope to escape not merely criticism, but very diverse criticism. That has been my case, for I have been told in various directions either that my selections of the above terribly varied vegetables were too limited, or else that I did not include some varieties others regarded highly. Now I am taken to task for selecting Potatos out of hundreds of varieties about two dozen—a great display of moderation, which all garden authors do not adopt; and of Peas, about twenty varieties out of perhaps 150 or more. Then, if I give selections of white Potatos, all widely grown, why not include a few coloured ones, for I have no prejudice against colour in Potatos, neither do I find have myriads of cottagers or allotment-holders. As to applying to these coloured varieties the invidious term "exhibition tubers," or indeed to any Potato varieties, it would be just as wise to regard certain Apples and Pears as unworthy general culture because so favoured, and "do beautiful for showing." Some of the very best cropping and eating Potatos in cultivation are the best for exhibition. As to Peas, having given selections of dwarf and medium height varieties, why not give also a few of the best tall ones. There are gardeners of every class who still like them; and I did but indicate a few good ones for those who do, whilst undoubtedly the medium height section is the most serviceable generally. With these varieties come first, and here I should include Senator, Magnum Bonum, Boston Unrivalled, and the Gladstone, all first-class. *A. Dean.*

SOCIETIES.

MEETING OF THE BRUSSELS ORCHIDÉENNE.

DECEMBER 13.—At the meeting held on the above date there was shown a plant of Vanda cœrulea with a fine truss of ten large deep blue flowers, from M. FLORENT PAUWELS, which obtained a Diploma of Honour *par acclamation*. There were also two good plants of Cattleya labiata, with dark flowers much streaked with lilacy-rose, from M. VAN WASSENHOVE: the lip of one variety was of an unusually dark purple colouring and satiny. A Diploma of Honour *à l'unanimité* was awarded. I should add that the greater part of the leaves and scapes were spotted with claret colour, which suggests that the stripes will be regularly produced. Very pretty were Miltonia vexillaria, from MM. LUCIEN LINDEN ET CIE.; Cypripedium Donatianum nigrum (Harrisianum × Wioti), from Dr. VAN CAUWELAERT; Odontoglossum crispum, with large brick-red spots on the sepals and smaller ones on the petals; Oncidium Phalænopsis, from MM. LUCIEN LINDEN ET CIE., who showed twenty well-varied examples of Cypripedium montanum, as well as an Odontoglossum resembling equally O. luteo-purpureum and O. sceptrum. M. PAUWELS sent also a fine variety of Cypripedium Charlesworthi, with a large well-coloured standard; l'Horticulture Internationale showed Cymbidium Mastersii; and from the royal gardens at Laeken came Cattleya labiata, delicate in colouring—a fine truss cut by Princess Clémentine.

ROYAL HORTICULTURAL.

Scientific Committee.

DECEMBER 15.—*Present:* Dr. M. T. Masters (in the chair); Dr. Bonavia, Mr. Michael, Rev. W. Wilks, Rev. G. Henslow (Hon. Sec.).

Primula sinensis and Hybrid.—Mr. E. Hyde of Ealing exhibited at the meeting held on November 23 three fine plants of P. sinensis, raised from an originally wild plant. They closely resembled drawings of this species when first introduced about 1820. A botanical certificate was unanimously awarded to Mr. Hyde for them. He also showed a hybrid raised between this species (male) and P. obconica (female), in which the form of the umbel, as as well as that of the leaf, more resembled those of P. obconica. The segments of the petals were flat and not reflexed, and but slightly cusped. These differences, however, were not considered to be sufficiently pronounced to be regarded as well-defined intermediate characters, so that it was apparently a case of prepotency on the part of the female parent (P. obconica). Dr. Masters gave an interesting account of the introduction of the wild plant into England. Dr. Henry first pointed it out to him at Kew among a collection of dried plants, which he had made in the mountains of Central China. Dr. Masters was thus enabled to recognise it growing in the gardens of Appley Towers, Isle of Wight, the seed having been sent over by one of the family. Thence it passed into the hands of Messrs. Sutton, who have tried to cross it, but hitherto it has appeared to resist all attempts. Further particulars will be found recorded in the *Gardeners' Chronicle*, January 26 and November 23, 1889, November 15, 1890, and in Mr. A. W. Sutton's paper on Chinese Primulas, "Journal R. H. S.," 1891, vol. xiii., p. 99 (a Botanical Certificate was awarded).

Catalpa bignonioides.—Dr. Bonavia exhibited specimens of these curiously winged seeds, but they did not appear to have been fertilised, as no embryo could be detected in them. The seed vessel, which is rarely seen in this country, is nearly one foot in length.

Canker in Apple Trees.—Dr. Masters exhibited specimens of this common disease, which has hitherto baffled investigations as to its source, but the examples shown bore numerous red fructifications of the fungus Nectria ditissima bursting through the bark.

Pinus Balfouriana var. aristata.—He also showed specimens of the cones of this Pine, which is a native of the alpine regions of Colorado. They were received from Mr. A. D. Webster. The shoots bearing the young cones bore short stout leaves, unlike those on a vegetative shoot, on which they were longer and more slender, though Dr. Masters observed that the anatomical peculiarity of having a single resin canal is the same in both. The scales of the ripe cone have the external bracts terminating in an awn-like tip, which doubtless suggested the varietal name.

Tomato Fruits Diseased.—He also brought some fruits badly diseased. It appeared to be an advanced stage of the "yellow spotted" form; it was forwarded to Kew for investigation.

Ilex othera fruit.—Dr. Masters also showed a fruiting branch of this Japanese species of Holly.

Celery Decayed.—Mr. Messenger of Woolverstone Gardens, Ipswich, forwarded two large plants with the interior leaf-stalks much decayed. No fungi had been found in similar instances, and the general belief was that the plants had been earthed-up, and perhaps bound up too early, so that growth was hindered, and wet having penetrated produced the decay.

HORTICULTURAL CLUB.

DECEMBER 15.—The usual monthly dinner took place on the above date, when Mons. HENRI DE VILMORIN, of Paris, was the special guest of the Club. The chair was occupied by Mr. HARRY J. VEITCH, Vice-Chairman of the Club, and there were present the Rev. W. Wilks, Messrs. Selfe Leonard, G. Bunyard, G. Paul, P. Kay, T. Francis Rivers, Philip Crowley, H. Turner, James H. Veitch, Peter Veitch, Ernest D'Ombrain, W. F. Cooling, C. T. Druery, A. H. Pearson, and the Secretary. The subject for discussion was the "Flora of Smyrna," and was opened by Mr. Charles T. Druery, who read a paper compiled from notes taken during a recent visit to Asia Minor. After giving a humorous description of Smyrna itself, some of the curious anomalies connected with the mixture of Turkish and foreign currency, and the method of time keeping, winding up with the remark that nothing could surprise the horticulturist after hearing that the import of artificial flowers was long vetoed for fear of the phylloxera, Mr. Druery proceeded to deal with the flora proper, which he described as rich in the extreme, a fact which he illustrated by quoting a most interesting list of Galanthus, Chionodoxa, and Tulips, compiled from Mr. Edward Whittall's herbaria and notes taken in his garden among the very plants themselves. An animated discussion followed, in which most of the members present took part, Mr. D'Ombrain describing the introduction of that now common gem the Chionodoxa Luciliæ, which the horticultural world owes jointly to Mr. Whittall's first importation and Mr. D'Ombrain's appreciation of its value. One salient point seemed to be demonstrated, both by the paper and the succeeding remarks—viz., that the dry and baking hot summer conditions in the native habitat of many bulbs require to be borne in mind far more than is customary, a large number of failures resulting from the non-observance of this requirement borne of such environment. A cordial vote of thanks was accorded to Mr. Druery for his interesting and instructive paper.

Obituary.

ROBERT WARNER.—There will be a general feeling of regret among the elder generation of horticulturists, and of orchidists in particular, at the death of this gentleman. He died at Widford Lodge, Chelmsford, on the 17th inst., in his eighty-second year. It is only a few months since we had occasion, to speak of his garden at Widford, and to recall some of his many services to horticulture (May 30, p. 683). His Cattleyas live in the memory of many, and we may recall his patriotic and plucky exhibit of a fine collection of Orchids taken by him in person to the great International Horticultural Exhibition at St. Petersburg in 1867. Mr. Warner was an active member of the Royal Horticultural Society, and foremost in works of charity and beneficence. Successive volumes of the *Orchid Album*, from the beginning till the present time, bear his name as one of the editors, and his work on *Select Orchidaceous Plants* is held in high esteem.

SAMUEL RANDALL.—On the 16th inst., at Exeter, occurred the death of Mr. S. Randall, a nurseryman of that city. Mr. Randall was engaged as foreman in the laying-out of Victoria Park, London, and for some time after its formation had the management of that park. Before entering business upon his own account, Mr. Randall was foreman in the firm of Lucombe, Pince & Co., and has been a member of the Devon and Exeter Gardeners' Association since its formation.

THE REV. CHARLES FELLOWES.—The intelligence of the death of the Rev. Charles Fellowes of Shotesham Rectory, Norwich, on the 17th inst., at the ripe age of 84, will be received by florists generally with regret, but more especially by the members of the National Dahlia Society, he having fill the post of president for many years past. An old acquaintance designated him as "one of the most enthusiastic florists that ever lived;" and this eulogium will be generally endorsed in floricultural circles. A member of the family of Fellowes of Shotesham Park, he became rector of the parish in 1838, and from the first evinced great interest in the culture, and especially in the raising of new florist's flowers, Dahlias and Picotees in particular engaging his attention. One of his earliest productions was Dahlia Cassandra, sent out by the late Mr. Charles Turner in 1846, and from that time onwards he never ceased his work. Chief among the show sorts he raised are, Agnes, Canary, Diadem, Goldfinder, Maud Fellowes, Mrs. Morgan, Muriel, Perfection, Prince Bismarck, Prince of Denmark, Robina, Pleasaunce, Sunbeam, and Sunrise; and of fancy varieties, Hero, Laura Haslam, Prince Henry, and Sailor Prince. Dante and Marjorie, two new show-varieties sent out from Slough in the spring of the present year, were of his raising. The Picotee was his especial favourite, and among the earliest raised varieties, were Countess and Ganymede, catalogued forty years ago, and still grown as sterling varieties. A list of present day varieties of his raising would include nearly two dozen, among them heavy rose-edged Mrs. Payne, sent out in 1878, which the late Mr. E. S. Dodwell describes as "a glorious variety, unsurpassable for the beauty of its form and petal, the brilliance of its bright rose marginal colour, and pure white ground." This is one of the chief among the many glorious flowers raised by Mr. Fellowes, and it is not too much to say it has received more first prizes as the best in its class, and more premier prizes than any other variety. Duchess of York, Clio, Princess of Wales, Morna, Dr. Abercrombie, Hardie, Gazelle, and Juliette, are deserving of special mention. The late rector of Shotesham was also a lover of laced Pinks, and at least two dozen named varieties can be counted, of which he was the producer. The Rector was one of his latest; and of other standard varieties, mention may be made of Favourite, Hebe, Jeanette, Enchantress, Lustre, Constance, Pandora, Minerva, Zoe, &c. The show Pelargonium also was cared for, but he did not prove so successful in introducing new varieties of these as of the flowers already named. The best of his productions were Ariel, Desdemona, Lucifer, &c., varieties of excellent repute in their day. The Rose also figured largely among the subjects grown in the rectory garden, and he possessed a very fine collection. As an exhibitor, he was extremely successful for years in the amateur's classes over such doughty champions as Dodds, Robinson, and others. In his younger days he was an excellent shot, and country sports found in him an enthusiastic supporter. Attached to the rectory was a good farm, which was admirably managed, and the crops he obtained were considered second to none in the district. *R. D.*

MARKETS.

COVENT GARDEN, DECEMBER 23.

[We cannot accept any responsibility for the subjoined reports. They are furnished to us regularly every Thursday, by the kindness of several of the principal salesmen, who revise the list, and who are responsible for the quotations. It must be remembered that these quotations do not represent the prices on any particular day, but only the general averages for the week preceding the date of our report. The prices depend upon the quality of the samples, the supply in the market, and the demand; and they may fluctuate, not only from day to day, but often several times in one day. ED.]

PLANTS IN POTS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Adiantum, per doz.	4 0–12 0	Ericas, hyemalis, per doz.	12 0–15 0
Aspidistras, per doz.	12 0–30 0	Ferns, small, doz. ...	1 0– 2 0
— specimen, each	5 0–15 0	— various, doz.	5 0–12 0
Chrysanthemums, per doz. ...	6 0–12 0	Ficus elastica, each	1 0– 7 6
— specimen plants, each	1 6– 2 6	Foliage plants, per doz.	12 0–36 0
Cinerarias, per doz	9 0 12 0	Hyacinths, dz. pots	9 0–12 0
Cyclamens, per doz.	12 0–18 0	Marguerites, p. doz.	8 0–12 0
Dracænas, each ...	1 0– 7 6	Palms, various, ea.	2 0–10 0
— various, p. doz.	12 0–24 0	— specimens, ea.	10 6–84 0
Evergreen Shrubs, in variety, doz....	6 0–24 0	Poinsettias, per doz.	12 0–18 0
Ericas, per doz. ...	10 0–12 0	Solanums, p. doz....	12 0–15 0
		Tulips, per doz. pots	6 0– 9 0

CUT FLOWERS.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Anemone, doz. bun.	1 6– 3 6	Orchids:—	
Arums, p. 12 blooms	4 0– 6 0	Cattleya, 12 blms.	6 0–12 0
Bouvardias, per bn.	0 6– 0 9	Odontoglossum crispum, 12 bm.	2 0– 6 0
Carnations, pr. doz. blooms	1 0– 2 6	Pelargoniums, scarlet, per 12 bun.	4 0– 8 0
Chrysanthemums, doz. bun.	4 0– 9 0	— per 12 sprays ..	0 6– 0 9
— doz. blooms	1 6– 6 0	Poinsettias, per doz. blooms	9 0–15 0
Eucharis, per dozen	2 6– 4 0	Pyrethrums, 12 bn.	2 0– 4 0
Hyacinths (Roman), doz. sprays ...	1 0– 1 6	Roses (French), per doz. blooms ...	1 0– 2 0
Lilac, wh. (French), per bunch ...	3 6– 5 0	— Tea, per doz. ...	0 9– 1 6
Lilium Harrisi, per doz. blooms ...	5 0– 9 0	— yellow (Marechal), per doz.	6 0– 9 0
— lancifolium, doz. blooms ...	2 0– 3 0	— red, per dozen	1 0– 2 0
Lily of the Valley, dozen sprays ...	1 0– 2 0	— pink, per doz.	3 0– 4 0
Maidenhair Fern, per 12 bunches ..	4 0– 8 0	— Safrano, p. doz.	1 0– 2 0
Marguerites, per 12 bunches	2 0– 4 0	Tuberoses, 12 blms.	0 6– 1 0
Mignonette, per doz. bunches ...	4 0– 6 0	Tulips, per doz. ...	0 9– 2 0
Mimosa (French), per bunch ...	1 0– 1 6	Violets (Fr.) Parme, per bunch	2 6– 4 0
		— — Czar, per bunch	2 0– 3 0
		— — doz. bun.	1 6– 2 0
		— (Eng.), per doz. bun.	1 6– 2 6

ORCHID-BLOOM in variety.

FRUIT.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Apples, Blenheims, per sieve ...	5 0– 6 0	Grapes, Gros Colmar, per lb. ...	1 3– 1 6
— Wellingtons, per sieve ...	5 0– 6 0	— Muscat, 2nd qual., p. lb. ...	2 0– 2 6
— Ordinary kinds, per sieve	2 0– 3 0	— Gros Colman, 2nd qual., per lb.	1 0 —
Grapes, Alicante, 1st quality, per lb.	1 3– 1 9	— Muscats, English, 1st quality per lb.	3 6– 4 6
— Alicante, 2nd quality, per lb.	1 0– 1 2	Nuts, Cob, per 100 lb. ...	50 0–55 0
— Gros Colman, selected, p. lb.	1 9– 0 2	Pine-apples, St. Michael, each ...	7 0– 8 6

VEGETABLES.—AVERAGE WHOLESALE PRICES.

	s. d. s. d.		s. d. s. d.
Artichokes, Globe, per doz. ...	4 0– 6 0	Cucumbers, home-grown, per dz.	6 0– 8 0
— Chinese (Stachys tuberifera), per lb.	0 4 —	Mushrooms (Indoor) per lb.	0 6 —
Beans, French, Channel Is., per lb. ...	1 0– 1 3	— (French), per lb.	0 4– 0 6
— Madeira Kidney, per bkt. of 8 to 10 lb. ...	3 0– 4 0	Sea Kale, per punnet, 3½ to 4 lb. weight	0 1–1 3
Cauliflowers, St. Malo, per doz.	3 0– 4 0	Tomatos, home-grown, smooth, per doz. lb. ..	3 0– 3 6
— Cherbourg, per dozen	2 0– 3 0	selected, do. ...	5 0– 6 0
		— ordinary kinds, do.	1 6– 2 0
		— Canary Islands, per case, about 12 lb.	3 6– 5 6

POTATOS.

Trade this week very quiet, stocks heavy, and less money is being taken, except for very best samples. *J. B. Thomas.*

SEEDS.

LONDON: *Dec.* 23.—Messrs. John Shaw & Sons, Seed Merchants, of Great Maize Pond, Borough, London, S.E., write that Christmas being so close at hand, to-day's seed market was quite idle. Meanwhile all varieties of Clover and Grass seeds keep steady in value. American Red is cabled strong. Mustard is firm. There is some inquiry for large black Rape-seed. Peas and Haricots, owing to the cold weather, meet with more attention. The new Californian Butter Beans proving good and cheap, are in improving request. There is no change in Bird-seeds. Linseed is firm.

FRUIT AND VEGETABLES.

GLASGOW: *December* 22.—Averages of prices current up to date:—Fruit: Pears, 6*d.* per lb.; Apples, 1*s.* to 2*s.* per stone; Tomatos, Guernsey, 5*d.* per lb.; do., Scotch, 6½*d.* do.; Grapes, home, 1*s.* to 2*s.* do.; do., foreign, 4*d.* to 6*d.* do.; Vegetables: Turnips, white, 2*s.* to 2*s.* 6*d.* per dozen bunches; Savoys, 1*s.* to 1*s.* 3*d.* per dozen; Cabbages, 6*d.* to 8*d.* do.; do., late, do., 10*d.* to 1*s.* do.; do., Red, 2*s.* 6*d.* to 3*s.* do.; Cauliflowers, Dublin, 2*s.* to 2*s.* 6*d.* do.; Parsnips, 4*s.* per cwt.; Herbs, assorted, 1*d.* to 2*d.* per bunch; Leeks, 1*s.* 3*d.* to 3*s.* doz. bunches; Mint, 2*d.* to 6*d.* per bunch; Onions, Dutch, 3*s.* per bag; do., Portugal, 1*s.* per stone; do., Globe, 3*s.* to 3*s.* 6*d.* per cwt.; Parsley, 5*s.* to 6*s.* do.; Greens, 3*d.* per bunch; Celery, table, 1*s.* to 2*s.* do.; do., common, 9*d.* to 1*s.* do.; Potatos, best, 6*d.* per stone; Carrots, 2*s.* 6*d.* to 4*s.* 6*d.* per cwt.; Broccoli, 3*s.* per dozen; Artichokes, 10*s.* to 12*s.* per cwt.; Cucumbers, 6*s.* to 12*s.* per dozen; Lettuces, 6*d.* to 9*d.* do.; do., French, 9*d.* to 1*s.* do.; Horseradish, 2*s.* to 2*s.* 6*d.* per bunch; Mushrooms, 1*s.* to 1*s.* 3*d* per lb.; Beetroot, 6*d.* to 7*d.* per dozen; Cress, 3*d.* per basket; Brussels Sprouts, 1*s.* 3*d.* to 1*s.* 9*d.* per stone; Endive, 1*s.* 6*d.* to 2*s.* per dozen.

LIVERPOOL: *December* 21.—Turnips, 19*s.* to 20*s.* per ton; Potatos: Imp ratters, 1*s.* 8*d.* to 2*s.* per cwt.; Giants, 1*s.* 10*d.* to 2*s.*; Main Crop, 2*s.* 3*d.* to 3*s.*; Champions, 1*s.* 10*d.* to 2*s.*; Brucs, 2*s.* to 2*s.* 6*d.* per cwt.; Turnips, 6*d.* to 8*d.* per 12 bunches; Swedes, 1*s.* 2*d.* to 1*s.* 6*d.* per cwt.; Carrots, 6*d.* to 8*d.* per 12 bunches; do., 2*s.* 6*d.* to 2*s.* 9*d.* per cwt.; Onions, English, 4*s.* to 4*s.* 6*d.* per cwt.; do., foreign, 2*s.* 6*d.* to 2*s.* 9*d.* do.; Parsley, 4*d.* to 6*d.* per dozen bunches; Cauliflowers, 1*s.* 0*d.* to 2*s.* 0*d.* per dozen; Cabbages, 8*d.* to 1*s.* 0*d.* do.; Celery, 8*d.* to 1*s.* 6*d.* per dozen heads.

CORN.

AVERAGE PRICES of British Corn (per imperial qr.), for the week ending December 19, and for the corresponding period in 1895, together with the difference in the quotations. These figures are based on the Official Weekly Return:—

Description.	1895.	1895.	Difference.
	s. d.	s. d.	s. d.
Wheat	25 1	31 3	+ 6 2
Barley	23 8	24 10	+ 1 2
Oats	13 11	16 7	+ 2 8

THE WEATHER.

[The term "accumulated temperature" indicates the aggregate amount, as well as the duration, of degrees of temperature above or below 42° Fahr. for the period named: and this combined result is expressed in Day-degrees—a "Day-degree" signifying 1° continued for twenty-four hours, or any other number of degrees for an inversely proportional number of hours.]

Districts.	Temperature. Above (+) or below (−) the Mean for the week ending December 19.	Accumulated. Above 42° for the Week.	Accumulated. Below 42° for the Week.	Accumulated. Above 42° difference from Mean since December 29, 1895.	Accumulated. Below 42° difference from Mean since December 29, 1895.	Rainfall. More (+) or less (−) than Mean for the Week.	Rainfall. No. of Rainy Days since Dec. 29, 1895.	Rainfall. Total Fall since Jan. 1, 1896.	Bright Sun. Percentage of possible Duration for the Week.	Bright Sun. Percentage of possible Duration since Dec. 29, 1895.
		Day-deg.	Day-deg.	Day-deg.	Day-deg.	10ths Inch		Ins.		
0	5 —	0	64	+ 165	− 247	8 —	241	53·0	17	22
1	3 —	0	60	+ 80	− 164	0 aver	203	28 4	13	28
2	3 —	0	47	+ 129	− 158	3 +	188	24·2	30	28
3	3 —	0	53	+ 69	− 125	2 —	180	24·2	18	34
4	4 —	0	57	+ 50	− 133	3 —	175	23·8	17	31
5	4 —	0	43	+ 162	− 167	2 +	164	25 1	14	36
6	5 —	0	55	+ 157	− 148	12 —	206	42·0	31	31
7	3 —	0	52	+ 217	− 185	5 —	191	33·0	15	31
8	5 —	0	34	+ 221	− 92	5 +	175	32·0	27	40
9	4 —	0	46	+ 161	− 135	4 —	217	37·4	39	28
10	6 —	0	39	+ 221	− 111	0 aver	189	34·4	35	33
*	3 —	17	8	+ 320	− 107	3 +	197	29·1	24	44

The districts indicated by number in the first column are the following:—

0, Scotland N. *Principal Wheat-producing Districts*—1, Scotland, E.; 2, England, N.E.; 3, England, E.; 4, Midland Counties; 5, England, including London, S.

Principal Grazing, &c., Districts—6, Scotland, W.; 7, England, N.W.; 8, England, S.W.; 9, Ireland, N.; 10, Ireland, S.; *Channel Islands.

THE PAST WEEK.

THE following summary record of the weather throughout the British Islands for the week ending December 19, is furnished from the Meteorological Office:—

"The *weather* continued mild and rainy during the first day or two of the period, but subsequently became cold, with slight falls of hail, sleet, or snow.

"The *temperature* was below the mean, the deficit ranging from 3° to 4° over 'Great Britain,' and from 4° to 6° in 'Ireland.' The highest of the maxima were recorded on the 13th, and ranged from 50° in the 'Channel Islands' to 44° in 'Scotland, N.,' and the 'Midland Counties.' During the latter days of the period the maxima at the inland and northern stations did not exceed the freezing point by much. The lowest of the minima, which occurred during the latter half of the week, varied from 15° in 'England, S.W.,' and 16° in 'Ireland, N.,' to 27° in 'England, N.W.,' and to 34° in the 'Channel Islands.'

"The *rainfall* varied greatly in different parts of the kingdom. It exceeded the mean in the 'Channel Islands,' and 'England, S.W. and S.,' as well as in 'England, N.E.:' in 'Scotland, E.,' it just equalled the mean, but was less than the normal in the other districts. In 'Scotland, W.,' the fa was extremely slight.

"The *bright sunshine* was much more prevalent than during the preceding week, and exceeded the mean in all the 'grazing districts,' as well as in 'Scotland, N.,' and 'England, N.E.' The percentage of the possible amount of duration ranged from 39 in 'Ireland, N.,' 35 in 'Ireland, S.,' 31 in 'Scotland, W.,' and 30 in 'England, N.E.,' to 14 in 'England, S.,' and to 13 in 'Scotland, E.'

"Earthquake shocks were experienced in many parts of England and Wales at about 5.40 A.M. on the 17th, but were more decided in the western and central counties than elsewhere."

Answers to Correspondents.

*** *Owing to the severe pressure on our space, the publication of a large amount of correspondence is unavoidably postponed.*

ABRUS PRECATORIUS: *Lalellier et Fils.* The plant is a native of India, but it is now cultivated in some of the West Indian Islands and Mauritius. You might obtain seeds in this country of Mr. W. Thompson, Tavern Street, Ipswich, Vilmorin of Paris, or through traders to the Mauritius, &c.

ADVERTISING FOR A SINGLE-HANDED GARDENER'S SITUATION: *W. Marshall.* Why, certainly! in the *Gardeners' Chronicle.*

BOOKS: *P. Hansen.* The book that you mention is the best of the kind; and a new edition, in which all matters will be brought up to date, will shortly be issued by Messrs. Blackie, Glasgow and London.

CARNATION BLOOMS: *G. E.* The blooms show no sign of disease whatever. A whole plant should have been sent.

CHEAP ARTIFICIAL MANURES: *J. McL.* See our issue for June 6, 1896. It is not by Dr. Voelcker, but by Mr. Dutton.

CORRECTION.—The Wantage collection of fruit shown at the last meeting of the Royal Horticultural Society received a Knightian, and not a Banksian Medal, as was stated in our report.

CYCLAMENS DWINDLING AWAY: *G. Watts.* A very bad case of eel-worms infesting and living on the roots. Nothing can be done with them, and it would be prudent to burn the whole of them. Before using any pasture loam, examine the living roots of the grasses and other plants therein, and if nodules similar to those seen on the roots of the Cyclamens sent to us exist, do not make use of it for potted plants. It may be here stated that it is always advisable to stack loam cut from grass-land for one or two years, and prevent herbage growing on the top and sides of the stacks during that time. By doing this the eel-worms, deprived of their food, die out. The evil lies in using fresh loam, or loam from heaps over-run with vegetation.

INSECT: *W. S.* The larva of the stag-beetle (Lucanus cervus). *R. McL.*

NAMES OF FRUITS: *F. Y.* 1, Cox's Orange; 2, Adams' Pearmain; 3, so much bruised, cannot be determined.—*T. S.* 1, Wyken Pippin; 2, Cornish Aromatic; 3, Tower of Glamis; 5, Duchesse de Bordeaux; 6, Vicar of Winkfield.

NAMES OF PLANTS: *T. B.* The plant supposed to be an Ivy-leaved Pelargonium is Mikania ternifolia.—*G. W. E.* What you send is the fruiting leaf of some

species of Cycas; we cannot tell which without the leaf. The plant is dioecious, so that the seeds will not grow unless they have been fertilised by the pollen from another plant.—*G. W. C.* 1, Araucaria excelsa; 2, Begonia argyrostigma; 3, Agapanthus variegatus; 4, Swainsonia galegæfolia, probably, but you send no flowers; 5, Dracæna rubra; 6, Lasiandra macrantha.—*J. B.* Coelogyne fuscescens.—*S. S.* The flower sent is certainly one of Odontoglossum × Wilckeanum, but it does not well represent that variety.—*R. N. H.* 1, Oncidium reflexum; 2, is an extraordinarily fine flower, probably a natural hybrid. In fact, a fine form of Oncidium Mantini.

PACKING CUTTINGS AND PLANTS FOR TRANSIT TO ASSAM.—If *R. O.* will kindly send his name and address, we will furnish him with those of a person experienced in these matters.

SEEDLING CARNATION: *O. W. G.* We think well of your seedling, it is of a deep rose, shading to white, fragrant, and the calyx does not split.

SOIL FOR CUCUMBER CULTURE: *P. H.* That which is taken from an old pasture will be better than that from an orchard. It should be partially decayed, and mixed with manure at the rate of a quarter of the latter when prepared for use in the Cucumber-beds; see answer to *G. Watts.*

TACSONIA VAN VOLXEMI NOT FLOWERING: *W. Marshall.* Winter not being the proper season of flowering of this plant is a reason why it flowers when they are forced to appear, are imperfect, and otherwise defective. The plant should be at rest at this season.

WRONGFUL DISMISSAL: *T. G.* There is no other case in recent years which resembles the one about which you enquire. The publisher is unable to supply copies farther back than the year 1888.

COMMUNICATIONS RECEIVED.—P. C.—W. D.—H. H.—W. & S.—J. T. B.—P.—C. J. W.—S. W. B.—Webb & Sons—T. B., Darmstadt not received).—U. D., Berlin.—M. D. S. C. (in January)—G. W.—Rev. D. W. J. O'B.—S. A. H., Roaring Spring, U.S.A.—M. B., Middelburg.—D. T. F.—M. Micheli, Geneva—W. J.—W. E. B., Grenada.—B. W. J.—D. R. W.—G. S. B.—J. L.—C. B. W. & Co.—E. M.—H. M.—H. W. D.—W. K.—R. D.—W. H. D.—J. C.—F. C. E.—Dobbie & Co.—Cicestrian.—R. S.—A. K.—J. McJ.—E. Molyneux.—E. J.—W. W.—G. H.—A. H. N.—J. J. W.—J. Meredith.—K. S.—P. F. Le Sueur.—W. E. G.—H. C. P.—T. F.—W. H. B.—H. G.—C. H. W.

PHOTOGRAPHS, SPECIMENS, &c., RECEIVED WITH THANKS.—C. D.—H. W. W.—J. W.—A. P.—P. W.—P. W. F.—C. E. S.—G. W. C.—F. R.—H. T.—W. W.—Percy Bicknell.—D. M.—D. T. F.—H. H. D'O.—P. V.—E. jun Thurn, British Guiana.

CONTINUED INCREASE in the CIRCULATION OF THE "GARDENERS' CHRONICLE.

IMPORTANT TO ADVERTISERS.—*The Publisher has the satisfaction of announcing that the circulation of the "Gardeners Chronicle" has, since the reduction in the price of the paper,*

Increased to the extent of more than 90 per cent., and that it continues to increase weekly

Advertisers are reminded that the "Chronicle" circulates among COUNTRY GENTLEMEN, AND ALL CLASSES OF GARDENERS AND GARDEN-LOVERS *at home, that it has a specially large* FOREIGN AND COLONIAL CIRCULATION, *and that it is preserved for reference in all the principal Libraries.*

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MR. G. F. DAY, as Gardener to Admiral R. P. CATOR, at Hazelwood, King's Langley, Herts.

MR. RILEY SCOTT, for the last twenty-two years Head Gardener at The Holme, Regent's Park, London, and Oakover, Ticehurst, Sussex, as Steward and Gardener to CAMPBELL NEWINGTON, Esq., at the same address.

MR ARTHUR LEWIS, for the past three years Gardener to the late Dowager Lady MUSGRAVE, Tourin, Cappoquin, as Gardener to Sir RICHARD MUSGRAVE, Bart., at the same place.

CATALOGUES RECEIVED.

DICKSONS, LTD., Chester—Garden Seeds and Roots, Implements, &c.

COOPER, TABER & Co., LTD., 90 and 92, Southwark Street, London, S.E.—Wholesale Catalogue of Seeds.

CHR. LORENZ, Erfurt, Germany—Garden Seeds, &c.

DOBBIE & Co., Rothesay, N. B., and Orpington Kent—Annual Catalogue of Seeds and Plants.

KELWAY & SON, Langport, Somerset—Seeds, Roots, Plants, Fruit Trees, Gladioli, &c.

J. R. PEARSON & SONS, Chilwell, Notts—(1) Garden Seeds, &c.; (2) Chrysanthemums.

B. S. WILLIAMS & SONS, Victoria and Paradise Nurseries, Upper Holloway, London, N.—Horticultural Seeds, Implements, &c.

JNO. PEED & SON, Roupell Park Nurseries, West Norwood, London, S.E.—Seeds and Garden Implements.

LARGELY INCREASED CIRCULATION.

Notice to Advertisers.

THE GARDENERS' CHRONICLE

FOR

SATURDAY, JAN. 2, 1897,

WILL CONTAIN AS A

SUPPLEMENT

A

Sheet Almanac.

As a large EXTRA circulation of this Number is guaranteed, it will be a very valuable medium for Advertisements.

Secretaries of Horticultural Societies are requested to Notify the Dates of their Meetings without Delay, in order that they may be inserted in the Almanac.

☞ *Advertisers desirous of securing Space in this Number are requested to communicate with the Publisher, not later than Monday, December* 28, 1896.

"THE PUBLISHER,"

41, WELLINGTON STREET, STRAND,

LONDON, W.C.

THE GARDENERS' CHRONICLE

PUBLISHER'S NOTICES.

GARDENERS' CHRONICLE TELEGRAMS.—*The Registered Address for Foreign and Inland Telegrams is "Gardchron, London."*

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7	„ ..	0	4	6	18	„ ..	0	10	0
8	„ ..	0	5	0	19	„ ..	0	10	6
9	„ ..	0	5	6	20	„ ..	0	11	0
10	„ ..	0	6	0	21	„ ..	0	11	6
11	„ ..	0	6	6	22	„ ..	0	12	0
12	„ ..	0	7	0	23	„ ..	0	12	6
13	„ ..	0	7	6	24	„ ..	0	13	0
14	„ ..	0	8	0	25	„ ..	0	13	6

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Advertisers are requested when Remitting to give their Names and Addresses, and also a Reference to the Advertisements which they wish repeated.

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Advertisements for the current week **MUST** *reach the Office by first post, Thursday morning.*

All Advertisements should be addressed to the PUBLISHER.

Publishing Office and Office for Advertisements,
41, WELLINGTON STREET, STRAND, W.C.

SUBSCRIPTIONS.

All Subscriptions payable in advance. The United Kingdom, 12 months, 15s.; 6 months, 7s. 6d.; 3 months, 3s. 9d. All Foreign Subscriptions, including Postage, 17s. 6d. for 12 months. Post-office Orders to be made payable at the Post-office, Great Queen Street, London, W.C., to H. G. COVE.

Subscribers who experience any difficulty in obtaining their copies regularly, are particularly requested to communicate with the Publisher (in cases of delay in the delivery by post, the cover should be forwarded with complaint.)

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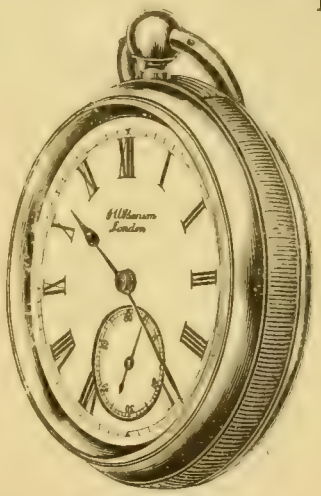
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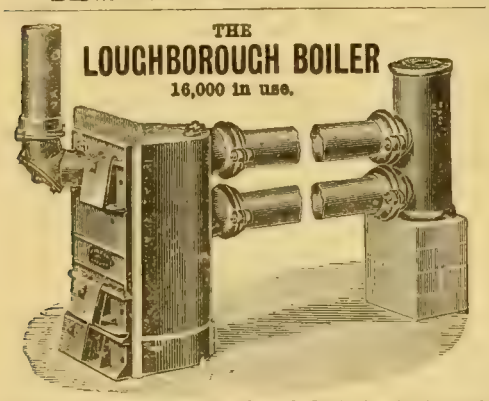
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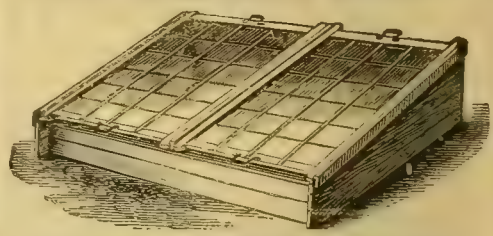
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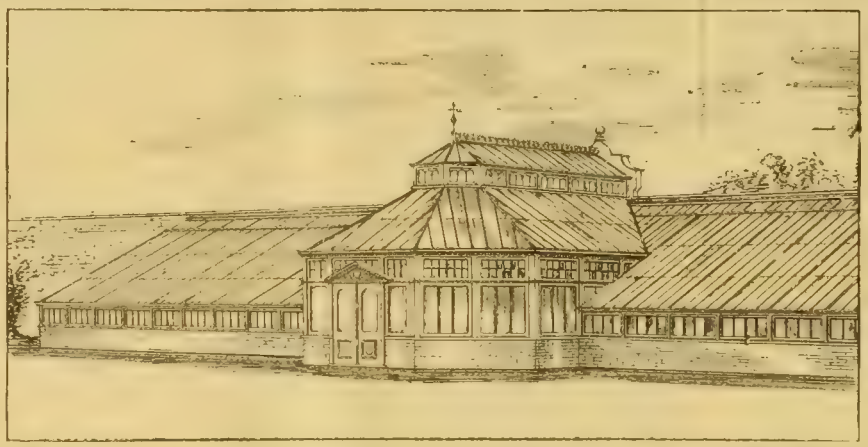
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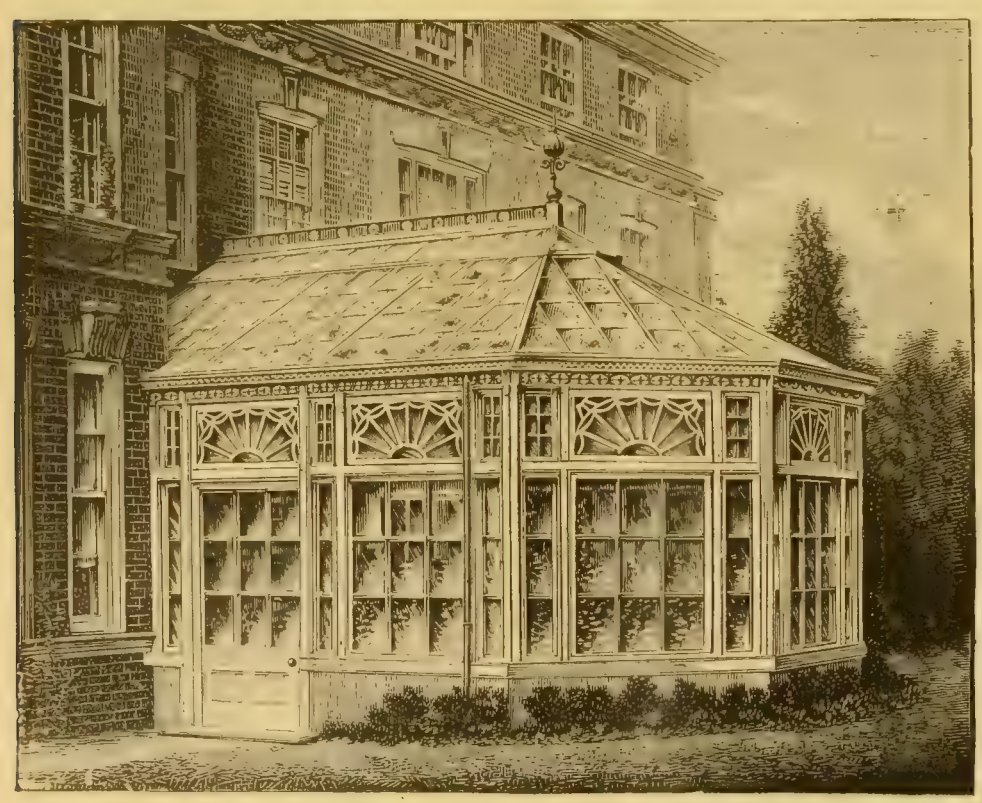
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Editorial communications should be addressed to the "Editor;" Advertisements and Business Letters to "The Publisher," at the Office, 41, Wellington Street, Covent Garden, London, W.C.
Printed for the Proprietors by Messrs. BRADBURY, AGNEW, & Co. (Limited), Lombard Street, Precinct of Whitefriars, City of London, in the County of Middlesex, and published by HARRY GILLARD COVE, at the Office, 41, Wellington Street, Parish of St. Paul's, Covent Garden, in the said County.—SATURDAY, December 26, 1896. Agent for Manchester—JOHN HEYWOOD.